McAllen-Miller International Airport
Draft Final Report for City Commission Approval

2005 Airport Master Plan Update

MASTER PLAN EXECUTIVE SUMMARIES
MCALLEN-MILLER INTERNATIONAL AIRPORT

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July 29, 2005

HNTB

Mr. Derald Lary
Director of Aviation
McAllen-Miller International Airport
2500 South Bicentennial Boulevard
McAllen, Texas 78503-3184

RE: Airport Master Plan

Dear Mr. Lary,

We are pleased to present the 2005 Master Plan Update for the McAllen-Miller International Airport. This document presents our research and findings and offers a guide for development of the airport for the near term with implications for the long term.

The City of McAllen is among the fastest growing cities in Texas and the United States. Combined with the growth of Reynosa, the community is poised to become a significant market place on the international scene. The Airport is in the center of this growth area as well as the center of the Lower Valley. It is a significant asset already and will become increasingly important to the Texas Border Region in the future.

The 2005 Airport Master Plan Update documents the changes that are ongoing in the community. In our opinion, the most important challenge facing the airport today is its ability to position itself to accommodate future demand. The best way that the City of McAllen can help position the airport to accommodate future demand is to acquire land south and east of the airport as soon as possible that will enable the community to respond to future aviation demand. Given the rate of growth in the airport vicinity, the land needed for future expansion may not be available several years hence.

Sincerely,

HNTB Corporation

Gary D. Logston, AICP
Senior Airport Planner

ABBREVIATED
MASTER PLAN EXECUTIVE SUMMARY
MCALLEN-MILLER INTERNATIONAL AIRPORT (MFE)

This document is an abbreviated summary of the key points of the Master Plan Executive Summary.

Master Plan Overview

- Timing for this master plan comes at a crossroads period for MFE as it nears its available land capacity.
- Future facilities expansion will either require new land or displace existing facilities that, when relocated, in turn, will displace other facilities.
- The fast-paced population growth and the in-fill of land south of U.S. 83 have made land in the vicinity of the airport prime for development. By the time the next master plan is prepared, it is conceivable that MFE will not be able to purchase the land it needs for future expansion as it will have been developed or accounted for. By far, this is the most important challenge facing MFE today.

Inventory and Forecasts

- MFE is located within the transportation focus of the Lower Rio Grande Valley, including Mexico, and within a network of east/west and north/south highways.
- The McAllen Metropolitan Statistical Area (MSA) is among the fastest growing in the country in population and job growth. The 2004 population of greater McAllen (including Border Tamaulipas) is 2.5 million which is similar to Denver today, and is the 19th largest U.S. metropolitan area; McAllen/Edinburg/Mission itself has a population of 569,500 which is ranked as the 74th largest MSA in the United States. By 2024, the population of this area is estimated to be 3.8 million, which would be similar to that projected for San Diego in 2024 and would be the 15th largest in U.S; it is estimated that McAllen/Edinburg/Mission will have a population of 921,600 and be the 60th largest MSA in the United States.
- The following table provides a summary of the aviation activity forecasts.

Summary of Forecast Activity		
Forecast	**2003**	**2024**
Passengers	570,000	970,000
Aircraft Landings & Takeoffs		
Commercial Passenger	7,600	13,200
Commercial Air Cargo	1,300	10,900
General Aviation	47,700	55,100
Military	8,300	8,300
Total Landings & Takeoffs	64,900	87,600
Cargo Tonnage (Belly & All Cargo)	3,400	114,300

- Air cargo forecasts had to be created for MFE based upon a series of conservative assumptions, as follows:
  - Identify a credible forecast of U.S. and Mexico cargo and especially air cargo.
  - Determine a reasonable relationship between air cargo and The Lower Rio Grande Valley;
  - Identify a method to generate a share of market forecast for MFE.

- The primary document used for developing the MFE air cargo forecast is a definitive study on United States and Mexico trade which derives from the Latin American Trade and Transportation Study (LATTS). The Phase I study of LATTS is part of an ongoing economic analysis prepared for the Southeastern Transportation Alliance (STA), which is an association of 15 states, including Texas, as well as Puerto Rico and several federal agencies.
- From analysis of LATTS report data and data from the Texas Center for Border Economic and Enterprise Development, an air cargo forecast for the four areas of the Texas Border Region was prepared. The air cargo forecast recommended for MFE represents the low range scenario of 5.8% of the Texas Border Region which is considerably less than the 8.4% percent average share for the detailed period analyzed (1997-2002). The low scenario forecast was selected because there is no significant scheduled activity today. Therefore, an emerging air cargo forecast market that develops from a near zero base to a substantial air cargo airport should begin with the low estimate until measurable air cargo trends are established. Accordingly, the MFE air cargo forecasts is considered conservative based upon its potential. Key forecast data are shown in the following table.

Baseline Air Cargo Data	**Base Year**	**Forecast Horizon**
U.S./Mexico	**180,000 Tons**	**1,760,000 Tons**
Texas, % U.S.	77.6%	77.6%
Border Texas, % Texas	59.0%	59.0%
Border Texas, % U.S.	46.0%	46.0%
Border Texas, 100%		
Brownsville/Harlingen	8.3%	8.3%
El Paso	27.5%	27.5%
Laredo	55.5%	55.5%
McAllen/Edinburgh/Mission	8.7%	5.8 %

- The executive summary provides a list of points summarizing positive (10) and negative (5) factors associated with evaluating any risk relative to realizing the MFE air cargo forecasts. In the long-term, the continued integration of the economies of border city communities could result in an identifiable separation of air service markets that would favor McAllen serving the McAllen/Reynosa market and either or both the Valley International or Brownsville/South Padre International serving the Brownsville/Matamoros market. From the size of the potential air cargo market, separate facilities could be warranted.

Demand/Capacity Analysis

- The B-767 is MFE's design aircraft. The B-767 falls into the same category as the DC-8 and DC-10, which soon will be phased out of the fleet, as well as the MD-11.
- The capacity of the runway system at MFE is approximately 163,000 annual operations.
- Planning for a future parallel runway for MFE should begin when the airport reaches 60 percent of capacity or 98,000 annual operations, which is beyond the 20-year master planning period. Planning, environmental clearances, design, funding, and construction will take approximately ten years.
- At the time a future parallel runway is constructed, Runway 18/36 will no longer be needed.

Facility Requirements

- The consideration of facility requirements in a master plan focuses on three areas: facilities needed to address deviations from current FAA standards; facilities needed to maintain FAA standards; and facilities needed to accommodate future demand.
- Deviations from FAA design standards typically occur due to changing FAA regulations, which is the case at MFE. The three facilities that need to be addressed are: Runway 13 displaced threshold of 135 feet; replacement of the Runway 13 ILS; and, purchase of land for the Runway 13 runway protection zone.
- Facility requirements needed to maintain current standards are those periodic projects that keep existing facilities fully operational. Examples of such projects are runway overlays or similar projects. Besides periodic pavement maintenance, overlay, or reconstruction projects (listed in the capital improvements program by five-year time increments), the only airfield project that is needed to maintain current standards is a second instrument landing system, an ILS for Runway 31.
- Projects needed to accommodate future demand usually constitute the longest list. Key projects are identified in the following table

Summary of Major Facilities Needs		
Airside	**Terminal**	**Landside**
Land for Airport Expansion, the most critical master plan need	Expand Security Screening Area	Short-term and long-term parking expansion
Replace Instrument Landing System (ILS), Runway 13	Expand Outbound baggage Area	Potential parking garage
Runway 13/31 extension to 8,500 feet and to 10,000 feet ultimately	Expand Inbound baggage and bag claim areas	Relocate various facilities to accommodate parking expansions
Install ILS, Runway 31	Relocate Gate One	Westbound ramp from U.S 83 to Bicentennial Boulevard
Potential New Runway (After 20 years)	Add Air Carrier Gates	Land acquisition for surface parking expansions
Potential Air Cargo Apron expansion		

Environmental Considerations

The master plan process included preliminary coordination with key environmental agencies via letter communication and early coordination meetings with the U.S. Army Corps of Engineers and the Texas Department of Transportation, Pharr District. It was anticipated that once a recommended development plan concept had been identified, an environmental feasibility study would be performed to determine the environmental impacts. As the master plan proceeded and subsequent meetings were held with TxDOT and the Hidalgo Drainage District Number One (early November 2004), it was discussed that such environmental feasibility study should also address elevation issues pertaining to constructing Tenth Street under a runway structure or around the end of the runway as well as the drainage implications associated with relocating a portion of the Mission Pilot Channel that would intersect with the Banker Channel. The environmental feasibility study would be prepared such that it would constitute much of what would be needed for an environmental assessment of the runway extension, once justified.

The long-term planning noise contour for 2024 indicates that there will be noise considered to be significant by FAA standards that extends beyond the airport boundary. As part of the recommendations of the master plan, an airport noise compatibility study will be added to the Capital Improvements Program for the near-term planning phase to deal proactively with this issue.

Alternatives, Recommended Plan, and Capital Improvements Program

- The key project driving the master plan is acquisition of the land needed to accommodate future demand. The primary project that will set in motion a major expansion program is the Runway 13/31 extension that requires the relocation of Tenth Street and the relocation of a portion of the Mission Pilot Channel. Regarding the relocation of Tenth Street, two options are considered. Tenth Street can be built around the end of the future runway or the runway can be constructed over Tenth Street in approximately its current location.
- Five evaluation criteria were identified to evaluate four master plan alternatives:
  - Provide the land necessary for the airport to accommodate future facility requirements and expansion needs;
  - Enable the extension of Runway 13/31;
  - Enable the future construction of a parallel runway;
  - Require no relocation of the residents of Colonia Hermosa or any land acquisition in that neighborhood;
  - Consider construction phasing and construction costs.
- Exhibits for each of the four alternatives are provided in the full Executive Summary.
- Alternative Evaluation and the Selection of a Preliminary Recommended Development Concept – A brief analysis of the each alternative is provided in terms of their assessment relative to the evaluation criteria.
  - Criterion - *Provides the land necessary for the airport to accommodate future facility requirements and expansion needs.* Alternatives Three and Four meet this objective; Alternatives One and Two do not.
  - Criterion - *Enable the extension of Runway 13/31.* Alternatives Three and Four meet this objective initially. A further relocation of the north levee wall of the Mission Pilot Channel would be required in order to achieve this objective in the long-term for Alternatives One and Two.
  - Criterion - *Enable the future construction of a parallel runway.* Alternatives Three and Four meet this objective initially. A further relocation of the north levee wall of the Mission Pilot Channel would be required in order to achieve this objective in the long-term for Alternatives One and Two.
  - Criterion - *Require no relocation of the residents of Colonia Hermosa or any land acquisition in that neighborhood.* Only Alternative 4 achieves this objective.
  - Criterion - *Consider construction phasing and construction costs.* In terms of total cost, Alternative Four is the most expensive. However, the primary cost differential between the alternatives is in land acquisition cost and not construction cost. In fact, if the additional cost of relocating the north level wall associated with Alternatives One and Two were factored in, Alternative Three would become the least expensive, followed by Alternative Four. In terms of phasing, all alternatives would be similar in the phasing of the relocation of Tenth Street. However, Alternative Four stands alone as the easiest one to phase the reconstruction of the Mission Pilot Channel relocation. Essentially, the entire project could be constructed without impacting the current channel until such time that the new channel would need to be connected with the existing channel or intersected with the Banker Channel.

Based upon assessing the evaluation criteria, the Recommended Concept Plan is Alternative Four because it achieves the greatest number of objectives. The only objective that it does not at least equal or better the others is relative to total cost. Yet when it is realized that Alternatives One and Two would require a Phase II relocation of the Mission Pilot Channel, Alternative Four would be less. Aside from land cost, the primary difference between Alternative Three and Four is approximately $1.5 million in cost associated with relocation of the Mission Pilot Channel. However, the intricacy of phasing construction of Alternative Three versus Alternative Four could be much greater and more detailed cost estimates in the future could result in increasing the cost of Alternative Three. Accordingly, the primary reason for choosing Alternative Four over Alternative Three is that Alternative Four does not require relocating residents or land acquisition in Colonia Hermosa, the primary tenet set forth in this master plan process. **Table 6-1** in the Executive Summary presents the estimated costs.

After the public meetings and briefings with the City Commission, a Capital Improvements Program (CIP) was developed that is the essence of the master plan. A list of unconstrained projects was prepared that identified airport needs based upon accommodating airport demand. There are several points to be made regarding the CIP list:

- In the event airport activity levels vary from project levels, implementation of projects will be moved up or postponed depending upon demand;
- Indicated costs are planning estimates the will need to be refined during design processes necessitating changes in the proposed staging;
- There is not a 1:1 relationship between the Master Plan CIP and the FAA Airport Improvement CIP. The FAA Airport Improvement CIP considers only those projects for which the FAA will participate in given their eligibility criteria for funds. On the other hand the Master Plan CIP is a comprehensive, unconstrained list of airport needs based upon the demand forecasts. Since needs typically outstretch available funds, projects must be delayed or implemented in stages.
- The Master Plan CIP lists projects that would be funded and constructed by others, such as the Mission Pilot Channel relocation or Tenth Street Relocation.
- The Master Plan CIP also lists projects that are beyond the 20-Year Master Plan time frame. In this case, the major project that would be beyond 20-years is construction of the potential parallel runway.

Table 8-1 from **Chapter 8: 20-Year Capital Improvement Program** provides the $104 million Master Plan CIP and the complete $184 million program, including the Mission Pilot Channel and Tenth Street relocations.

MASTER PLAN EXECUTIVE SUMMARY
MCALLEN-MILLER INTERNATIONAL AIRPORT

The "Master Plan Executive Summary" presents the highlights of the 2005 Airport Master Plan Update for the McAllen-Miller International Airport. All maps and exhibits may be found following the text of this document.

1. INTRODUCTION

The 2005 update of the McAllen-Miller Airport Master Plan follows an update that was conducted in 1997. The Federal Aviation Administration (FAA) recommends an update every 5-10 years. Since the 1997 update, there has been considerable upheaval in the aviation industry. The tragic events of September 11, 2001 occurred during an already deepening economic downturn in the United States and exacerbated the recession already occurring in the airline industry. Arguably, the industry most adversely affected by 9/11/01 was the airline industry.

Predictably, passenger levels at the McAllen-Miller International Airport (MFE) plummeted. Since 1994, passenger levels slowly increased and were at a level of 656,000 for calendar year 2000, which was within 20,000 of the 1994 peak. Passenger levels decreased in 2001 by about 10 percent, followed by another 7 percent decline in 2002. In 2003, there was a rebound of about 2 percent over 2002 to 570,000 passengers. Year 2004 experienced a significant 12 percent increase to approximately 632,000 passengers and MFE is again within about 20,000 of the 2004 peak. To date, June, 2005, passenger levels are almost 15 percent ahead of year-over-year statistics, poising MFE for a new peak year in 2005.

At the same time, the other sectors of aviation at McAllen remain strong. MFE has always attracted significant corporate traffic. Over the years, the actual number of takeoffs and landings by general aviation aircraft has not appreciably changed but the average size of the fleet operating at the airport continues to increase. Likely as a result of 9/11/01, there has been steady military activity at MFE, with the bulk of it being transient pilot training operations. Cargo activity at MFE consists of belly cargo, that is the cargo carried by passenger airlines when there is room, and on-demand air cargo. On-demand air cargo is non-scheduled flights that primarily carry maquiladora products that are high value, time critical or both.

Nevertheless, the timing for this master plan comes at a crossroads period for the McAllen-Miller International Airport. As shown on the **Regional Map** (follows text), the airport exists at the virtual center of highway transportation in the Lower Valley and increasingly near the center of population in the Lower Valley as well. It is estimated that by the time the planning horizon for this master plan arrives, circa 2024, the airport will be quite near the Lower Valley's center of population.

The comment relative to the airport being at a crossroads derives from the fact that the Airport is almost entirely built out. Any future facility expansion, large or small, will either require acquisition of land or begin the process of displacing facilities adjacent to the one requiring expansion which, in turn, may require other facilities' relocation, a type of domino effect. The realization that the fast-paced population growth and the in-fill of land south of U.S. 83 has made land in the vicinity of the airport prime for development emphasizing the urgency to identify airport land needs for the foreseeable future. Currently, there is sufficient undeveloped land south and east of the airport to accommodate long term needs. However, residential development is already expanding to the north levee wall of the Mission Pilot Channel from

Tenth Street east to Jackson and with plans to extend McColl Road south of the channel. By the time the next master plan is prepared, it is conceivable that MFE will not be able to purchase the land it needs for future expansion as it will have been developed or accounted for. By far, this is the most important challenge facing MFE today.

These next several pages will outline some of the key items presented in the chapters of the airport master plan. While the master plan documentation is almost complete, there is still some potential for change, depending upon Airport Staff, Airport Board, City Commission, and public comments.

2. INVENTORY

Essentially, MFE is located within the highway crossroads of the Lower Rio Grande Valley which has three US highways traversing the region. U.S. Highways 281 and 77 are the north-south routes, and US Highway 83 is the major east-west highway. National highway plans are to make Interstate 69 continuous from Mexico to Canada, incorporating U.S. Highways 281 and 77 by upgrading them to interstate status as Interstate 69 south of Houston. Also, McAllen is well positioned in the valley with east-west connections. U.S. Highway 83 bisecting the City and US Highway 281 located approximately three miles east of city limits. Transportation from Mexico to McAllen has been improved with the opening of the "autopista", a four-lane divided highway between the Mexican cities of Monterrey and Reynosa. There are three existing and a planned fourth bridge linking the McAllen metropolitan area with Mexico.

Regional land access to the Airport includes US highway 281 from the north, the autopista in Mexico from the south, State Highway 115 (23rd Street) or State Highway 336 (South Tenth Street), and US Highway 83 from the east and west. Highway 336 borders the airport on the east side and Highway 115 flanks the airport on the west side. Direct access to airport facilities is from three local collector streets located north of the Airport. Wichita Avenue and Bicentennial Boulevard are four-lane roadways which provide access to terminal facilities, and Uvalde Avenue is used for the air cargo facility.

2.1 Airport Setting

MFE occupies about 473-acres and the City of McAllen owns 143 acres lying within the Mission Pilot Channel and not developable for airport purposes.

In 2003, the Lower Valley's three commercial service airports boarded 1.44 million passengers -- 38.5% at McAllen-Miller, 53.1% at Valley International, and 8.4% at Brownsville-South Padre Island. Comparing 2003 to 1995, the Lower Valley's percentage share of 1.77 million passengers was 36.7% for McAllen-Miller, 55.4% for Valley International, and 7.9% for Brownsville-South Padre Island.

2.2 Current Aviation Activity

American Airlines operates 172-seat MD-80 between MFE and their hub, Dallas/Fort Worth International Airport (DFW). Continental Airlines operates 172-seat MD-80, 128-seat B737-300, 108-seat B737-500, 160-seat B737-800 aircraft, and 239-seat B757-200. In May, 2004, Continental reestablished one stop service to Mexico City from McAllen through Houston, using a 54-seat Embraer ERJ-145. Most recently on June 24, 2005, Allegiant Air began non-stop service to Las Vegas with a 150-seat MD-83.

Today, most air cargo at the Airport is transported as belly cargo in Continental's and American's passenger aircraft. The type of air cargo handled at MFE includes mail, small packages, flowers from Colombia, and high value items such as electronics and emergency parts. In 2003, belly cargo and on-demand air cargo accounted for about 3,400 tons, one third of which was on-demand. Most all-cargo flights (on-demand, non-scheduled) occur between the hours of 6:00PM and 6:00AM. Typical origin/destinations can include locations throughout the U.S, Canada, and Mexico, among others.

Approximately 77 percent of the Airport's aircraft operations are general aviation aircraft. In 2003, there were 119 based aircraft and 48,700 total general aviation operations at MFE. Other types of aircraft operating at MFE include helicopters, and those are primarily operations of the United States Border Patrol, as well as transient military aircraft. Transient military operations have increased substantially since 9/11.

2.3 Key Airport Facilities

The key components of an airport are its runway and taxiway system, terminal area, and terminal curb and landside access.

Runway System - McAllen-Miller International Airport has two paved asphalt runways. Runway 13/31 is 7,108 feet long and 150 feet wide and serves both air carrier and general aviation aircraft. Runway 18/36 is 2,648 feet long and 60 feet wide and serves only small general aviation aircraft. The south end of Runway 18/36 intersects Runway 13/31 approximately 2,700 feet west of the Runway 31 threshold.

The Airport has seven published instrument approaches to the Airport. Runway 13 has one precision approach and three non-precision approaches. Runway 31 has three non-precision approaches. A precision approach provides glide slope information; a non-precision approach does not. The Category I (CAT I) ILS for Runway 13 is the most important of the many ground navigational facilities at the airport. This equipment guides the pilot to a landing decision of 200 feet, the minimum height at which pilots must decide whether to continue the landing maneuver or execute a missed approach. Runways 18 and 36 do not have instrument approaches.

Terminal - The components of the terminal include the passenger terminal, cargo, general aviation, air traffic control tower, Border Patrol, Aircraft Rescue and Fire Fighting, and other buildings.

The passenger terminal building, built in 1993 and expanded slightly in 1995, is approximately 105,500 square feet in area. It is a two-level structure, designed for flexibility and expandability. The upper floor is at grade level on the landside, and the lower floor is at grade level on the airside. The top floor contains ticketing, airline and airport offices, departure lounges (gates), baggage claim, rental car counters, and concessions. Four passenger loading bridges provide access to as many as six jet aircraft. Two narrowbody jet aircraft can be parked at Gate 3 and two at Gate 4. With ramps to the lower level Customs/federal inspection services (FIS) facilities, Gates 1 and 3 can be used for international or domestic flights.

The air cargo facility, built in 1988, is northwest of the passenger terminal on Uvalde Avenue. A continuous truck dock lines one side of the 48,120 square foot building. The building fronts on a 76.2-acre air cargo apron that can park up to four B-727 aircraft simultaneously. The air cargo facility is part of the City's Foreign Trade Zone (FTZ).

The Airport's general aviation area is centered on Runway 18/36. Building leases in the general aviation area total more than 271,000 square feet.

Access and Parking - McAllen-Miller International Airport is linked to the city ground transportation via the collector streets of Wichita Avenue and Uvalde Avenue. A one-way circulation drive, two lanes entering and three lanes exiting, provides access to the terminal complex from Wichita Avenue. This roadway also provides access to terminal parking areas, as well as rental car areas.

The City of McAllen provides free parking to the public. The curb front extends linearly along the public side of the terminal building. Curbside access provides for three lanes plus a curbside parking lane. The almost 1,700 vehicular parking spaces consist of public, employee, and rental car. Public parking is divided into two groups, long term and short term. There are 198 parking spaces available in the short term area including 22 handicap spaces. Long-term is for daily parking with a 14-day limit and is located north of the short-term parking and has a capacity of 692 vehicles. There is an employee parking lot northeast of the terminal with 84 parking spaces available. A rental car parking lot is located east of the main parking area and has 219 spaces including 10 spaces exclusively for designated City personnel. Overflow parking is handled by a lot southeast of the terminal with a capacity of 218 spaces. Very long term parking is also available southeast of the terminal and can accommodate up to 255 vehicles.

Uvalde Avenue is the main access to the cargo facilities. Hangar Lane, south of Wichita Avenue and east of S. Main Street, provides a route to the western part of the general aviation area. The eastern part of the general aviation area is accessible by Tenth Street.

The McAllen Area Has Dynamic Population Growth - The McAllen Metropolitan Statistical Area (MSA) is among the fastest growing in the country in population and job growth. Surprisingly, the 2004 population of greater McAllen (including Border Tamaulipas) is 2.5 million which is similar to Denver today, and is the 19th largest U.S. metropolitan area; McAllen/Edinburg/Mission itself has a population of 569,500 which is ranked as the 74th largest MSA in the United States. By 2024, the population of this area is estimated to be 3.8 million, which would be similar to that projected to San Diego in 2024 and would be the 15th largest in U.S; it is estimated that McAllen/Edinburg/Mission will have a population of 921,600 and be the 60th largest MSA in the United States. **Table 1** presents the "medium/most likely scenario" population estimate based upon work prepared jointly by the Houston Advanced Research Center (HARC) and The Instituto Technólogico de Estudios Superiores de Monterrey (ITESM). There are more than 7 million people living within a 150 mile radius from McAllen/Edinburg/Mission area. By 2025, Hidalgo and Starr Counties will have more than one million population with 12 million people in the greater McAllen area that extends as far as Monterrey, Mexico.

Table 1: Forecast Population	**2000**	**2010**	**2020**	**2025**
Hidalgo and Starr Counties	603,000	775,000	968,000	1,084,000
Hidalgo, Starr, Cameron and Willacy Counties	958,200	1,200,400	1,466,200	1,620,600
Mexican Border	1,367,000	1,693,000	1,991,000	2,144,000
U.S.+ Mexican Border (Tamaulipas)	2,325,200	2,893,400	3,457,200	3,764,600
U.S.+Tamaulipas + Nuevo Leon	7,770,200	9,425,400	10,994,200	11,792,600

The main drivers of the McAllen economy are maquiladora trade, tourism, the agriculture/food processing industry, and population growth. McAllen now has South Texas' largest concentration of healthcare facilities, serving "Winter Texans" (predominately Midwesterners who migrate to the Valley each winter) and Mexican nationals, as well as local residents. After Winter Texans, the next largest component of tourists is Mexican nationals. It is estimated that Mexican nationals account for up to 30% of retail sales in the Valley for which McAllen has become the retail center. La Plaza Mall, just north of the Airport, is one of the most prosperous retail malls in the country, providing McAllen with the most sales tax receipts per capita of any mall in the United States.

Of the maquiladora locations along the Texas/Mexico border, Reynosa remains among the most successful and generates significant Just-In-Time (JIT) auto parts and other products. While the proportion of cargo entering the United States is almost all trucked, the portion that is JIT is more likely to be airlifted.

Airport Vicinity - The airport is generally landlocked and surrounded by dense development to the west and north. Areas to the east and south are as yet undeveloped. However, the Mission Pilot Channel, that borders the airport to the east and south, provides both natural open space protection as well as a physical constraint for expansion. Land south of the airport lies outside McAllen's city boundary. Other important land use features adjacent to the airport include: Colonia Hermosa, a residential subdivision (west); the Boeye Reservoir (northwest), La Piedad Cemetery (west); the La Plaza shopping mall (north); strip commercial development (northeast); and, the McAllen Country Club golf course (southeast). Two important water supplies are in the vicinity of the Airport, i.e., the Airport Canal (traverses airport) and the San Juan Canal (southeast of airport). In recent years, McAllen has expanded rapidly, both in land area and in developed area, with a noticeable growth trend including the Airport's immediate vicinity. The land on the west, north and east side of the airport has been built up, as described above, for many years. Several blocks northeast of the Airport and south of Expressway 83 have experience recent and extensive development of retail and medical facilities.

Land south of the Airport and west of Tenth Street (State Highway 336) comprises the McAllen Enterprise Zone. Within the enterprise zone is the 80-acre Foreign Trade Zone (FTZ) about three miles southwest of the airport. Over 600,000 square feet of rail-accessed warehouse space is available at the McAllen Foreign Trade Zone with long and short-term leases available.

3. AVIATION FORECASTS

Today, there are approximately 65,000 aircraft landings and takeoffs at the McAllen-Miller International Airport. Most of these aircraft operations are performed by general aviation aircraft, although there is a slow, consistent increase in commercial passenger operations. Master plan forecasts are prepared for 20 years beyond the current date. Forecasts indicate that there will be a doubling in the number of passengers that use the airport over the forecast time period. There will be about a 60 percent increase in aircraft operations over the next 20 years with the greatest potential for increase being in air cargo. However, general aviation will remain as the largest percentage user, consisting of about two-third of the aircraft landings and takeoffs. **Table 2** provides a summary of the aviation activity forecasts.

The most important aspect of the updated forecasts address estimating the largest aircraft that would use the airport on a frequent basis (at least 500 takeoffs and landings per year) and the typical reasonable trip length associated with that aircraft, i.e., its stage length.

Table 2: Summary of Forecast Aviation Activity		
Forecast	**2003**	**2024**
Passengers	570,000	970,000
Aircraft Landings & Takeoffs		
Commercial Passenger	7,600	13,200
Commercial Air Cargo	1,300	10,900
General Aviation	47,700	55,100
Military	8,300	8,300
Total Landings & Takeoffs	64,900	87,600
Cargo Tonnage (Belly and All Cargo)	3,400	114,300

Approximately two-thirds of the air cargo (2,000 tons in 2003) is carried by passenger aircraft on an as available space basis for air cargo. The 1,300 air cargo operations that were conducted by on-demand carriers (not scheduled operations) accounted for 1/3 of the freight carried from MFE, i.e., about 1,000 tons; these aircraft operate on much longer stage lengths. Interviews during the master plan process with on demand air cargo freight forwarders and air cargo carriers estimated that 95 percent or more of cargo moved from McAllen is generated by maquiladora industries. Approximately 80 percent of the cargo is related in some form with finished auto products. Of the total related to auto products, approximately 75 percent of the cargo moved was to replenish Just-In-Time inventories.

Accordingly, the most important aspect of the forecasts associated with this master plan update has to do with developing an air cargo forecast. Previous master plans did not identify the potential for significant scheduled air cargo activity at McAllen. This potential is not so much a potential for McAllen alone but a potential for the entire Lower Rio Grande Valley. To some extent, the Lower Valley's scheduled air cargo is already being handled at Valley International. However, the forecasts identify that the air cargo market is yet not well developed and there is significant opportunity for the City of McAllen. The tact taken by this air cargo forecast is to estimate a reasonable share of the large air cargo market for McAllen, which is in itself substantial.

Development of air cargo forecasts for the McAllen-Miller International Airport requires analysis of the huge Texas air cargo market as generated by trade with Mexico. It will be necessary to estimate a reasonable share of that market for McAllen, since the Airport handles little scheduled air cargo today and statistics regarding on-demand air cargo are not existent.

One of the challenges associated with studying air cargo is the lack of specific data that one can obtain from air cargo airlines themselves; this is true regardless of the U.S. market. Unlike U.S. air passenger airlines from which the U.S. Department of Transportation mandates specified information, there is no such requirement for commercial air cargo airlines. Commercial air cargo carriers typically consider data regarding their operations as proprietary information.

There have been few scheduled air cargo airlines operating at McAllen over the years and there is little verifiable historic data, except for belly cargo. Therefore, air cargo forecasts had to be created for MFE based upon a series of conservative assumptions, as follows:

- Identify a credible forecast of U.S. and Mexico cargo and especially air cargo.

- Determine a reasonable relationship between air cargo and The Lower Rio Grande Valley;
- Identify a method to generate a share of market forecast for MFE.

The primary document used for developing the MFE air cargo forecast is a definitive study on United States and Mexico trade which derives from the Latin American Trade and Transportation Study (LATTS). The Phase I study of LATTS is part of an ongoing economic analysis prepared for the Southeastern Transportation Alliance (STA), which is an association of 15 states, including Texas, as well as Puerto Rico and several federal agencies. The LATTS report identified an existing (1996) and forecast (2020) level of total cargo moved between the United States and Mexico as well as the proportion of air cargo for horizon years. Forecasts for the United States were broken down for each state within the STA.

A second primary source used was data provided by the Texas Center for Border Economic and Enterprise Development. This data was reported in terms of the dollar value of cargo moved between Mexico and the eleven border crossings of the Texas Border Region. The border crossings were redefined for the MFE master plan as El Paso, Laredo, McAllen/Edinburgh/Mission, and Brownsville/Harlingen/San Benito.

For the baseline year (1996), 77.6 percent of the cargo moved between the U.S. and Mexico was moved through Texas. Of that 77.6%, 59% moved through the Border Region (See **Table 3**). It was assumed that there is a direct relationship between the value of cargo moved (data from Texas Center) and air cargo (data from LATTS). Since it is expensive to move cargo by air, this is a conservative assumption that likely underestimates the amount of potential air cargo that could be moved through the Valley and McAllen, in particular, as Reynosa produces more Just In Time products than other maquiladora cities.

From analysis of the two main data sources, an air cargo forecast for the four areas of the Texas Border Region was prepared. The air cargo forecast for MFE represents a modest 5.8% of the Texas Border Region which is less than the 8.4% percent average share for the detailed period analyzed (1997-2002). The 5.8% represents an extrapolation of McAllen import value to total value of the Texas Border import value between the years 1997-2002; this is the low range forecast. The low scenario forecast was selected because there is no significant activity today. Therefore, an emerging air cargo market essentially developing from a zero base to a substantial air cargo airport should estimate low until established. Accordingly, the MFE air cargo forecast is considered quite conservative.

Table 3: Baseline Air Cargo Data	**Base Year**	**Forecast Horizon**
U.S./Mexico	**180,000 Tons**	**1,760,000 Tons**
Texas, % U.S.	77.60%	77.60%
Border Texas, % Texas	59.00%	59.00%
Border Texas, % U.S.	46.00%	46.00%
Border Texas, 100%		
Brownsville/Harlingen	8.30%	8.30%
El Paso	27.50%	27.50%
Laredo	55.50%	55.50%
McAllen/Edinburgh/Mission	8.70%	5.80%

The three main drivers of the Texas air freight market are: Just-in-Time logistics of the Reynosa-Matamoros maquiladora industry, petrochemical exploration and industry expansion from the Burgos Basin project, and increasing NAFTA-related trade and associated indirect impacts. This is a most significant market and one which would place McAllen as a major player in United States air cargo. The magnitude of the potential market for Texas from El Paso, Laredo, McAllen and Brownsville/Harlingen is significant enough as to warrant facilities at each location.

The following points summarize the positive and negative factors associated with evaluating any risk relative to realizing the MFE air cargo forecasts. Trends supporting future air cargo growth for MFE include:

- The Lower Rio Grande Valley is the fastest growth area of the United States Border Area and McAllen is the fastest growing economy in the Valley.
- According to the United States Census Bureau, the McAllen-Edinburg-Mission Metropolitan Statistical Area (MSA) was the fourth fastest growing area in the nation during the 1990's;
- The McAllen-Edinburg-Mission MSA benefits greatly from the maquiladora industry and, as a result, the economies of McAllen and Reynosa are becoming more and more integrated. This continuing emergence of the McAllen/Reynosa "Border City" is considerably larger than the Brownsville, Harlingen and Matamoros market and is more diversified.
- Mexican Nationals visit the Rio Grande Valley, particularly McAllen, where they contribute significantly to the economy of the region.
- The McAllen-Edinburg-Mission MSA benefits greatly from the maquiladora industry, generating more than $4 billion production value annually, supports 32,577 jobs, and generates more than $436 million in federal, state, and local taxes.
- McAllen is very aggressive at taking advantage of the momentum the community has in terms of its economic boom and the continuing strengthening of relationships between the maquiladora industries on both sides of the border. At any given time, more than 50 businesses from throughout the United States, Canada, Europe, and Asia are considering McAllen as a place to build a new business, expand an existing business or relocate their business.
- An anticipated boost can be anticipated for McAllen's economy from existing economic development plans for the maquiladora industry, petroleum, and manufacturing center in Tamaulipas and Nuevo Leon, although maquiladora-related businesses on both sides of the border are being advised to continue manufacturing auto parts, and to stay away from apparel and electronic merchandise production.
- The potential for Mexico to develop natural gas deposits in proximity to Reynosa, the $20 billion (USD) Burgos Basin project, could provide great market opportunities for both the passenger and freight services for the Reynosa/McAllen region.
- NAFTA is making an important contribution to the expansion of U.S. agricultural trade with Canada and Mexico. In conjunction with increasing agricultural trade, some freight forwarders have begun to investigate exporting fresh produce to Canada, and potentially, Europe.
- Established in 1965 as one of the first Foreign Trade Zones (FTZ) in the U.S., the facility could continue to attract important freight forwarders to the McAllen Market area that would make use of MFE.

Trends that qualify potential MFE air cargo growth are:

- Development plans for Mexican Airports along the border could have the some effect on reducing potential air lift from U.S. airports, although plans for increasing runway lengths have not been announced for any airport.
- Major highway development plans in the United States and Mexico, such as I-69, will increase the volume of truck-related movement of cargo between the United States and Mexico, and thereby decrease the potential for increasing percentage of movement by air.
- The NAFTAPORT at Harlingen Valley International Airport is a significant factor toward sustaining that airport's market share of the inbound cargo destined to be air lifted from the Lower Rio Grande Valley.
- Issues relative to border security and the current U.S. retrenchment from an open border policy will be a continuing issue that could slow the rate of growth forecast for movement of goods between the United States and Mexico for all transportation modes.
- Existing runway constraints to handle cargo at MFE as well as the current unwillingness of freight forwarders to invest in additional equipment at McAllen that would enable them to handle more cargo.

In conclusion, the significant growth which has occurred in McAllen/Reynosa over the past decade and forecast to continue over the next decade does have some challenges. On balance, the positives tend to outweigh the negatives in favor of a robust potential for future air cargo growth. Short-term trends for primary air cargo growth at Harlingen is certain but may be counterbalanced by the comparatively greater current and potential growth rates of the Reynosa maquiladora industry vis-à-vis the Matamoros maquiladora industry. In addition, Mexican border airport development is uncertain with issues of priority (concessionaire development of Monterrey versus Reynosa), governance (ASA or Tamaulipas government control of developing Matamoros, Nuevo Laredo and Ciudad Victoria), and funding (availability and timing).

In the long-term, the continued integration of the economies of border city communities could result in an identifiable separation of air service markets that would favor McAllen serving the McAllen/Reynosa market and either or both the Valley International or Brownsville/South Padre International serving the Brownsville/Matamoros market. From the size of the potential air cargo market, separate facilities could be warranted.

4. DEMAND/CAPACITY ANALYSIS

The purpose of the demand/capacity analysis is to determine the capabilities of existing facilities at MFE and compare them with future demand. Capacities are evaluated in terms of the three major components of an airport: airside, terminal, and landside.

FAA design criteria for the largest aircraft to operate at a facility on a frequent basis, defined as 500 takeoffs and landings per year, is used to evaluate an airport. The Airport Reference Code (ARC) is used for establishing airport geometry (e.g., runway and taxiway widths or runway separation distances). The key parameters of the ARC associated with the design aircraft are the airspeed on approach (aircraft approach category) and the width of the aircraft's wingspan. As described, the B-767 is MFE's design aircraft which has an ARC of D-IV. Other aircraft falling into this category are the DC-8 and DC-10, both of which are being phased out of the worldwide fleet due to age, and the MD-11.

In terms of airfield issues related to capacity, the key issue for consideration in the master plan is the potential for a future parallel runway. For MFE, this would occur when the runway system (Runway 13/31 and Runway 18/36) reaches 60 percent of its capacity. Based upon evaluation of

the forecast fleet mix, wind conditions, and runway utilization, among other factors, the estimated capacity of the airfield is 163,000 annual operations for horizon year 2024. If it is prudent to plan for a parallel runway when the capacity of the system reaches 60 percent, then planning should begin when the airport reaches 98,000 annual operations. Based upon the forecasts, this planning level threshold of operations will not be reached at MFE within the 20-year planning period.

If a parallel runway is constructed, then Runway 18/36 will no longer be required. A secondary runway is necessary at an airport only when wind conditions are such that aircraft that require such a runway cannot operate 95 percent of the time; in this case, small general aviation aircraft. However, based upon winds analysis, Runway 13/31 exceeds the minimum criteria for wind coverage for both large and small aircraft during both visual and poor visibility conditions. While technically, Runway 18/36 is not needed today, it does provide some incremental contribution to airfield capacity for small aircraft. Accordingly, it would not be prudent to close the runway until additional runway capacity becomes available, e.g., a future parallel runway.

The terminal area capacity analysis addresses gates, aircraft parking, and the passenger terminal building. In general, the terminal building capacity is estimated to be between 1.1 and 1.5 million passengers, depending upon the number of arriving and departing passengers during peak hour. The baseline 2003 passenger level was about 570,000.

However, there will be the need during the forecast period to adjust terminal space utilization. Since the previous master plan, several important factors have altered thought processes regarding terminal building space utilization. These factors include: electronic ticketing that has reduced the need for counter space; increasing average weight of luggage along with new security requirements for baggage handling as a result of the events of September 11, 2001 which has resulted in the need to expand the size of both inbound and outbound baggage areas; and, the new security requirements with regard to passenger screening that has increased the amount of space needed for processing passengers and reducing queue lengths. With changing needs for terminal space utilization and forecast growth over the 20-year master planning period, there will also be a need to add more gates to the terminal. These needs will be specifically identified in the Facility Requirements Chapter.

The landside capacity analysis addresses passenger terminal curb, automobile parking, and access roads. Within the next several years, parking for passengers and rental car users will approach capacity and 70 percent more parking spaces will be required in the next 20 years. Another aspect of the landside element is airport access. Bicentennial Boulevard provides the most direct access to the airport from U.S. 83. Eastbound access from U.S. 83 is provided via a dedicated lane. However, westbound access does not have the same dedicated lane from U.S. 83, requiring exiting U.S. 83 and merging across the increasingly busy lanes of the frontage road before exiting on Bicentennial Boulevard.

In terms of other airport functions and based upon the aviation forecasts, the existing air cargo facility and parking apron would be exceeded early in the forecast period, additional general aviation corporate hangars and apron will be needed.

5. FACILITY REQUIREMENTS

Facility requirements derive from accommodation of the aviation forecasts and addressing of issues raised by the demand capacity analysis. The consideration of facility requirements in a master plan focuses on three areas: facilities needed to maintain current standards; facilities needed to maintain FAA standards; and facilities needed to accommodate future demand.

In general, MFE has outstanding, up-to-date facilities. Typically, discussions of facility requirements needed to maintain current standards, or address deficiencies, exist due to changes or upgrades in FAA standards. The master plan addresses three deficiencies:

- Runway 13 threshold displacement. This displacement reduces allowable landing length from 7,108 feet to 6,973-feet but the 135 feet of displaced pavement can still be used for takeoff purposes. The displacement is necessary as a result of a recent mandate by the FAA that there be no exceptions to having a full 1,000-foot by 500-foot rectangle area of aircraft weight bearing pavement or soil beyond both ends of the runway. The required rectangle is clipped by a small section of the right-of-way for 23rd Street which creates the displacement. When such situations occur, there are three options for remedy: move the object that would cause the displacement (23rd Street), reduce the runway length (displaced threshold) or increase the runway length on the opposite end to reclaim the runway length (runway extension). In addition, the master plan identified that the 50:1 approach slope for this runway end also does not meet the minimum requirements for the entire geometry of the RPZ; this would require a further displacement of another 195 feet. In MFE's case, the short-term remedy is to reduce runway length for takeoff but, when Runway 13/31 is extended, the runway length lost for takeoff will be regained.
- The instrument landing system (ILS) on the Runway 13 end. This is the Airport's only ILS and it is aged with little or no ability for replacement parts. There is important concern that the system could complete fail at any given time.
- Fee simple ownership of land in the runway protection zone (RPZ) for Runway 13 in the vicinity of 23rd Street. The City holds avigation easement over most of this property which makes this deficiency not as critical as the others. Nevertheless, it is a general FAA recommendation that Airport Sponsors own the land in runway RPZs. Such condition also exists for the RPZ for Runway 18 over LaPlaza Mall. This condition is tolerable due to infrequent use of the runway, use by small general aviation aircraft, and plans for closure of the runway when the parallel runway is constructed, although the timing for such closure is more than 20-years in the future.

Facility requirements needed to maintain current standards are those periodic projects that keep existing facilities fully operational. Examples of such projects are runway overlays or similar projects. Besides periodic pavement maintenance, overlay, or reconstruction projects (and these will be listed in the final capital improvements program by five-year time increments), the only airfield project that is needed to maintain current standards is a second instrument landing system, an ILS for Runway 31. Nowadays, it is prudent to ensure that an airport has redundancy in some facilities in the event that the primary facility is not operational, enabling unabated operation at the airport. A second and equally important reason is that an ILS for Runway 31 would address the concentrated period of time, usually in winter, when a southerly instrument approach is needed.

As a result of retrofitting the Airport to implement new security procedures, the space allocated in the terminal for passenger processing at security checkpoints at MFE needs to be revisited. Since the Transportation Security Administration (TSA) approved the retrofit, there is no deficiency from their perspective. Yet airport customers could be better served if there were more space available for passenger processing at peak times. A terminal space study that identifies the specific timing and cost for upgraded facilities is warranted. Terminal space needs are addressed below.

Projects needed to accommodate future demand usually constitute the longest list. For MFE, the key future facilities needs are:

- Land for airport expansion. This is the most critical need identified in the master plan. Given the fast-paced development in the vicinity of the airport, it is essential that the City of McAllen secure the land for future development now. Without additional land, it will not be possible to extend the runway in the future or to regain the 135 feet for landing on Runway 13. Also, the airport is close to build-out. At this point, without additional land, a facility could be displaced as a result of needing to expand another facility and then learn several years later that the displaced facility will need to be relocated again.
- Runway 13/31 extension. The capability to extend the runway at MFE, when justification warrants, is vital to the MFE to position the airport to serve an ever-growing air cargo demand. This will not only ensure that the airport is competitive but will also position the airport for enhanced future air passenger service, the timing for which is beyond the forecast period. However, MFE already provides the widest air service to the Valley and is the population center for an international community that is now in excess of 2.5 million people. The runway extension initially will be justified due to air cargo needs. The master plan document identifies a number of anecdotal references for on-demand air cargo needs that cannot be served presently. It is only a matter of time before a runway extension will be warranted.

  Within the next several years, Runway 13/31 will need to be extended by about 1,522-feet to a usable length of approximately 8,500-feet. Ultimately, the runway would be planned for a 10,000-foot runway length. Since this is a critical issue within the master plan, it is important that the reader of this executive summary view some of the anecdotal information gained from airport tenant interviews regarding circumstances pertaining to on-demand air cargo activity at MFE:
  - In general, headways to move JIT products have decreased as a result of increased border security as a result of 9/11/01. Before 9/11, forwarders estimated an average time of 30 minutes to move goods through U.S. customs at the border as opposed to 90 minutes today. There is now a mandatory check of 10 percent requirement for all packages, i.e., 30 boxes if the shipment contains 300 boxes. The additional time has resulted in missing the "local" (i.e., McAllen) window for shipments.
  - On instances where the largest shipments are handled, often a forwarder must consider use of more than one aircraft due to a combination of offloading constraints due to a combination of lack of runway length, temperature and desired non-stop haul distance. One forwarder cited a shipment requiring a DC-8 loaded to near capacity. Due to circumstances, more than one aircraft, a B-737 and a DC-8, was required to move the shipment from McAllen. Rather than commissioning two aircraft to McAllen, the shipment was taken directly to Harlingen for one DC-8 operation.
  - Another forwarder's example related the need for multiple aircraft to handle an emergency time situation created by the extra time it took to clear a shipment of JIT auto parts by U.S. customs. Due to a complete shipment security check, the order had been delayed at the border for more than 24 hours. The window of opportunity to move the shipment destined for Detroit had narrowed to 6 hours. Penalties associated with late delivery were $150,000 per minute. Accordingly, the lease cost of the aircraft was not an issue. The size of the delivery required a DC-8. Again due to runway constraints at McAllen, two aircraft would have been required, a DC-8 and a B-737. The difference in time between McAllen and Harlingen of approximately 45 minutes was weighed against the risk associated of not being able to get two aircraft in time to meet the deadline for the complete delivery. Ultimately, the decision was made to take the additional

time to truck the delivery to Harlingen to load the full shipment on one aircraft enroute to Detroit.

- Quality control for automobile parts is so severe that one defect of one item will negate the entire shipment. Consequently, less handling and less time enroute results in fewer opportunities for defects. One forwarder commented that he is not willing to invest in equipment to better handle larger shipments because of runway constraints. The example given had to do with investing in a K-loader, a large piece of equipment that lifts air cargo containers off-loaded from trucks up to an aircraft's cargo doors or vice versa. If circumstances existed that there was the opportunity to move larger shipments on a continuous basis throughout the year, it would be worth the investment.
- One freight forwarder noted that on certain days that a fully loaded Falcon jet had offloading penalties associated with it if its destination was east of Little Rock, Arkansas.
- Several agricultural product examples were noted. For example, there have been inquires regarding moving okra from McAllen to Japan as opposed to trucking it to Houston and moving it from there. The additional time that it takes to truck goods to Houston was cited as an issue that substantially increased the per pound cost of perishables. One freight forwarder discussed the potential for flying fruit on a weekly basis to Toronto or, potentially to Germany.
- A charter carrier investigating the potential for DC-8 operations to Toronto provided the following example. Each trip to Toronto (1,448 nautical miles or 1,645 statute miles) would cost $90,000. Due to the existing runway length at McAllen, the aircraft (a DC-8) could carry 71,000 pounds versus the 104,000 pound cargo configuration being investigated. The smaller capacity results in a cost per pound of produce of $1.27 as opposed to $.87 per pound at the higher capacity, almost a 50% penalty. Consequently, the company is considering flying from Harlingen or even Laredo.
- Similarly, JIT imports from Germany are not feasible unless there was the opportunity to land in McAllen. The additional time that it takes to truck from Houston after an 8-24 hour partial customs at Houston and then clearing customs in McAllen results in an unacceptable 36-48 hour time frame.
- One freight forwarder noted that the majority of JIT cargo carried by Emery and Burlington in the last five years from Brownsville was actually generated in the McAllen/Reynosa area.
- One freight forwarder commented that finding belly cargo space was not always possible. On one particular day, there was no space available for one parcel weighing only nine pounds.
- There has been exploratory interest in MFE by an international freight forwarder that operates predominately between Europe and Asia.

McAllen's top passenger destinations have historically been Houston, Dallas/Fort Worth, Austin, Las Vegas, Chicago and Indianapolis (1,200 miles), Los Angeles (1,300 miles), and Detroit (1,400 miles). In the last decade with the massive maquiladora industrial development and its considerable ties with the auto industry, other destinations with auto industry connections have developed, such as Toronto, Birmingham, Greenville, South Carolina, as well as interest in the UK, Germany, and China. In addition, there have been occasions when perishables have been flown to these destinations, in particular to Canada. Therefore, the conceivable design stage length is 1,600 miles, the distance from McAllen to the Toronto Lester P. Pearson International Airport. As a consequence, the B-767 is projected to be the largest aircraft to regular use the Airport in the future, although larger aircraft like the MD-11 could operate infrequently. **Table 4**

provides a listing of the international destinations flown from MFE over the past decade. Cities in all capital letters represent primarily air cargo destinations and cities in lower case letters represent passenger destinations.

Table 4: International Origin/Destinations for Air Passenger and Air Cargo Aircraft McAllen-Miller International Airport (1990-2003)		
Belize	**Costa Rica**	**Mexico (continued)**
Belize City	San Jose	Ixtapa/Zihuatanejo
Bolivia	**El Salvador**	LEON-GUANAJUATO
SANTA ROSA	San Salvador	Los Cabos
Canada	**France**	Manzanillo
Calgary	Paris	Mazatlan
HAMILTON	**Honduras**	MEXICO CITY
LONDON	San Pedro Sula	MONTERREY
TORONTO	**Mexico**	QUERETARO
Vancouver	Acapulco	SALTILLO
WINDSOR	Cancun	Veracruz
Colombia	Guadalajara	**Republic of Panama**
Bogota	HERMOSILLO	Panama City

- Future parallel runway. The forecasts indicate that it will be prudent to begin planning for a future parallel runway toward the end of the master plan period, i.e., after 2020. Typically, it will take 10 years to plan, obtain environmental clearance, design, fund, and construct such a facility.
- Terminal Building. The existing terminal building easily can be expanded to meet needs well beyond the master plan forecast horizon. The most important of the future needs will be concourse expansion of about 4 gates. **Table 5** identifies terminal facilities expansion needs.

Table 5: Gross Estimate of Terminal Expansion Needs (Square Feet)			
Baseline and Scenario Years	**Surplus (Deficiency) for Security and Baggage Handling**	**Concourse Expansion**	**Terminal Expansion Requirements***
Total Surplus (Deficiency) 4 Gates, Baseline	-5,000	N/A	5,000
Surplus (Deficiency) 5 Gates, 2009	-10,025	3,000	13,025
Surplus (Deficiency) 6 Gates, 2014	-15,050	6,000	21,050
Surplus (Deficiency) 7 Gates, 2019	-20,075	9,000	29,075
Surplus (Deficiency) 8 Gates, 2024	-25,100	12,000	37,100

***Note: These estimates are calculated from Baseline year 2003 and may not reflect current conditions such as requirements for new service (i.e., Allegiant Air) or implementation of facilities that may increase air service needs (i.e., new convention center).**

- Vehicular Parking. Approximately 1,500 new parking spaces will be required for MFE over the course of the airport master plan period and this is likely the most immediate problem that MFE will face. As early as 2006-2007, it will be necessary to increase the surface parking lot. Additional rental car ready positions will also be needed. The likely solution will be to increase surface parking in areas adjacent to the terminal which may require land acquisition or relocation of facilities. In terms of expanding the rental car space, options outside the contiguous terminal envelope may need to be considered. In the long-term, a parking garage may be warranted when the passenger levels exceed approximately 1 million annually.

- Construction of a direct westbound ramp access from U.S. 83 to Bicentennial Boulevard is recommended. At certain times of the day, it is difficult to exit from 23rd Street, merge across several lanes of traffic, and exit on the ramp to Bicentennial Street and the airport.
- Should the anticipated air cargo forecast be realized, significant additional space will be required for air cargo facilities. The need will derive from apron space requirements for parking aircraft more so that the need for additional building space. The current air cargo area is sufficient to provide the amount of square footage to accommodate air cargo building facilities; however the "L-shaped" arrangement of that area does not enable sufficient space for aircraft parking and maneuvering of 6-8 jet aircraft during peak hour.
- It is anticipated that additional space needs will be required for parking and hangaring general aviation aircraft, particularly if surface parking needs require expansion into the general aviation area. As the number of based aircraft increase, the average size of the hangars required to store those aircraft is also increasing as is the size of the fleet generally operating at MFE. Consequently, the apron needs for accommodating more and large jet aircraft is a consideration. There will be additional space available to expand general aviation facilities once Runway 18/36 is closed, but the runway closure likely will not be required before more space is needed for general aviation expansion.
- Other considerations for facility locations include land currently occupied by the U.S. Customs & Border Patrol (CBP) for use as a parking garage as well as a relocated helicopter operations area should Runway 18/36 be closed. This option would only be considered if it met the business plan and timing of the CBP. Other facilities considerations include new locations for an aircraft rescue and fire fighting facility, possible airport maintenance structures, rental car facilities, and, in the long-term, a relocated air traffic control tower.

Table 6 highlights the major facility needs that will be required over the next-twenty years.

Table 6: Summary of Major Facilities Needs

Airside	Terminal	Landside
Land for Airport Expansion, the most critical master plan need	Expand Security Screening Area	Short-term and long-term parking expansion
Install Instrument Landing System (ILS), Runway 31	Expand Outbound baggage Area	Potential parking garage
Runway Extension	Expand Inbound baggage and bag claim areas	Relocate various facilities to accommodate parking expansions
Replace ILS, Runway 13	Relocate Gate One	Westbound ramp from U.S 83 to Bicentennial Boulevard
Potential New Runway (Beyond Master Plan Horizon)	Add Air Carrier Gates	Land Acquisition for parking expansion.
Potential Air Cargo Apron expansion		

6. ENVIRONMENTAL CONSIDERATIONS

The master plan process included preliminary coordination with key environmental agencies via letter communication and early coordination meetings with the U.S. Army Corps of Engineers and the Texas Department of Transportation, Pharr District. It was anticipated that once a recommended development plan concept had been identified, an environmental feasibility study would be performed to determine the environmental impacts. As the master plan proceeded and subsequent meetings were held with TxDOT and the Hidalgo Drainage District Number One (early November 2004), it was discussed that such environmental feasibility study should also

address elevation issues pertaining to constructing Tenth Street under a runway structure or around the end of the runway as well as the drainage implications associated with relocating a portion of the Mission Pilot Channel that would intersect with the Banker Channel. The environmental feasibility study would be prepared such that it would constitute much of what would be needed for an environmental assessment of the runway extension, once justified.

Based upon the long-term planning noise contour for 2024 (see **2024 Noise Exposure Map**), there is an indication that MFE will need to address levels of aircraft noise that will be considered to be significant by FAA standards, i.e., DNL 65 or greater, that extends beyond the airport boundary. It is important to be as proactive as possible with regard to dealing with airport noise, as it typically is the most noticeable environmental impact associated with an airport. Therefore, as part of the recommendations of the master plan, an airport noise compatibility study will be added to the Capital Improvements Program for the near-term planning phase to deal positively with this issue (2006).

7. ALTERNATIVES, RECOMMENDED PLAN, AND CAPITAL IMPROVEMENTS PROGRAM

The alternatives analysis is actually an extension of the facility requirements where options regarding the physical location of facilities are investigated. This executive summary presentation of alternatives will focus upon alternatives associated with the runway extension and securing the land for long-term accommodation of aviation demand. Since one of the major evaluation criteria of the alternatives is cost, preliminary costs estimates for the capital improvements program will also be discussed in this section.

Four alternatives were identified and discussed on three occasions in public meetings--November 2003, April 2004, and January 2005. Each alternative addresses the potential extension of Runway 13/31 and the provision of land to accommodate future aviation demand. In order for the Runway 13/31 to be extended, there are two large projects that must occur beforehand. These are the relocation of Tenth Street and the relocation of a portion of the Mission Pilot Channel. Regarding the relocation of Tenth Street, two options are considered. Tenth Street can be built around the end of the future runway or the runway can be constructed over Tenth Street in approximately its current location.

The five evaluation criteria for the four alternatives are as follows:

- Provide the land necessary for the airport to accommodate future facility requirements and expansion needs;
- Enable the extension of Runway 13/31;
- Enable the future construction of a parallel runway;
- Require no relocation of the residents of Colonia Hermosa or any land acquisition in that neighborhood;
- Consider construction phasing and construction costs.

On the following pages, **Exhibits 1** through **Exhibit 4** from **Chapter 6: Alternatives.** Each exhibit illustrates the two options for relocation of Tenth Street, i.e., construction of Runway 13/31 over Tenth Street at essentially its current location or building the roadway around the end of the ultimate 10,000-foot Runway 13/31. The colors on each exhibit represent: green for property owned by the Airport and the City of McAllen; tan for land in the Mission Pilot Channel that would be acquired for airport expansion; yellow for land south of the Mission Pilot Channel that would be acquired for airport expansion; and, red for land that would be acquired for

construction of the relocated Mission Pilot Channel. On **Exhibit 4** only, the color blue represents land recommended for acquisition north of the Mission Pilot Channel that is needed primarily for landside expansion (along Tenth Street and Relocated Tenth Street) or for completion of the runway protection zone for Runway 13 (northwest).

Alternative One – Alternative One was identified deliberately to test the costs associated with the potential project. This alternative assumes a multi-phased approach to the project, requiring only the land needed to construct the future runway extension. It recognizes that the relocation of the north levee wall will once more have to be relocated in the event of construction of a future parallel runway (See **Exhibit 1**).

Alternative Two – Alternative Two also assumes a phased approach to long-term accommodation of a future parallel runway. However, this option identifies the relocated south levee wall of the Mission Pilot Channel and the channel itself in its ultimate location. Same as Alternative One, the relocation of the north levee wall would be rerouted to enable the extension of Runway 13/31 only; construction of a future parallel runway would require a further relocation of the north levee wall (See **Exhibit 2**).

Alternative Three – Alternative Three shows initial consideration of the land needed to accommodate the future airport expansion program and relocate the Mission Pilot Channel to enable the future construction of a parallel runway, when warranted (See **Exhibit 3**).

The four airport expansion alternatives that were presented to the public have been evaluated. All alternatives provide for ultimate runway extension to 10,000 feet, require relocation of Tenth Street (either build the runway over the road or build the road around the runway end), and require relocation of a portion of the Mission Pilot Channel.

Alternative Four – Like Alternative Three, Alternative Four shows initial consideration of land needs for accommodating the construction of a future parallel runway, when warranted (See **Exhibit 4**). This alternative shifts the potential alignment for a future parallel runway east to avoid any portion of the runway protection zone (RPZ) to touch Colonia Hermosa. By doing so, the commensurate shift of the relocated portion of the Mission Pilot Channel around the ends of the two runways results in the relocated Mission Pilot Channel intersecting with the Banker Channel.

Table 6-1 provides cost estimates associated with each runway alternative, exclusive of land needs north of the Mission Pilot Channel.

The pros and cons of each runway alternative were discussed in a public presentation on January 13, 2005.

Alternatives Evaluation and the Selection of a Preliminary Recommended Development Concept -- A brief analysis of the each alternative is provided in terms of their assessment relative to the evaluation criteria.

- Criterion - *Provides the land necessary for the airport to accommodate future facility requirements and expansion needs.* Alternatives Three and Four meet this objective; Alternatives One and Two do not.
- Criterion - *Enable the extension of Runway 13/31.* Alternatives Three and Four meet this objective initially. A further relocation of the north levee wall of the Mission Pilot Channel would be required in order to achieve this objective in the long-term by Alternatives One and Two.

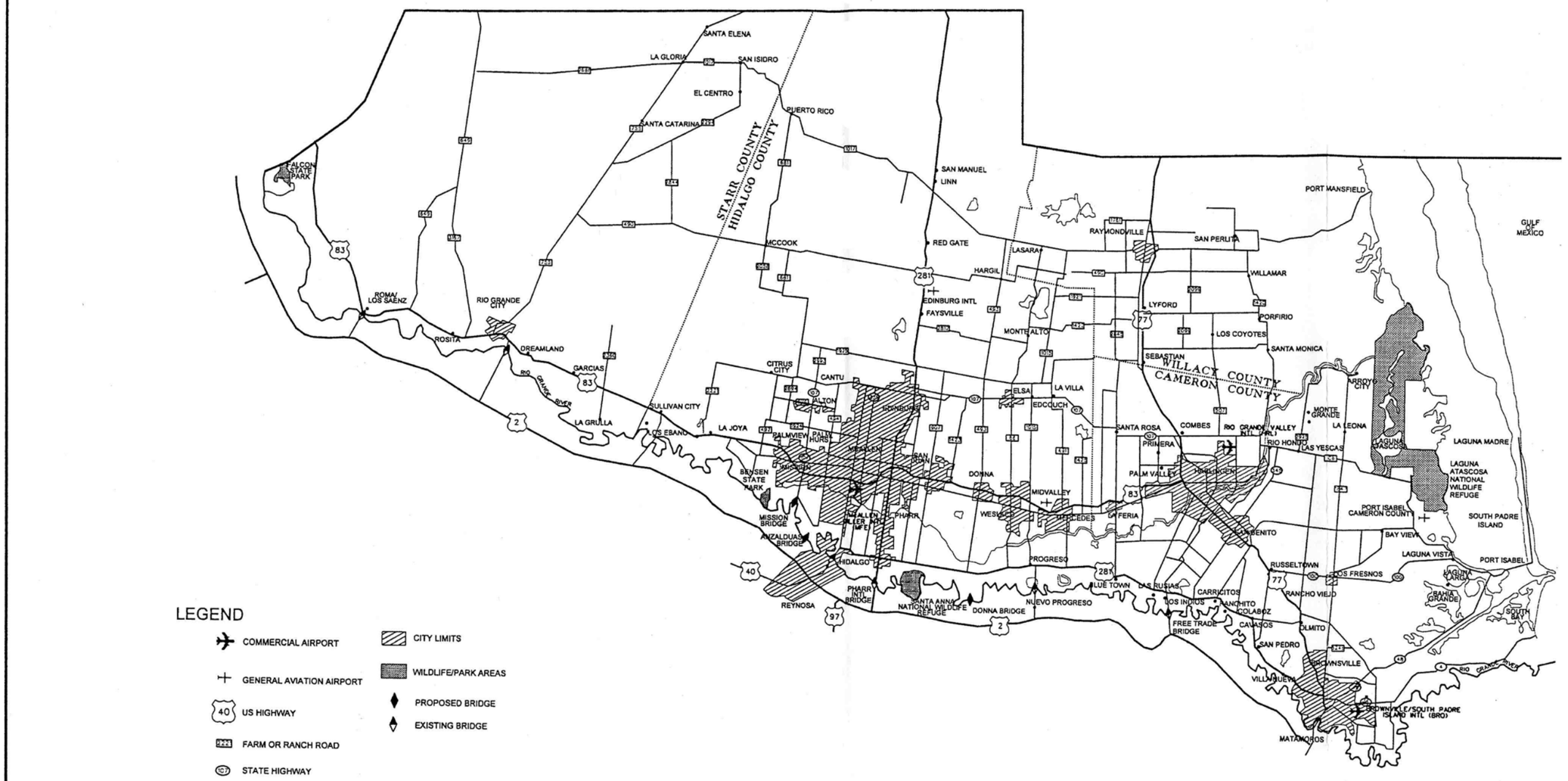
- Criterion - *Enable the future construction of a parallel runway*. Alternatives Three and Four meet this objective initially. A further relocation of the north levee wall of the Mission Pilot Channel would be required in order to achieve this objective in the long-term.
- Criterion - *Require no relocation of the residents of Colonia Hermosa or any land acquisition in that neighborhood.* Only Alternative 4 achieves this objective.
- Criterion - *Consider construction phasing and construction costs*. In terms of total cost, Alternative Four is the most expensive. However, the primary cost differential between the alternatives is in land acquisition cost and not construction cost. In fact, if the additional cost of relocating the north level wall associated with Alternatives One and Two were factored in, Alternative Three would become the least expensive, followed by Alternative Four. In terms of phasing, all alternatives would be similar in the phasing of the relocation of Tenth Street. However, Alternative Four stands alone as the easiest one to phase the reconstruction of the Mission Pilot Channel relocation. Essentially, the entire project could be constructed without impacting the current channel until such time that the new channel would need to be connected with the existing channel or intersected with the Banker Channel.

Based upon assessing the evaluation criteria, the Recommended Concept Plan is Alternative Four because it achieves the greatest number of objectives. The only objective that it does not at least equal or better the others is relative to total cost. Yet when it is realized that Alternatives One and Two would require a Phase II relocation of the Mission Pilot Channel, Alternative Four would be less. Aside from land cost, the primary difference between Alternative Three and Four is approximately $1.5 million in cost associated with relocation of the Mission Pilot Channel. However, the intricacy of phasing construction of Alternative Three versus Alternative Four could be much greater and more detailed cost estimates in the future could result in increasing the cost of Alternative Three. Accordingly, the primary reason for choosing Alternative Four over Alternative Three is that Alternative Four does not require relocating residents or land acquisition in Colonia Hermosa, the primary tenet set forth in this master plan process.

After the public meetings and briefings with the City Commission, a Capital Improvements Program (CIP) was developed that is the essence of the master plan. A list of unconstrained projects was prepared that identified airport needs based upon accommodating airport demand. There are several points to be made regarding the CIP list:

- In the event airport activity levels vary from project levels, implementation of projects will be moved up or postponed depending upon demand;
- Indicated costs are planning estimates that will need to be refined during design processes necessitating changes in the proposed staging;
- There is not a 1:1 relationship between the Master Plan CIP and the FAA Airport Improvement CIP. The FAA Airport Improvement CIP considers only those projects for which the FAA will participate in given their eligibility criteria for funds. On the other hand the Master Plan CIP is a comprehensive, unconstrained list of airport needs based upon the demand forecasts. Since needs typically outstretch available funds, projects must be delayed or implemented in stages.
- The Master Plan CIP lists projects that would be funded and constructed by others, such as the Mission Pilot Channel relocation or Tenth Street Relocation.
- The Master Plan CIP also lists projects that are beyond the 20-Year Master Plan time frame. In this case, the major project that would be beyond 20-years is construction of the potential parallel runway.

Table 8-1 from **Chapter 8: 20-Year Capital Improvement Program** identifies the $104 million Master Plan CIP and the complete $184 million program, including the Mission Pilot Channel and Tenth Street relocations.



REGIONAL MAP

McALLEN - MILLER
International Airport

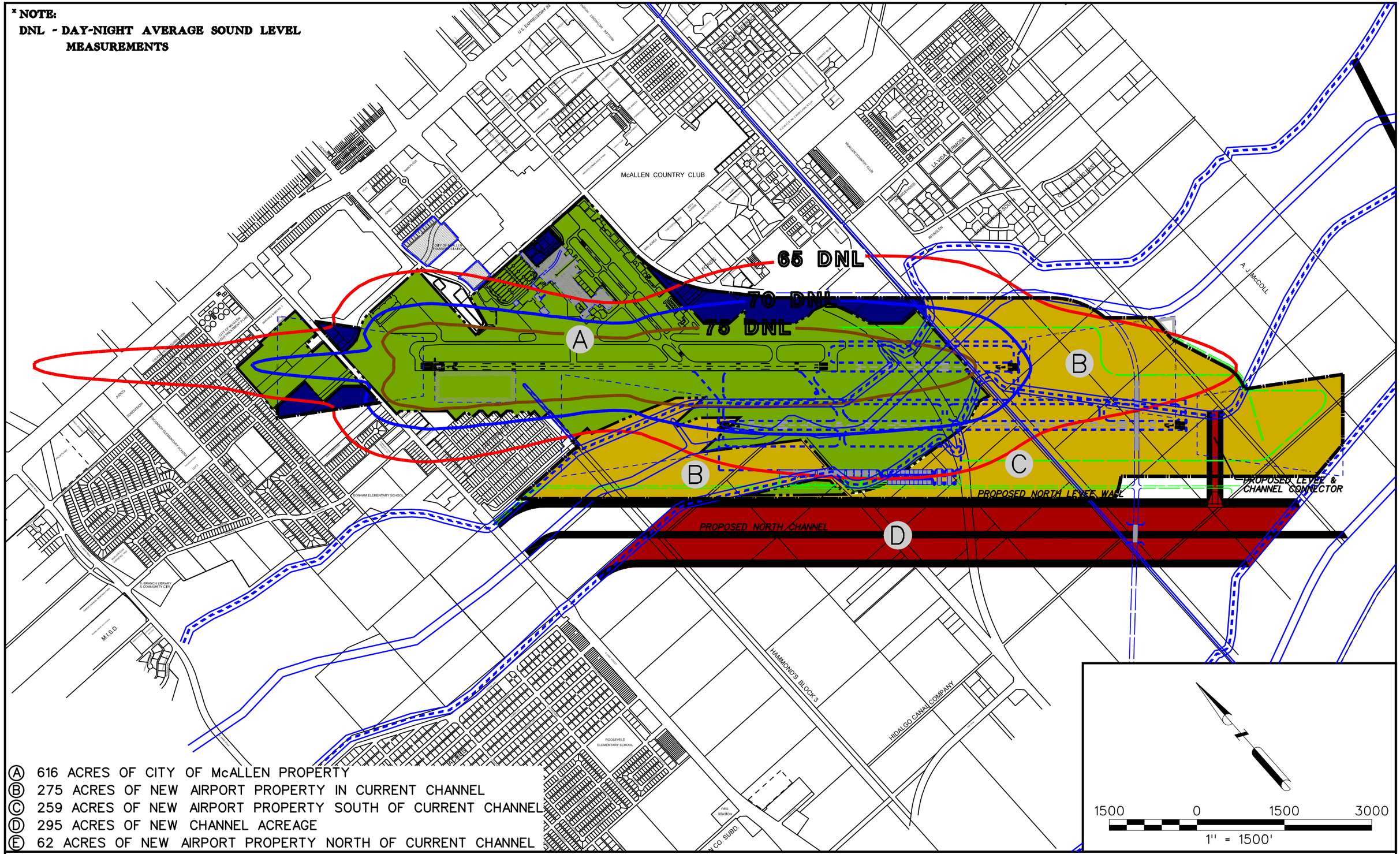
Table 6-1: Runway Extension, Land Acquisition, and Relocations of Tenth Street and the Mission Pilot Channel				
McAllen Miller International Airport				
Category	**Channel Relocation Alternative 1**	**Channel Relocation Alternative 2**	**Channel Relocation Alternative 3**	**Channel Relocation Alternative 4**
A. Runway Extension	$15,600,000	$15,600,000	$15,600,000	$15,600,000
B. Mission Pilot Channel Relocation	$20,010,000	$28,947,000	$21,966,000	$23,578,000
C. Property Acquisition				
1. Proposed Airport Property in Mission Inlet Channel	72	72	187	245
Property Value = $11,000/Acre	$792,000	$792,000	$2,057,000	$2,695,000
2. Proposed Airport Property South of Inlet Channel	10	10	140	379
Property Value = $22,500/Acre	$225,000	$225,000	$3,150,000	$8,527,500
3. Relocated Mission Inlet Channel	179	370	231	295
Property Value = $22,500/Acre	$4,027,500	$8,325,000	$5,197,500	$6,637,500
4. Cost of Needed Airport Property (C1+C2+C3)	$5,044,500	$9,342,000	$10,404,500	$17,860,000
Land Acquisition for Airport	82	82	327	624
Land Acquisition for Mission Valley Channel Relocation	179	370	231	295
Net for Land Transfer of New Channel Land for Existing Channel Land	To Be Determined	To Be Determined	To Be Determined	To Be Determined
D. Tenth Street Relocation (Build Under Runway)	$47,079,000	$47,079,000	$47,079,000	$47,079,000
Structure Under Runway	$36,421,000	$36,421,000	$36,421,000	$36,421,000
Remainder of Roadway	$10,658,000	$10,658,000	$10,658,000	$10,658,000
E. Tenth Street Relocation (Build Around Runway)	$21,965,000	$21,965,000	$21,965,000	$21,965,000
Project Cost Combinations				
Runway, Channel, Property (A, B, C)	$40,654,500	$53,889,000	$47,970,500	$57,038,000
Runway, Channel, Property, Road Around Runway	$62,619,500	$75,854,000	$69,935,500	$79,003,000
Runway, Channel, Property, Build Under Runway	$87,733,500	$100,968,000	$95,049,500	$104,117,000
Runway, Channel, Road Around Runway, excludes land	$57,575,000	$66,512,000	$59,531,000	$61,143,000

Table 8-1: CAPITAL IMPROVEMENTS PROGRAM

Project Description All costs are planning estimates that include escalation of estimated costs due to assumptions made and lack of field verification.	Short Term (2004-2008)	Intermediate Term (2009-2013)	Long Term (2014-2024)	Total, All Phases
Airfield				
Runway 13/31 Overlay	$4,200,000			$4,200,000
Runway 13/31 lighting rehabilitation	$525,000			
Runway 13/31 rejuvenation/crack sealing		$900,000	$1,800,000	$2,700,000
Runway 13 ILS	$1,050,000			$1,050,000
Runway 31 ILS	$1,932,000			$1,932,000
Runway 13-31 Extension, 1,710-feet (regains 330-foot displaced threshold)		$15,600,000		$15,600,000
Relocate ILS with extension of Runway 31, including LOC for Rwy 13		$500,000		$500,000
Design of Runway 18-36 rehabilitation and lighting improvements	$126,000			$126,000
Runway 18-36 rehabilitation & lighting rehab - construction	$2,416,000			$2,416,000
Runway 18-36 rejuvenation/crack sealing		$275,000	$550,000	$825,000
Taxiway A rehabilitation	$2,550,000			$2,550,000
Taxiway A rejuvenation/crack sealing		$880,000	$1,760,000	$2,640,000
Taxiway C overlay	$360,000			$360,000
Taxiway C rejuvenation/crack sealing		$264,000	$528,000	$792,000
Taxiway Connector Between Terminal and New South Airport Air Cargo/General Aviation Ramp			$1,940,000	$1,940,000
Taxiway D rejuvenation/crack sealing	$368,000	$110,000	$220,000	$698,000
South GA apron 2 inch overlay	$830,000			$830,000
South GA apron rejuvenation/crack sealing		$885,000	$1,770,000	$2,655,000
General Aviation apron (CBP) rehabilitation	$420,000			$420,000
General Aviation apron rehabilitation	$1,575,000			$1,575,000
General Aviation apron joint reseal and spall repair	$495,000	$495,000	$990,000	$1,980,000
Tower apron 2 inch overlay	$355,000			$355,000
Tower apron rejuvenation/crack sealing		$550,000	$1,100,000	$1,650,000
Customs apron rehabilitation	$530,000			$530,000
Customs apron rejuvenation/crack sealing		$125,000	$250,000	$375,000
Air cargo apron rejuvenation/crack sealing; current location		$605,000	$1,210,000	$1,815,000
Air carrier ramp joint reseal & spall repair	$238,000			$238,000
New South Airport Air Cargo Ramp/General Aviation Ramp			$9,000,000	$9,000,000
Blast pads for 13-31	$305,000			$305,000
South perimeter fencing & access road improvements	$420,000	.		$420,000
Airport Lighting Emergency Generator replacement		$300,000		$300,000
Survey and Update Obstruction Chart	$500,000			$500,000
Perimeter Road improvements	$1,070,000			$1,070,000
New perimeter road, phased		$912,000	$750,000	$1,662,000
Subtotal	$20,265,000	$22,401,000	$21,868,000	$64,534,000
Terminal				
In- line baggage screening equip bldg 2	$1,250,000			$1,250,000
Inbound baggage/bag claim expansion area	$800,000	$600,000	$1,200,000	$2,600,000
Outbound baggage expansion area		$425,000	$425,000	$850,000
Security Screening expansion area	$600,000		$600,000	$1,200,000
Concourse Expansion		$1,050,000	$1,050,000	$2,100,000
Subtotal	$2,650,000	$2,075,000	$3,275,000	$8,000,000
Landside				
Land Acquisition for Terminal Parking Facility		$1,300,000		$1,300,000
Land Acquisition for Off-Airport Long-Term Parking		$1,000,000		$1,000,000
Parking Lot Expansion in lieu of parking garage construction	$1,250,000	$1,250,000	$1,250,000	$3,750,000
Subtotal	$1,250,000	$3,550,000	$1,250,000	$6,050,000

Other				
Acquire ARFF Vehicle	$550,000			$550,000
New ARFF Building		$1,103,000		$1,103,000
Aircraft Maintenance Building		$750,000		$750,000
Fee Simple Purchase, Runway 13 RPZ Land Acquisition (16.6 acres held in avigation easement, including structures)		$2,400,000		$2,400,000
Fee Simple Purchase, Runway 13 RPZ Land Acquisition (2.3 acres not owned either in fee or avigation easement)		$50,000		$50,000
Mission Pilot Channel Relocation. This is total cost and does not relect any allowance that could be made in	$18,000,000			$18,000,000
Parking Lot/Enplaning Passengers Study	$26,000			$26,000
Terminal Building Expansion Study	$83,000			$83,000
Concept Study for Runway Extension, Tenth Street Relocation and Mission Pilot Channel Relocation	$475,000			$475,000
Runway Extension Cost Benefit Analysis	$83,000			$83,000
Airport Noise Compatibility Study	$500,000			$500,000
Environmental Assessment for Runway Extension/Mission Pilot Channel Relocation		$495,000		$495,000
Terminal Expansion Planning and Design		$600,000		$600,000
Master Plan Updates		$500,000	$600,000	$1,100,000
Subtotal	$19,717,000	$5,898,000	$600,000	$26,215,000
Projects to Be Constructed and Funded By Others				
East Bound Ramp from U.S. 83 to Bicentennial Boulevard		$1,134,000		$1,134,000
Mission Pilot Channel Relocation		$23,600,000		$23,600,000
Tenth Street Relocation		$22,000,000		$22,000,000
Cargo Buildings			$10,525,000	$10,525,000
General Aviation Corporate Hangars		$10,750,000	$10,750,000	$21,500,000
Environmental Assessment of the Relocation of Tenth Street		$600,000		$600,000
Subtotal	$0	$58,084,000	$21,275,000	$79,359,000
Projects Beyond the 20-Year Forecast Horizon				
Construction of Runway 13R/31L/closure of Runway 18/36 Tenth Street Structure under Runway 13R/31L				
Total, Airport CIP	$43,882,000	$33,924,000	$26,993,000	$104,799,000
Total, Including Projects to be Constructed and Funded by Others	$43,882,000	$92,008,000	$48,268,000	$184,158,000

* NOTE:
DNL - DAY-NIGHT AVERAGE SOUND LEVEL MEASUREMENTS



Ⓐ 616 ACRES OF CITY OF McALLEN PROPERTY
Ⓑ 275 ACRES OF NEW AIRPORT PROPERTY IN CURRENT CHANNEL
Ⓒ 259 ACRES OF NEW AIRPORT PROPERTY SOUTH OF CURRENT CHANNEL
Ⓓ 295 ACRES OF NEW CHANNEL ACREAGE
Ⓔ 62 ACRES OF NEW AIRPORT PROPERTY NORTH OF CURRENT CHANNEL

2024 NOISE EXPOSURE MAP

McAllen Miller International Airport

HNTB

EXHIBIT 7-1

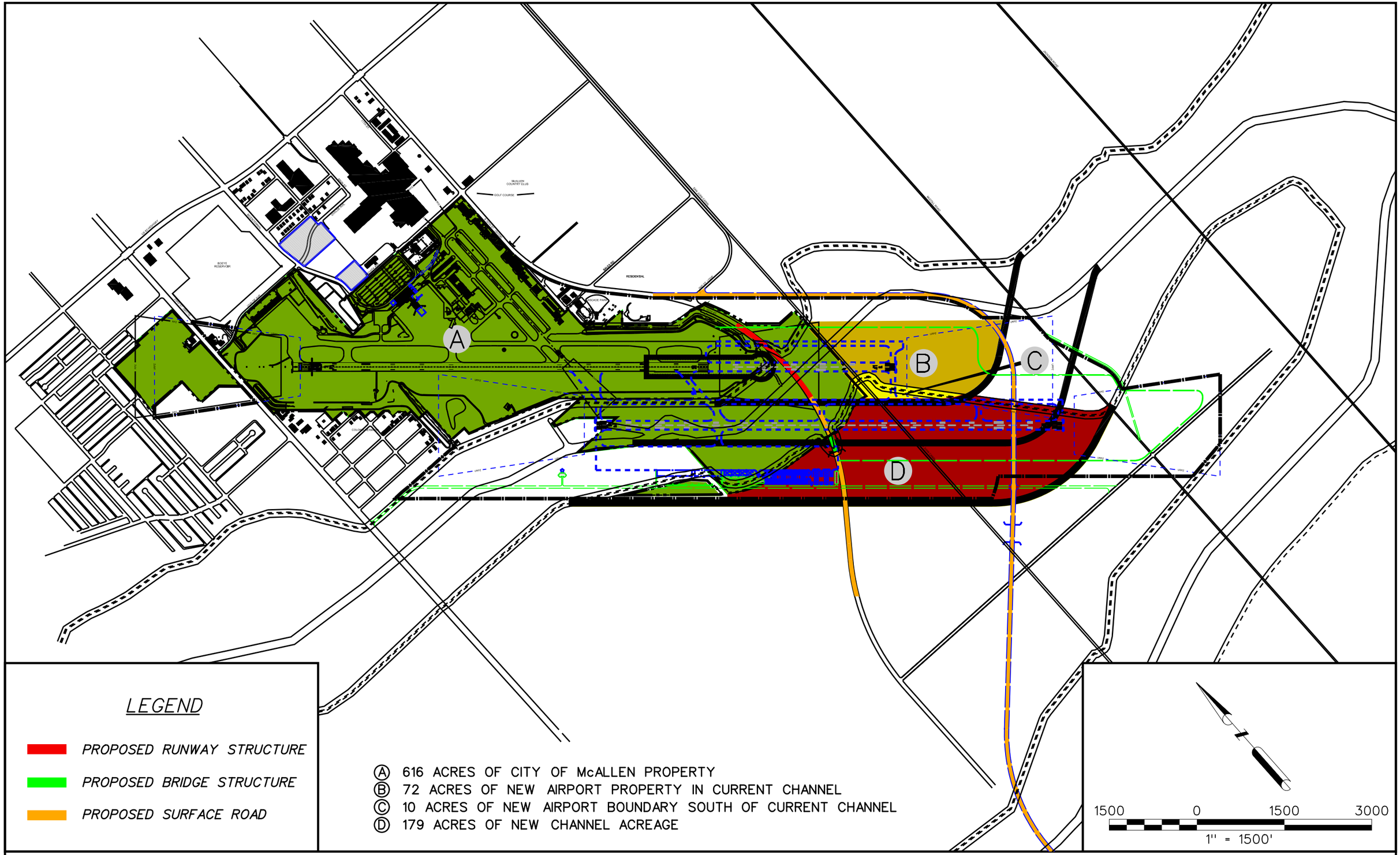


EXHIBIT 1

McAllen Miller International Airport

HNTB

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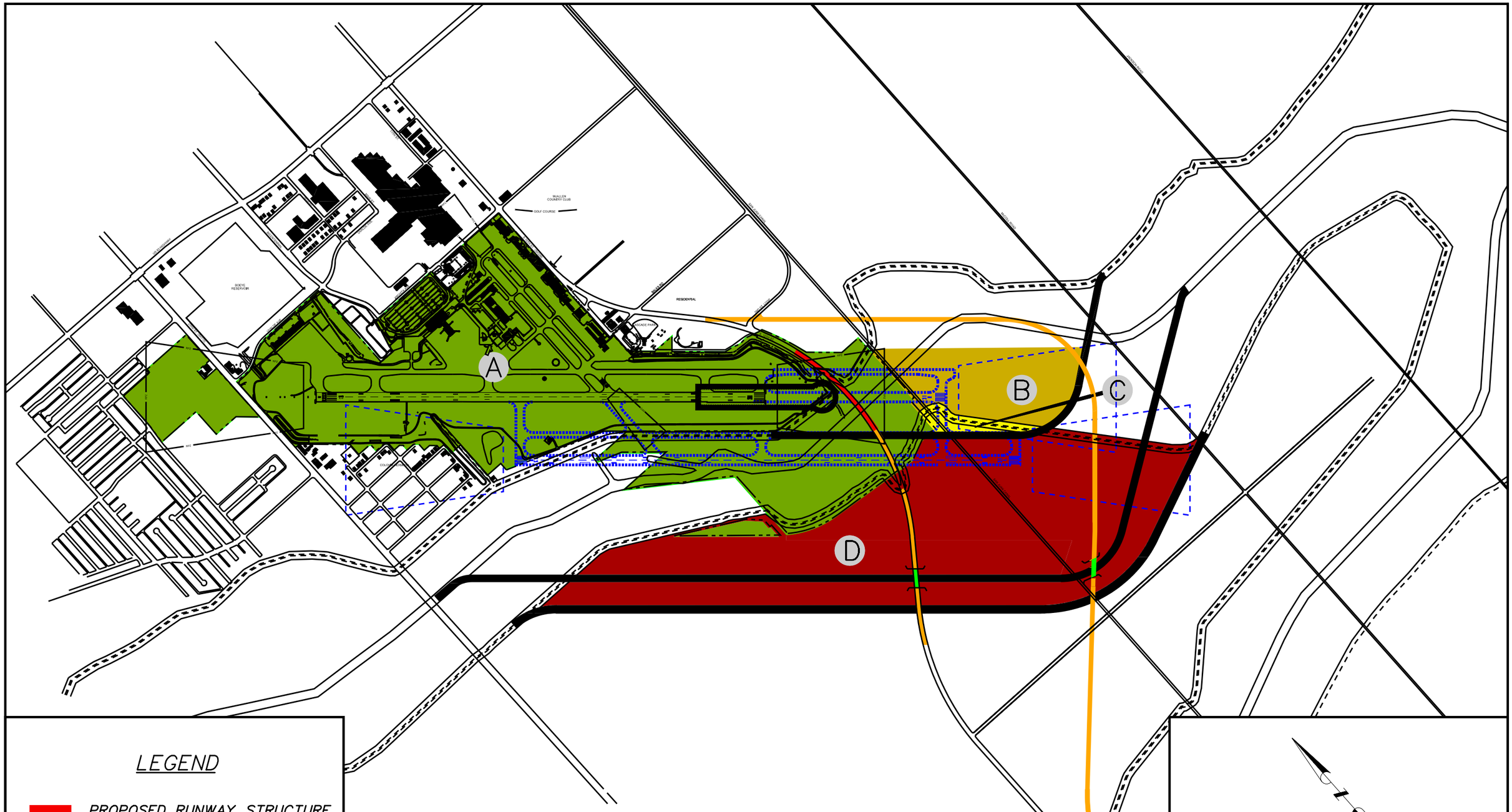

EXHIBIT 2

McAllen Miller International Airport

HNTB

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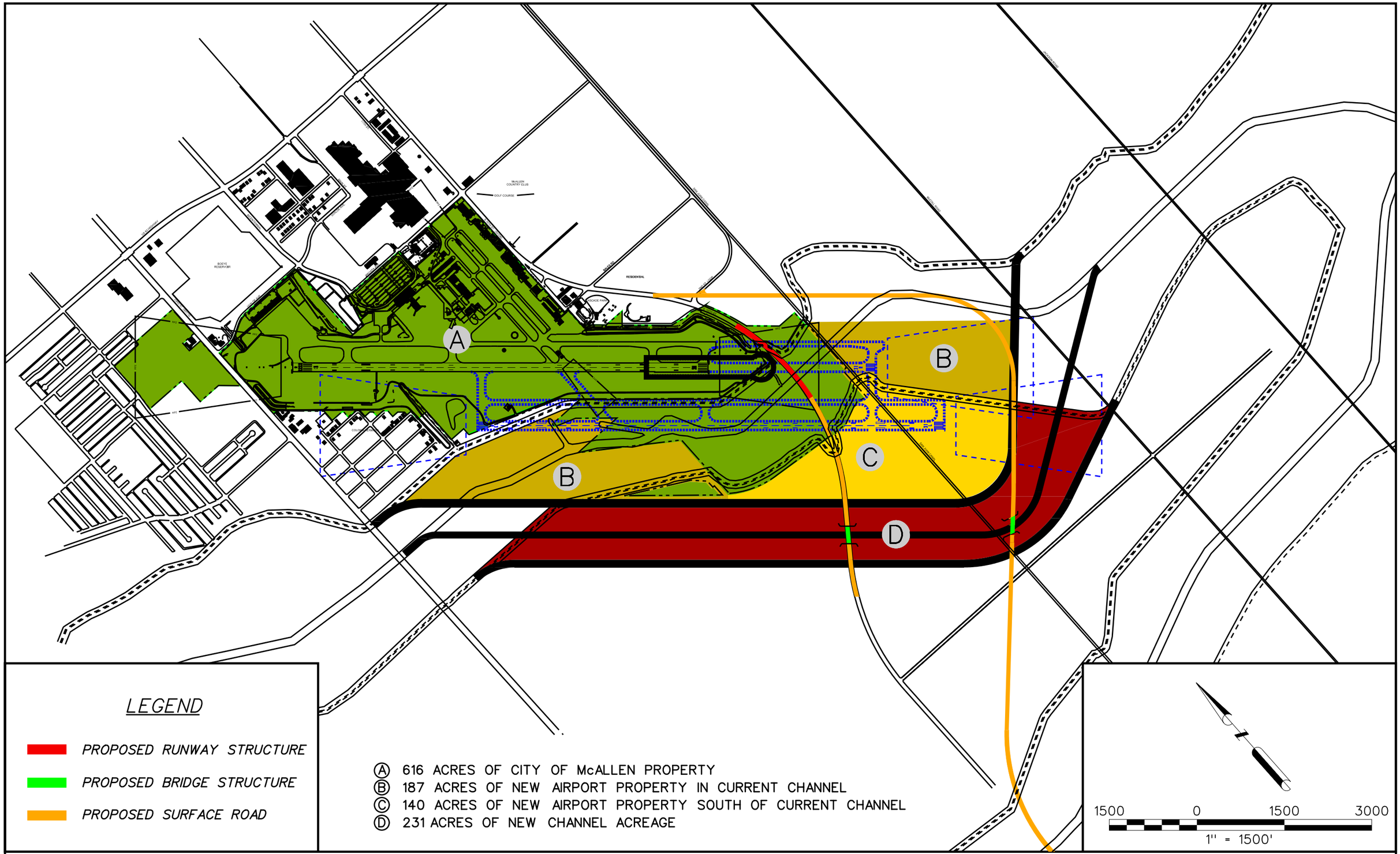

LEGEND

- PROPOSED RUNWAY STRUCTURE
- PROPOSED BRIDGE STRUCTURE
- PROPOSED SURFACE ROAD

Ⓐ 616 ACRES OF CITY OF McALLEN PROPERTY
Ⓑ 187 ACRES OF NEW AIRPORT PROPERTY IN CURRENT CHANNEL
Ⓒ 140 ACRES OF NEW AIRPORT PROPERTY SOUTH OF CURRENT CHANNEL
Ⓓ 231 ACRES OF NEW CHANNEL ACREAGE

EXHIBIT 3

McAllen Miller International Airport

HNTB

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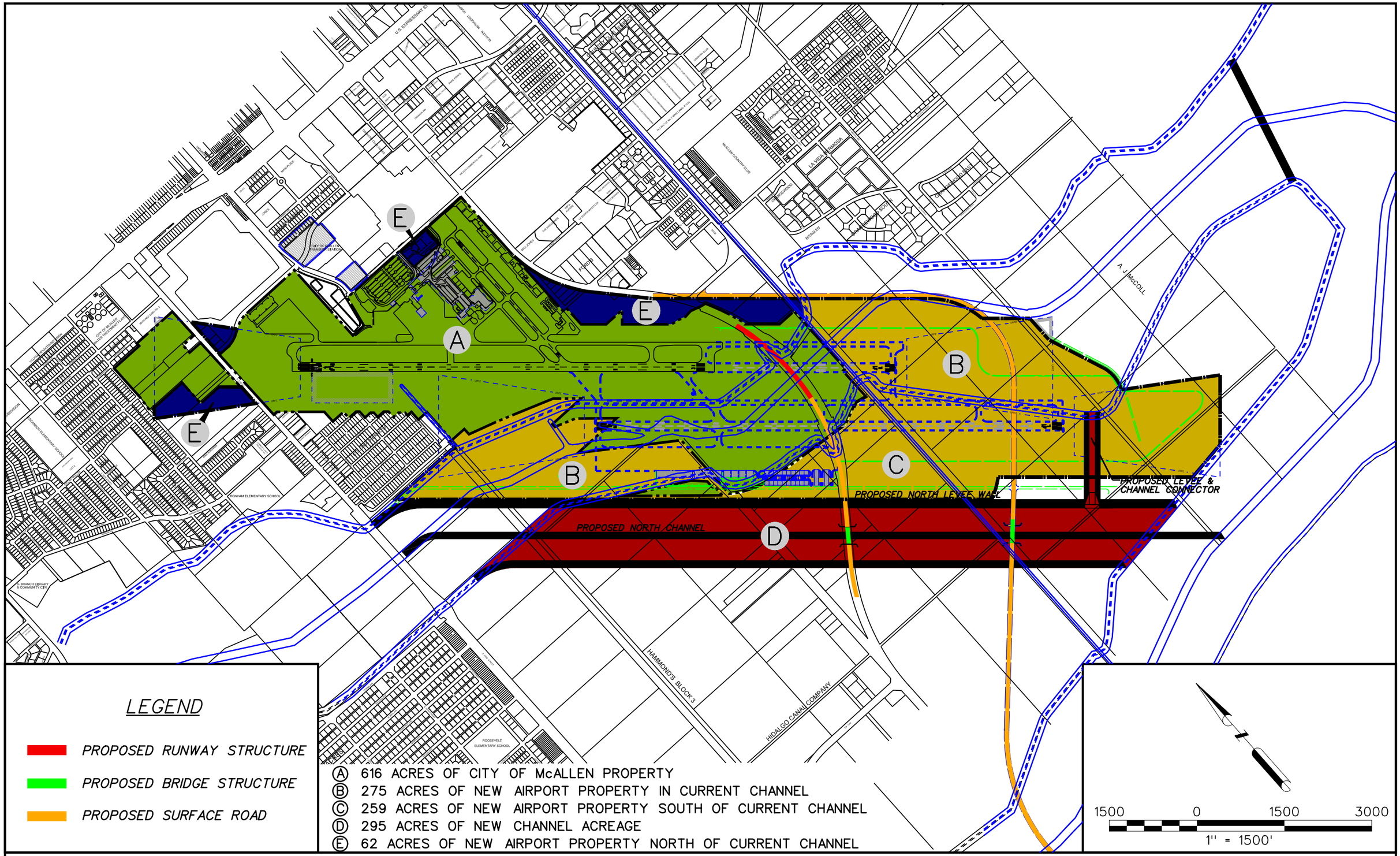


EXHIBIT 4

McAllen Miller International Airport

HNTB

Chapter One
GOALS AND OBJECTIVES

The McAllen-Miller International Airport (MFE) serves the Cities of McAllen, Mission, Pharr, and Edinburg as well as the greater Hidalgo County Region in the much larger Lower Valley Texas Border region, including the Mexican States of Tamaulipas and Nuevo Leon. According to the *Millenium Report Forecast* published by the McAllen Chamber of Commerce, this region has a population of approximately 2.5 million people and is among the largest Hispanic metropolitan areas in the United States, including Miami when considering the people on the Mexican side of the border. In terms of population, this region is analogous with Denver, the 19th largest metropolitan area in the United States.

As population increases, the population centroid of the Lower Valley moves increasingly toward MFE. With the excellent east/west and north/south highway access and location relative to international bridges to Mexico, MFE is ideally located in the transportation center of the Lower Valley as well.

The purpose of this airport master plan is to develop a specific guide for transitioning from immediate needs to accommodating long-term demand and responding to the ever-changing aviation environment yet, doing so without building anything in the short-term that will need to be relocated or replaced in the long-term. Consequently, the airport master plan must develop a flexible program that considers a wide range of potential scenarios to enable the Airport to best serve as a transportation focus for the region.

The current master planning process takes place in the post September 11, 2001 reality where aviation is redefining itself. Businesses are scrutinizing every cost and a key one is transportation cost. This has a particular effect in aviation as it impacts all sectors – domestic and international passenger travel, air cargo, and general aviation. In this time of sorting through events, the master plan also must now focus upon the new reality that has resulted in significantly slower rates of growth than anticipated for 2002 and 2003, with 2004 as a significant rebound year.

Of course, different areas of the United States have responded differently. Like the country as a whole, enplanement levels at McAllen have decreased since September 11, 2001. Calendar year 2002 was approximately 15 percent less than Calendar year 2000. 2003 resulted in a further 2 percent decline but 2004 registered almost a 12 percent increase. Total aircraft operations are roughly constant since 2000 with a recent increase due to military activity. Overall, general aviation activity has remained virtually unchanged with increases by military activity being offset by losses in air cargo and air taxi operation. However, this is somewhat misleading since typical air cargo activities occur

at night during hours when the air traffic control tower is not in operation and, consequently are not included in official tower counts.

By definition, master planning is preparation for the long haul cycle. Few businesses are as dynamic as aviation, the events of September 11th notwithstanding. It is the challenge of the master plan to remain relevant even during pronounced upheavals.

This chapter provides general direction to the master plan's development of concepts and layout plans. The goals and objectives presented are not in any order of priority. The objectives provide the basis for evaluation criteria that will be used to assess the qualities of alternative airport development plans. The resulting goals and objectives are provided below.

Goal #1

Provide an airport that is safe, reliable and secure.

Objectives:

Provide a requisite level of security for the airfield, terminal and landside facilities.

1.1 Provide design solutions for key safety issues, to the maximum extent possible, which protects and enhances FAA-mandated safety areas, such as the Security Identification Display Area (SIDA), runway protection zones, other clear areas as well as eliminates incursions.

1.2 Provide all navigational, landing aids, and meteorological facilities that enhance the safety and reliability of the airport.

1.3 Provide Aircraft Rescue and Firefighting (ARFF) access roads and facilities to obtain specified response times under all-weather conditions.

1.4 Provide a facility that has all weather capabilities (wind, visibility, and rain).

1.5 Ensure that terminal, parking and support facilities meet all applicable safety and standards.

Goal #2

Develop a phased program of Airport physical facilities to accommodate the future aviation needs of passengers, cargo, general aviation and other stakeholders in the greater Hidalgo County community.

Objectives:

2.1 Fully meet public and industry travel demands and airline requirements for airfield capacity. Provide runway capacity for the estimated demand in terms of annual operations and hourly operations.

2.2 Provide runway length to meet the year-round needs of all users, whether passengers or cargo-related, scheduled and non-scheduled.

2.3 Provide an adequate number of aircraft gates and terminal facilities to meet airline requirements given the equipment that they would use at MFE to encourage continued air service improvements and enhance the attractiveness of the terminal facilities.

2.4 Provide opportunities for development of services for business and corporate-type general aviation activity, which supports and interacts with Part 121 and Part 135 passenger operations at the airport.

2.5 Provide other facilities needed to support a full range of aviation services and a high level of service to the public to meet the forecasted demand levels. Where possible, consolidate functions into specific land use areas.

Goal #3

Minimize costs to all users (passengers, passenger or cargo airlines, employees, etc.) of the airport.

Objectives:

3.1 Minimize airside congestion through construction of runways and taxiways where the costs of providing the additional capacity are less than the additional operating costs associated with aircraft delays.

3.2 Design terminal layouts so that unconstrained flows between the terminal areas and runways are achieved and congestion and delays are minimized.

3.3 Minimize airspace congestion and delays for air carrier and general aviation aircraft operations through procedural changes and/or provision of additional navigational aids.

3.4 Provide efficient access with minimal delays to the airport from the regional highway system.

3.5 Facilitate movements of passengers and baggage so that walking distances are minimized.

3.6 Provide terminal access roads and parking facilities that are conveniently located and easily accessible.

Goal #4

Develop the airport in a manner that is flexible and adaptable to changing conditions.

Objective:

4.1 Develop the airside in a manner such that options for development are retained to respond to changes both in the type or size of aircraft using the airport for the foreseeable future and to changes in FAA standards.

4.2 Develop terminal facilities using concepts that permit ready responses to expansion or reductions in operations, while maintaining passenger service and revenue flows.

4.3 Acquire adequate land to meet contingencies for future demand, while minimizing disruption to the community and roadway system.

Goal #5

Guide airport improvements and enhancements to maximize compatible land use practices.

Objectives:

5.1 Promote the land use planning and development objectives of local governments in the airport area.

5.2 Promote long-term economic development in the airport area consistent with the land use planning and development of local governments.

5.3 Develop realistic plans for future land use, recognizing the carrying capacity of the land and economic feasibility.

5.4 Balance the need for compatible land use in the airport area with the rights of affected landowners.

Goal #6

Develop the airport and the airport vicinity to minimize and reduce environmental effects.

Objectives:

6.1 Reduce, to the extent feasible, the impact of aircraft noise on neighboring residents and noise sensitive land uses through noise abatement and noise mitigation, as required.

6.2 Promote the development of compatible land uses in undeveloped areas anticipated to be impacted by any significant noise levels.

6.3 Minimize potential environmental impacts, giving special attention to minimizing residential dislocation, minimizing air and water pollution, and protecting wildlife and unique and scenic features.

6.4 Locate airport facilities and access facilities so that growth of associated uses may best be controlled through land use planning and zoning.

6.5 Provide a facility that minimizes effects on other environmental concerns (water quality, flora and fauna, etc.).

6.6 Plan for an energy efficient airport layout providing ease of air and ground access.

Goal #7

Develop an airport that supports local and regional economic goals and plans while providing the flexibility to accommodate new aviation and non-aviation revenue generating opportunities, where they may exist.

Objectives:

7.1 Achieve a level of service and airport-user convenience, so that the airport is a positive factor in regional economic development.

7.2 Achieve capacities of the airfield and the terminal area systems so that the airport is an attractive location for airline maintenance, cargo, and other aviation-related activities.

7.3 Determine highest and best land use options that provide for appropriate and achievable non-aviation opportunities at and near the airport.

7.4 Identify an equitable distribution of user charges and distribute the burden of capital investment, maintenance, and operating costs while keeping overall costs within acceptable limits.

7.5 Identify financial alternatives and funding sources available to implement the recommended plan for both aviation and non-aviation projects necessary for the airport.

7.6 Quantify financial resources available for funding of projects identified in the alternative analysis and identify the priority of project implementation for the recommended plan.

7.7 Establish an efficient airport layout integrated with the existing transportation infrastructure, which will encourage continued economic development and diversification consistent with local and regional growth plans.

Goal #8

Develop an airport that is consistent with federal, state, regional, and local plans.

Objectives:

8.1 Develop the airport as the Greater Hidalgo Region's primary air carrier passenger airport consistent with the national and metropolitan airport system plans.

8.2 Develop the airport in accordance with metropolitan and local land use and transportation plans.

Goal #9

Provide for an open public forum on all aspects of airport planning with the region.

Objectives:

9.1 Determine the role of the airport with respect to other transportation modes under the City's jurisdiction as well as in the Greater Hidalgo County Region in order to best serve the region's transportation needs.

9.2 Establish and maintain an effective working relationship between the project team, the City, the County, the State, local metropolitan planning organizations, surrounding communities, the FAA, and the private sector.

9.3 Coordinate closely with the Airport Board and the City Commission to ensure local issues are addressed in a timely and effective manner.

9.4 Encourage and incorporate comments from all sectors of the aviation community, as well as the general public, in developing an Airport Master Plan for the City of McAllen.

Chapter Two
INVENTORY

2.0 INTRODUCTION

Chapter Two summarizes existing conditions as of September 2003 at the McAllen-Miller International Airport (MFE), establishing a baseline from which to determine future needs. The Airport's setting, airspace, facilities, and community context are considered.

2.1 AIRPORT SETTING

McAllen is located in Hidalgo County, Texas, about 80 miles west-northwest of the confluence of the Rio Grande River with the Gulf of Mexico. Hidalgo is one of four counties comprising the Lower Rio Grande Valley. The City-owned airport property consists of 473-acres that is the McAllen-Miller International Airport which is centrally located along the City's southern boundary within six miles of Mexico. Adjacent airport property is approximately 143 additional acres owned by the City lying within the Mission Pilot Channel and not developable for airport purposes at this point.

Essentially, MFE is located within the transportations crossroads of the Lower Rio Grande Valley and has three US highways traversing the region. U.S. Highways 281 and 77 are the north-south routes, and US Highway 83 is the major east-west highway. National highway plans are to make Interstate 69 continuous from Mexico to Canada, incorporating U.S. Highways 281 and 77 by upgrading them to interstate status as Interstate 69 south of Houston.

Regional land access to the Airport includes US highway 281 from the north, the autopista in Mexico from the south and then via State Highway 115 (23rd Street) or State Highway 336 (South 10th Street), and US Highway 83 from the east and west. Highway 336 borders the airport on the east side and Highway 115 flanks the airport on the west side. Recently, US Highway 83 was widened to six lanes through a series of projects, and south 10th Street was widened to four lanes along a stretch of road just south of the airport. Direct access to airport facilities is from three local collector streets located north of the Airport. Wichita Avenue and Bicentennial Boulevard are four-lane roadways which provide access to terminal facilities, and Uvalde Avenue is access for the air cargo facility.

2.1.1 History

The Airport was established in the early 1940s on 188 acres of property donated to the City by Mr. Sam L. Miller. In 1948, the City paved the turf runway. In 1952, the 2,500-foot runway was extended to 4,080 feet, and an Army barracks was moved to the field to serve as a terminal. These improvements led to the first scheduled

commercial service by Trans-Texas Airways followed by the establishment of an air traffic control tower and U.S. Customs facilities for international arrivals. In 1969, Trans-Texas became Texas International Airlines which was merged with Continental Airlines in 1982.

McAllen's ability to maintain its own commercial service airport was affirmed in 1966 when the FAA considered giving Harlingen's Valley International Airport regional airport status but rejected the idea. McAllen-Miller has remained viable, recovering from and growing beyond each challenge it has faced. MFE's boardings declined when Southwest Airlines began low-cost service from Valley International in 1975, indicating that passengers considered value of service as or more important than convenience. In 1976, MFE boarded only 65,203 passengers. However, in recent years, MFE has slowly been increasing its market share of Valley enplanements.

In the late 1970s, Texas International Airlines had six daily flights on DC-9 aircraft. The primary runway was 6,200 feet long and equipped with an instrument landing system (ILS).

Following a 1978 Airport Master Plan recommendation, the primary runway was extended to 7,100 feet to handle larger jets, such as the B-727. Passenger enplanements rose to 178,692 in 1982. Peso devaluation and airline instability caused 1983 passenger enplanements to fall indicating that MFE has always been an important airport serving Mexican nationals in border communities. Recovery led to nearly 200,000 enplanements in 1985, and then enplanements declined as the airline industry suffered failures and consolidation. In 1987 enplanements were down to 147,142 although they recovered to 200,138 in 1988. Texas National Airlines began service in October 1987, filling the commuter airline gap left by Muse in 1986.

During the summer of 1988, Conquest Airlines replaced Texas National. Continental began flying to Mexico City in 1988. Also in 1988, the air cargo building and apron were constructed. The air passenger market in McAllen grew, attracting American Airlines to MFE in January 1991. An FAA Joint Planning Conference in early 1991 found the Airport's major deficiency was landside capacity – the ability to process people from ground transportation to the airlines. An expanded terminal area was the solution, and the new terminal building was completed in 1993.

AeroMexico's regional carrier, AeroLitoral, began service to Mexico in early 1992. In 1994, passenger enplanements reached the all-time high of 338,358, and the daily number of flights peaked at 23, including 5 international flights. The peso's value began collapsing December 20, 1994. International boardings dropped to half their pre-devaluation levels, resulting in a reduction in international air service at the Airport. In June 1996, Aerolitoral ceased operations at MFE. Peso devaluation had far less effect on domestic travel.

Since 1994, enplanements continued to slowly increase and were 328,000 for calendar year 2000 and within 10,000 of the 1994 peak. The economic downturn that began in the

year 2000 along with the tragic events of September 11, 2001 resulted in a 10 percent loss in enplanements and another 7 percent in 2002. Enplanements for 2003 rebounded by a 2 percent over 2002.

Early indications were that 2004 would register an important increase in enplanements with the establishment of new service by Northwest Airlines and Continental's resumption of air service to Mexico City which turned out to be the case. Calendar year 2004 continued the upswing with an 11.8 percent increase in enplanements. At mid-year 2005, MFE had served more than 357,000 passengers placing the Airport well ahead of a pace to register a new peak year level. However, Northwest Airlines decided to terminate service after nine months. This termination is considered to be more due to Northwest's lack of marketing and lack of consideration relative to how best to serve McAllen more so than the lack of interest in the local market for a third airline. On the other hand, Allegiant Air began service to Las Vegas on June 24, 2005.

MFE is a US Port of Entry and offers 24-hour federal inspection services for crossings by both commercial and private aircraft.

2.1.2 Airport System

The National Plan of Integrated Airport Systems (NPIAS) designates significant public airports that are eligible to receive federal grant funding for capital improvements. Only 20% of US airports are included in the NPIAS.

Table 2-1 provides a listing of the airports closest to MFE. In addition to Edinburg International and Mid Valley Airport at Weslaco, the other airport open to the public in this list is the Reynosa-General Lucio Blanco International Airport.

Table 2-1
Neighboring Airports

Airport Name/(Identifier)	Length of Primary Runway (Feet)	Distance (miles)/ Direction from MFE	Public/Private Ownership
Cannon (6XS5)	3,100, turf	19.6/East	Private
Edinburgh International (EBG)	5,000, paved	19.6/North	Public
Reynosa-General Lucio Blanco International (REY)	6,200, paved	13.8/South	Public
Gross (TE 59)	1,230, turf	19.6/West	Private
Mid-Valley (T65)	4,998, paved	16.1/East	Public
Moore (7TE7)	5,150, concrete	15.0/North	Private
Norman & White (6TE1)	4,000, turf	13.8/Southwest	Private
Progresso (TS05)	4,470, paved	18.4/East	Private
Putz (XS19)	2,000, paved	10.4/West	Private

Commercial service airports receive scheduled passenger service and annually enplane at least 2,500 passengers. The baseline forecast year for this master plan is 2003. In 2003, the Lower Valley's three commercial service airports boarded 1.44 million passengers -- 38.5% at McAllen-Miller, 53.1% at Valley International, and 8.4% at Brownsville-South

Padre Island. Comparing 2003 to 1995, the Lower Valley's percentage share of 1.77 million passengers was 36.7% for McAllen-Miller, 55.4% for Valley International, and 7.9% for Brownsville-South Padre Island.

Primary airports are commercial service airports that annually enplane at least 10,000 passengers. Small hubs enplane .05% to .25% of the nation's passengers. On average, less than 25% of the runway capacity at a small hub airport is used by airline operations, so these airports can have a great deal of general aviation activity. These airports are typically uncongested and do not account for significant air traffic delays. Nonhub primary airports enplane fewer passengers and are more heavily used by general aviation aircraft.

Mostly, general aviation airports serve unscheduled corporate and recreational aviation. Although the general aviation fleet includes transport aircraft such as those used by the major airlines, the grand majority are single-engine piston aircraft. General aviation airports in metropolitan areas which are intended to reduce congestion at large commercial service airports by providing general aviation pilots with alternative landing areas are called relievers. The Lower Rio Grande Valley has no general aviation reliever airports per se.

In should be noted that there appears to be a trend that outlying general aviation airports to MFE attract some of the smaller piston activity that might have historically been handled by MFE. While the levels of general aviation activity at the Airport are generally constant or growing slightly, the average aircraft size at MFE gets larger each year, as jet and turboprop aircraft increase activity at MFE.

2.1.3 Current Aviation Activity

At the time of inventory preparation in late 2003/early 2004, airline service at McAllen-Miller consisted of eight daily departures and eight daily arrivals, except for Tuesday and Wednesday when seven daily departures and arrivals were scheduled. Northwest Airlines joined American and Continental Airlines in March 2004 as the passenger airlines operating at the Airport.

American Airlines operates 172-seat MD-80 aircraft between MFE and their hub, Dallas/Fort Worth International Airport (DFW). Continental Airlines operates the MD-80, the B757-200, and a number of different models of the B-737 series: B737-300, B737-500, B737-800, and the B-737-900 aircraft. Northwest Airlines planned to initiate service to McAllen from their Memphis hub in March 2004, using aircraft such as B-737-300, 125-seat A319, and the 50-seat Canadair Regional Jet. However, Northwest only used the regional jets and discontinued service in January 2005. In May, 2004, Continental reestablished one stop service to Mexico City from McAllen through Houston, using an 54-seat Embraer ERJ-145. Allegiant Air that began service in June 2005 operates a 150-seat MD-83.

Today, most air cargo at the Airport is transported as belly cargo in Continental's and American's passenger aircraft. The type of air cargo handled at MFE includes mail, small packages, flowers from Colombia, and high value items such as electronics and emergency parts. In 2003, belly cargo and on-demand air cargo accounted for about 3,000 tons, one third of which was on-demand. The on-demand air cargo is significant considering the lack of facilities at the airport and available to freight forwarders; this will be discussed in detail in **Chapter 3: Forecasts**.

In recent years, airlines such as UPS, Merlin Express, Cargo Hawk, Package Air, Kalitta, American International and others have operated at MFE. Based upon tenant surveys in November, 2003, typical aircraft used at MFE include large turboprops such as the Convair and DC-6, smaller turbojets as the Falcon-20, Lear 60 and Lear 25, narrowbodies such as the DC-9 and B-737 as well as an occasional widebody DC-8.

Most all-cargo flights occur between the hours of 6:00PM and 6:00AM and are not reflected in official FAA tower counts. Typical origin/destinations can include locations throughout the U.S, Canada, and Mexico, among others.

Approximately 77 percent of the Airport's aircraft operations are general aviation aircraft. Despite the relative stability in the number of general aviation operations at McAllen, there continues to be an increasing size in the general aviation fleet that operates at the airport, compared to comparable general aviation facilities. In 2003, there were 119 based aircraft and 48,700 total general aviation operations at MFE.

Other types of aircraft operating at MFE include helicopters, and those are primarily operations of the U.S. Customs & Border Patrol (CBP), as well as transient military aircraft. Transient military operations have increased substantially since 9/11.

MFE has two active flight schools which conduct the majority of the local operations at the airport. A local operation is one that remains within 20 miles of the Airport.

2.2 AIRPORT FACILITIES

MFE airport facilities include runways, taxiways, aprons, navigational aids, passenger and cargo terminals, general aviation, and support facilities.

2.2.1 Runways and Taxiways

McAllen-Miller International Airport has two paved asphalt runways. Runway 13/31 serves both air carrier and general aviation aircraft while Runway 18/36 serves only small general aviation aircraft. The south end of Runway 18/36 intersects Runway 13/31 approximately 2,700 feet west of the Runway 31 threshold.

Runway 13/31 is 7,108 feet long and 150 feet wide. It is composed of a bituminous base with asphaltic concrete wearing surface. With an asphalt overlay applied in late 1996, the runway will require an overlay in the next several years. The pavement is rated at

190,000 pounds for aircraft with dual wheel landing gear and 280,000 pounds for aircraft with dual tandem gear. The threshold for Runway 13 is displaced by 135 feet due to the close proximity of 23rd Street or State Highway 115 and thus produces an effective landing length of 6,973 feet. However, the pavement can be used for takeoff so there remains 7,108 usable feet for departure operations.

Runway 18/36 is also composed of an asphalt wearing surface with bituminous base. The runway is 2,648 feet long and 60 feet wide. The maximum gross landing weight is 12,500 pounds for single wheel aircraft. The threshold of Runway 36 was relocated by 338 feet from its original location to minimize interactions with Runway 13/31. With the relocation of the Runway 36 threshold, there can be simultaneous southward operations on the two runways, as long as the aircraft landing on Runway 13 can hold short of the intersection with the crosswind runway.

Runway 13/31 has a full-length parallel taxiway, Taxiway A, which provides excellent access between the runway exits and the terminal areas. In the past ten years, Taxiway A was widened to meet FAA standards. In addition, an aircraft holding apron was constructed at the east end of Taxiway A to provide bypass capability.

Runway 13/31 has several taxiways leading to Taxiway A. Perpendicular exits A4, A3, and A1 are located 815-feet, 2,605-feet, and 6,045-feet from the Runway 13 threshold (displaced), respectively.

Taxiway A1 is 135 feet wide. Perpendicular taxiways A1 and A3 are 950 feet and 4,380 feet from the threshold of Runway 31. Runway 18/36 also has a full-length parallel taxiway, Taxiway C, which 40 feet wide. Perpendicular exit taxiways (C2 and C1) are located at 780 feet and 1,450 feet, respectively, from the Runway 18 threshold.

2.2.2 Navigational Aids and Weather Information

Navigational aids (NAVAIDS) for air transportation may be categorized as external, or ground-based, and internal, those found on board an aircraft. A pilot employs certain NAVAIDS enroute and others in the terminal area. The term "NAVAID" includes electronic and visual air navigational aids, lights, signs, and their support equipment. This section focuses on external NAVAIDS used for navigation in the MFE terminal area.

As of February 2004, the Airport has seven published instrument approaches to the Airport. Runways 18 and 36 do not have instrument approaches. Runway 13 has one precision approach and three non-precision approaches. Runway 31 has three non-precision approaches. A precision approach provides glide slope information; a nonprecision approach does not.

The Category I (CAT I) ILS at Runway 13 guides the pilot to the decision height with information on aircraft alignment, descent gradient and position relative to the runway. ILS visibility CAT I allows for the runway visual range (RVR) minimum to be 1,800 feet

(the distance that the high-intensity runway edge lights are visible to the pilots), and the decision height to be 200 feet (the minimum height at which pilots must decide to continue the landing maneuver or execute a missed approach.

The ground-based portion of the ILS is made up of a localizer, glide slope, and two marker beacons. The localizer, located in line with the runway center, emits a radio beam which establishes horizontal course alignment. The glide slope signal is used to establish the correct angle of descent. Two marker beacons, a localizer outer marker (LOM) and a middle marker (MM), have low-power fan-shaped signals and are installed on the approach path to mark key decision points for the pilot. Both marker beacons are located off the Airport property.

The ILS localizer and LOM are the key navaids used in the nonprecision localizer back course approach to Runway 31.

Both Runway 13 and Runway 31 have Very-High Frequency Omni-Range (VOR) non-precision approaches. The VOR, located on MFE property, is used by pilots' enroute, as well as by those landing at the Airport. One of over 700 in the U.S., it provides course guidance by radiating 360 radio signals, corresponding to compass degrees, on very high frequencies. In addition to providing directional information, the VOR at MFE has distance measuring equipment (DME).

Runway 13 has a nondirectional beacon (NDB) approach. The NDB is also used as the compass locator outer marker of the ILS.

The NDB approach can also be accomplished using the global positioning system (GPS). GPS uses multiple satellites to establish aircraft position and does not require ground equipment, although it is expected that an approach lighting system will still be required. Civilian users gained access to GPS as a supplemental navigation system in 1993. Since then, there has been a rush to publish GPS approaches to runways with existing nonprecision approaches. Use of the approaches requires that aircraft have the avionics to monitor satellite transmissions. Both Runway 13 and Runway 31 have non-precision GPS approaches. Efforts are underway to develop the technology that will allow precision approaches by GPS. The goals are greater flexibility and lower cost than existing precision approach NAVAIDs provide.

An approach lighting system is common with an ILS; this will not change with the advent of future GPS precision approaches. Approach lighting systems guide transition from instrument to visual landing and are a visual aid for VFR approaches. Runway 13 has a medium intensity approach lighting system with runway alignment indicator lights (MALSR). It is pilot-activated by radio on the common traffic advisory frequency (CTAF).

The visual approach slope indicator (VASI) is another visual approach aid which provides information on the descent angle of the aircraft relative to the glide slope.

Runway 31 has a four-box VASI. Runway 18 has a two-box precision approach path indicator (PAPI). A PAPI is a newer generation VASI.

Runway 31 has runway end identification lights (REIL), and Runways 18 and 36 have threshold lights. All runway edges are lighted. Runway 13/31 has high intensity runway lights (HIRL) installed in 1996 which are preset on medium intensity and can be brightened for a landing. Runway 18/36 has medium intensity runway lights (MIRL) that are not on when the ATCT is closed. Taxiways have medium intensity edge lighting. The cargo and terminal aprons are illuminated, but the GA apron is not.

Other NAVAIDs include the rotating beacon located west of the Runway 18 threshold (in the vehicular parking lot), several wind indicators, and a segmented circle which visually indicates traffic pattern information. Runway and taxiway markings indicate thresholds, hold lines, and centerlines. Runway 13/31 has precision instrument markings, and Runway 18-36 has basic markings for a visual runway. Recently, the FAA updated its requirements for runway signage which was last upgraded at MFE in 1994.

Recently, an automated surface observation system (ASOS) was installed on the west side of the airfield. The ASOS is a computerized system that automatically measures certain weather parameters, analyzes the data, and prepares a real-time weather observation commensurate with the measurements.

2.3 TERMINAL AREA

The terminal area is comprised of the passenger terminal building, curbside drive, auto parking facilities, terminal access drive, and aircraft parking apron. These are illustrated on the Terminal Area Plan, Sheet 11 of the Airport Layout Plan set.

2.3.1 Terminal Building and Apron

The passenger terminal building, built in 1993 and expanded in 1995, is approximately 105,500 square feet in area. It is a two-level structure, designed for flexibility and expandability. The upper floor is at grade level on the landside, and the lower floor is at grade level on the airside.

The top floor contains ticketing, airline and airport offices, departure lounges (gates), baggage claim, rental car counters, and concessions. Four passenger loading bridges provide access to as many as six jet aircraft. Two narrowbody jet aircraft can be parked at Gate 3 and two at Gate 4. With ramps to the lower level Customs/federal inspection services (FIS) facilities, Gates 1 and 3 can be used for international or domestic flights.

The lower level has one commuter airline departure lounge with apron-level access to aircraft. Commuter Gate 3S uses the Gate 3S aircraft parking space, and two commuter aircraft parking spaces are at the northwest end of the terminal apron.

In addition to the commuter gate, building equipment, and airline operating areas, the lower floor contains Custom/FIS facilities. In 1995, the lower floor was extended westward to better provide Customs/FIS for general aviation aircraft parked at the apron west of the terminal building. The extension contains a dedicated waiting area, in case officials are occupied with a scheduled flight. Similarly design plans are underway at this writing to expand the inbound baggage area to ready the airport to handle the in-line explosive detection system (EDS) equipment.

2.3.2 Access and Parking

McAllen-Miller International Airport is linked to the city ground transportation via the collector streets of Wichita Avenue and Uvalde Avenue. A one-way circulation drive, two lanes entering and three lanes exiting, provides access to the terminal complex from Wichita Avenue. This roadway also provides access to terminal parking areas, as well as rental car areas.

Uvalde Avenue is the main access to the cargo facilities. Hangar Lane, south of Wichita Avenue and east of S. Main Street, provides a route to the western part of the general aviation area. The eastern part of the general aviation area is accessible by 10th Street.

The curb front extends linearly along the public side of the terminal building. Curbside access provides for three lanes plus a curbside parking lane. The lane next to the curb parking lane is reserved for double parking and maneuvering, the third lane is for slower moving vehicles, and the fourth lane is for unrestricted circulation. Departure curb frontage is at the west end of the building and arrival curb frontage is along the east end of the terminal.

The City of McAllen provides free parking to the public (June 2005). Vehicle parking includes public, employee, and rental car. Public parking is divided into two groups, long term and short term. Entrance to the short- and long-term parking areas is from the circulation drive, and once within this area there is only one exit route which runs through the middle of the parking and ties into Wichita Avenue. Short term parking is located nearest the terminal building entrance with long term a greater distance away. The short term is for hourly parking with a 24-hour time limit. There are 190 parking spaces available in the short term area including 22 handicap spaces. Long-term is for daily parking with a 14-day limit and is located north of the short-term parking and has a capacity of 692 vehicles.

There is an employee parking lot east of the terminal with 84 parking spaces available. A rental car parking lot is located east of the main parking area and has 219 spaces including 10 spaces exclusively for designated City personnel. Overflow parking is handled by a lot southeast of the terminal with a capacity of 218 spaces. Very long term parking is also available southeast of the terminal and can accommodate up to 255 vehicles.

2.4 AIR CARGO AREA

Built in 1988, the air cargo facility is northwest of the passenger terminal on Uvalde Avenue. A continuous truck dock lines one side of the 48,120 square foot building.

The air cargo facility is part of the City's Foreign Trade Zone (FTZ) (See also, **Section 2.10**). In the FTZ, goods may be imported, stored, assembled, displayed for sale, labeled, altered or re-exported from the U.S. without being subject to U.S. Customs duties. U.S. Custom's duties are applied only when an item leaves the zone for sale in the U.S.

The 76.2 acre air cargo apron is asphalt surfaced with three concrete hardstands designed to park up to four B-727 aircraft simultaneously.

A hangar on the west side of the general aviation area contains a FedEx distribution center. FedEx does not have an air cargo operation at the Airport, but transports packages to and from the center by truck or van.

2.5 GENERAL AVIATION AREA

The Airport's general aviation area is centered on Runway 18-36. The majority of general aviation facilities are along the 12.85 acre general aviation apron east of the runway. All aprons in the general aviation area are composed of asphaltic concrete pavement.

McAllen is served by one Fixed Base Operator (FBO), McCreery. Services provided by the FBO includes aircraft arrival guidance; flight line servicing; storage and sale of fuel and petroleum products; airframe, powerplant and avionics maintenance service; ramp assistance to aircraft; aircraft parking and tie-down services; patron/passenger service including flight planning and weather briefing; gratuitous transportation services and emergency services to disabled aircraft.

The general aviation apron and facilities east of it are split between two tenants. McCreery has the north half and First National leases the south half. Except for McCreery's buildings, all general aviation buildings are leased from the City. McCreery has 73,800 square feet of buildings. First National leases 86,162 square feet of buildings. Other building leases in the general aviation area total 111,231 square feet to the following businesses (as of May 2005):

- ABC Aviation Aircraft Maintenance;
- Airport Terminal Services (ATS);
- Crafttech Enterprises;
- First National;
- Pascucci Aviation Aircraft Maintenance and Storage;
- Southwind Aviation; and,
- Western Flyers Air Charter.

2.6 SUPPORT FACILITIES

Support facilities include the aircraft rescue and firefighting facility, air traffic control tower, the CBP, airport maintenance and security, fuel, utilities, and storm drainage.

2.6.1 Aircraft Rescue and Fire Fighting (ARFF)

To standardize code enforcement and regulations, the FAA adopted the National Fire Protection Association (NFPA) Standard Number 403, *Standard for Aircraft Rescue and Fire-fighting Services at Airports*, and Standard No. 412, *Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Fire Equipment* on July 8, 2004. There are five aircraft rescue and firefighting Indices (A through E) for airports serving Department of Transportation (DOT) certificated air carriers/commercial service. As a result of the change to NFPA, these numbers can then be converted to NFPA categories using NFPA 403, Chapter 4, Table 4.3.1. The extinguishing agents, quantities, and discharge and response capability for each Index is referenced in NFPA 403, Chapter 5, Table 5.3.1 (b), in U.S. customary units and could be used to comply with F.A.R. Part 139.315. **Table 2-2** provides the ARFF Index Classifications, A through E.

Table 2-2
ARFF Index Classifications

Airport Index	Required # of Vehicles	Aircraft Length	Scheduled Departures	Agent + Water for Foam
A	1	<90’	>1	500 pounds DC or HALON 1211 or 450 pounds DC + 100 Gallons H20
B	1 or 2	≥ 90’, <126’ ≥126’, <159’	<5	Index A + 1,500 Gallons H20
C	2 or 3	≤126’, <159’ ≥159’, <200’	≥5 <5	Index A + 3,000 Gallons H20
D	3	≥159’, <200’ >200’	≥5 <5	Index A + 4,000 Gallons H20
E	3	≥200’	≥5	Index A + 6,000 Gallons H20

The ARFF, staffed by five firefighters per shift, is centrally located east of the general aviation apron. The building is also a structural firefighting facility for the City and has direct access to 10th Street.

To maintain FAR Part 139 certification, the Airport must meet Index C ARFF requirements. Index C is required for airports with an average of five daily departures by aircraft 126 to 159 feet long. B-727 and MD-80 aircraft fall into this index.

MFE has four ARFF vehicles including one quick response truck. Purchased between 1976 and 1991, they are all in excellent condition; MFE’s CIP for FY 2005 includes the purchase of a new ARFF vehicle to replace the oldest truck. Combined the extinguishing agent capacities of the trucks, compared to the list in Table 2-2, provides the minimums required by Part 139 not only for the required Index C but for Index D. as well.

There would be no requirement for MFE to upgrade equipment to Index D until toward the end of the forecast horizon when the fleet includes one daily departure of an MD-11, which has a length of 201 feet.

2.6.2 Air Traffic Control Tower (ATCT)

The ATCT is located on the west side of the general aviation area, southeast of the main terminal building and on extended centerline of Taxiway A3.

Beyond the planning period of this master plan, consideration should be given to relocation of the ATCT should a parallel runway be constructed. A location on the south side of the runway system essentially on centerline with the terminal concourse may provide visibility to the entire airport, including the aircraft movement and parking areas both east and west of the terminal. This could not be accomplished unless additional land was available south of the runway system.

2.6.3 U.S. Customs & Border Patrol (CBP)

The CBP hangar is located at the southeast corner of Wichita Avenue and Main Street, across from the La Plaza Mall. A hangar near it is used for storage of the CBP's nine based helicopters, which patrol the international border on an hourly basis.

2.6.4 Airport Maintenance and Security

Except for the firefighters, City employees who work at the Airport are stationed at the terminal building. The Airport property has no material storage or equipment buildings for airport maintenance. The Airport has four airport vehicles and two police vehicles. All heavy equipment needed for property maintenance comes from the Public Works complex a block north of the Airport at Uvalde Avenue and Main Street. Due to the climate, the Airport has no need for runway snow removal equipment. The airlines at MFE have limited deicing equipment because the need for it is so rare that it is more cost effective to cancel flights when icing conditions occur, as was the instance during the Christmas snow of 2004 which was the first measurable snow in more than 100 years.

The Airport Operations Area (AOA), the part of the Airport used primarily for aircraft parking, taxiing, refueling, landing, departing, or other aircraft related activities, has a perimeter fence. McAllen-Miller has an approved access control plan as required by 49 CFR Part 1542.

2.6.5 Fuel

McCreery provides nearly all aircraft fueling at the Airport. Both have consolidated areas for fuel storage and dispensing to fuel trucks which transport fuel to aircraft. McCreery's storage tanks are underground. McCreery sells Jet and Low Lead 100 octane fuel.

Although the airport has had requests from airport businesses for the right to "self fuel" or to operate fuel tanks on airport property, the FBOs remain the only fueling sources, except for one grandfathered operator.

2.6.6 Utilities and Storm Drainage

Utilities serving McAllen-Miller International Airport include electricity from Central Power & Light Company, natural gas from Southern Union Gas Company, and telecommunications including fiber optic cable from Southwestern Bell Telephone. Water, wastewater, and storm drainage are municipal services.

The City's water source is the Rio Grande River. The key water supply is carried by the San Juan Canal that is located off the east end of the airport and east of Tenth Street. In addition, the McAllen Main Canal conveys water north from the river and carries it under the west end of Runway 13/31 through a conduit.

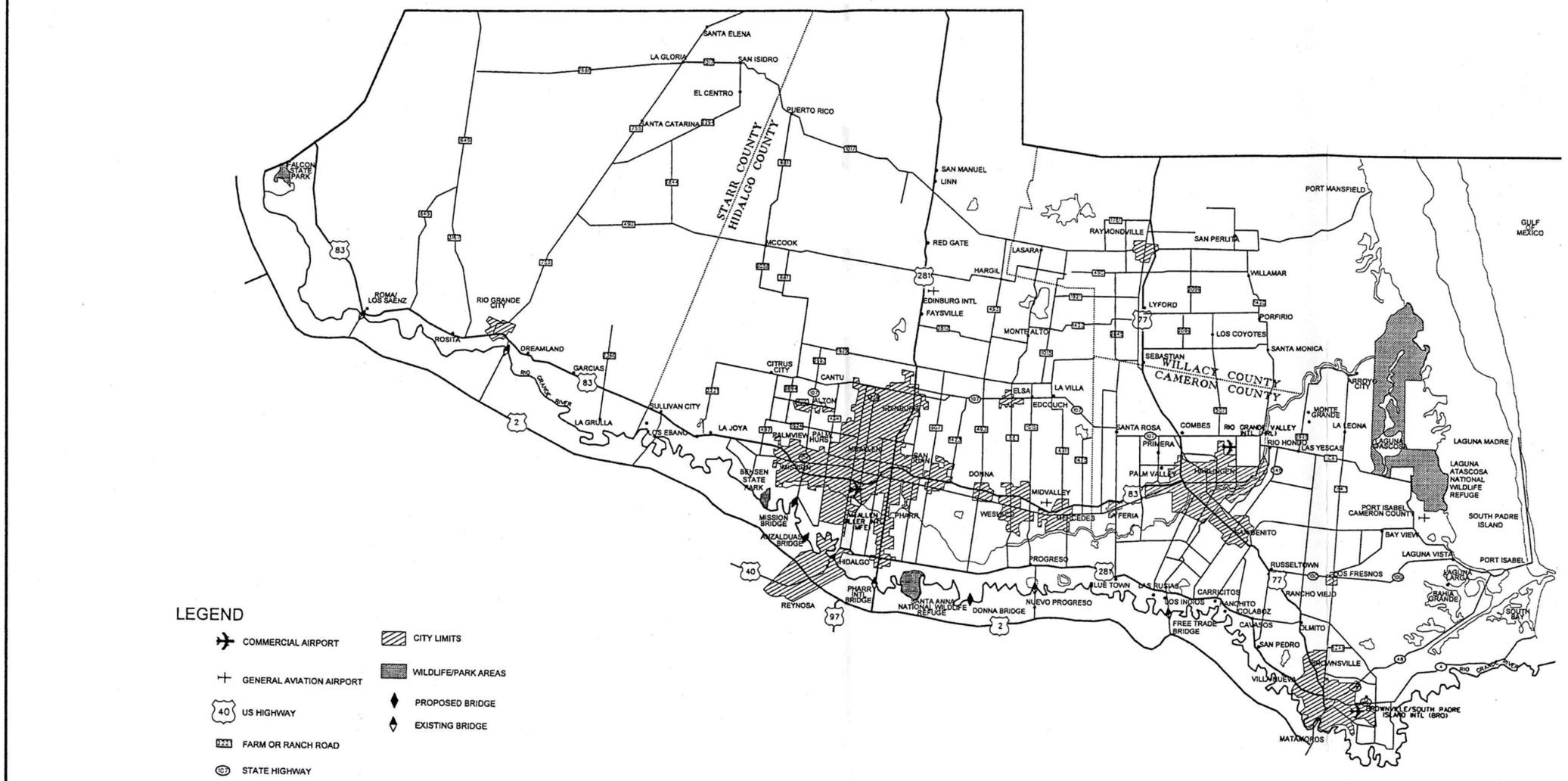
The storm drainage system at the Airport is made up primarily of culverts and ditches and two detention basins which collect surface runoff and divert it to the Mission Pilot Channel which forms the south border of the Airport property. One of the detention basins is located immediately west of the terminal apron and the other is just west of the ATCT. These basins also help separate oil from the stormwater runoff.

No natural streams exist in McAllen forcing all stormwater removal to be accomplished by a system of man-made drainage features. About two miles southeast of the Airport, the Mission Pilot Channel connects with the Banker Floodway at a gated outlet structure. Flooding caused by Hurricane Beulah in 1967 completely inundated the Airport. As a result of Hurricane Beulah, the Rio Grande diversion to the Mission Pilot Channel was closed, and the Banker Weir was constructed to move the Rio Grande diversion waters to the Banker Floodway. Today, the Mission Pilot Channel is used to convey and store only local storm water runoff.

A 1996 flood protection planning study of southern McAllen and Mission found that a 100-year flood would overtop the Mission Levee at the south end of the Airport. The study recommends raising the levee and constructing an emergency spillway at the Mission Pilot Channel outlet structure to the Banker Floodway.

2.7 TRANSPORTATION SYSTEM

Essentially, MFE is located within the transportations crossroads of the Lower Rio Grande Valley (see **Regional Map**) has three US highways traversing the region. U.S. Highways 281 and 77 are the north-south routes, and US Highway 83 is the major east-west highway. National highway plans are to make Interstate 69 continuous from Mexico to Canada, incorporating U.S. Highways 281 and 77 by upgrading them to interstate status as Interstate 69 south of Houston.



REGIONAL MAP

McALLEN - MILLER
International Airport

Also, McAllen is well positioned in the valley with east-west connections. U.S. Highway 83 bisecting the City and US Highway 281 located approximately three miles east of city limits. The rest of the regional system is comprised of state highways and farm roads.

Regional land access to the Airport includes US highway 281 from the north, the autopista in Mexico from the south and then via State Highway 115 (23rd Street) or State Highway 336 (South 10th Street), and US Highway 83 from the east and west. Highway 336 border the airport on the east side and Highway 115 flanks the airport on the west side. Recently, US Highway 83 was widened to six lanes through a series of projects, and south 10th Street was widened to four lanes along a stretch of road just south of the airport. Direct access to airport facilities is from three local collector streets located north of the Airport. Wichita Avenue and Bicentennial Boulevard are four-lane roadways which provide access to terminal facilities, and Uvalde Avenue is access for the air cargo facility.

Transportation from Mexico to McAllen has been improved with the opening of the "autopista" a four-lane divided highway between the Mexican cities of Monterrey and Reynosa. There are three existing and a planned fourth bridge linking the McAllen metropolitan area with Mexico. These bridges are:

- McAllen-Hidalgo-Reynosa International Bridge – Opened in 1926, this bridge serves the largest maquiladora area in South Texas.

- Opened in 1995, the Pharr-Reynosa International Bridge is a major commercial truck link between the Lower Valley and Mexico. A drive-through X-ray machine installed by U.S. Customs facilitates the processing of trucked cargo.

- The Progreso/Nuevo Progreso International Bridge has been in operation since 1952 and totaled almost 2.5 million automobile and pedestrian crossings in 2002.

- Currently under construction is the Anzalduas International Bridge, located three miles from the McAllen-Hidalgo Bridge. The new bridge will be 2.7 miles long and will provide the shortest passage between the Mexican toll highway and the United States highways, including future I-69. The McAllen Economic Development Commission calls this bridge the "most efficient route for distribution of products anywhere along the U.S./Mexico border.

- Two other bridges, the Mission Anzalduas and Donna will also be located near MFE.

The MEDC website provides a description of regional bus service. In 1997, Greyhound Lines and the Valley Transit Company (VTC) merged to form a single operating company. VTC has served the Rio Grande Valley for nearly 70 years. VTC services the Valley from transit centers in McAllen and Harlingen as well as linking to all parts of the U.S. The VTC is a major transit link between McAllen and Reynosa. There are also four Mexican-owned bus lines serving the McAllen area (February 2005). They include

Tamaulipas/Noreste Bus Company, Autotransportes CD Mantes, Autobus Turismos Management and ADO Management.

In addition, the City of McAllen began local transit services in June 1997 with the creation of the McAllen Express (ME). The ME has six routes, including one serving the La Plaza Mall/Airport. The bus line serves more than 60 percent of the McAllen from the new, state-of-the art downtown transit terminal. A bus route passes north of the Airport along Wichita Avenue. The closest stop to the Airport is at the LaPlaza Mall. The ME business plan is to serve areas of greatest need first, such as retail centers and hotels, expanding later.

There is no rail passenger service on the U.S. side of the border. The Rio Grande Valley Switching company maintains daily freight service to Hidalgo County, including a branch that serves the McAllen-Foreign Trade Zone. However, there is rail service on the Mexican side of the border. The national railway, Ferrocarriles Nacionales de Mexico, provides passenger service from Matamoros, Reynosa, and Monterrey with links to Mexico City.

2.8 CAPITAL PROJECT FINANCING RESOURCES

The purpose of this section is to provide a brief overview of the current financial resources of the City of McAllen that can potentially be used for airport infrastructure finance. This overview is intended to provide a general frame of reference for use in developing the capital financial alternatives for development of the Airport.

2.8.1 Financial Structure

The City of McAllen, Texas was incorporated in 1911 and operates under a commission/manager form of government pursuant to the constitution and the laws of the State of Texas. The City Commission (June 2005) consists of Mayor Richard Cortez and six Commissioners: Scott Crane, Commissioner-District #1; Marcus Berrera, Commissioner-District #2; Hilda Salinas, Commissioner-District #3; Aida Ramirez, Commissioner-District #4; John Ingram, Commissioner-District #5; and, Jan Klinck, Commissioner-District #6. The City Manager is responsible for the operation of all municipal functions. The Airport Department is responsible to the City Manager and is headed by the Director of Aviation. The finances of the Airport Department are managed by Airport Staff and coordinated with the City Department of Finance. The Airport Department consists of 24 full time positions organized in to the Director's Office and separate divisions of Operations and Maintenance. Aircraft fire fighting and rescue services are provided by employees of the City's Fire Department. Police services are provided by employees of the city's Police Department.

In 1995, The City created an enterprise fund to better serve the needs of the airport. The Airport is essentially a user supported enterprise. For financial reported purposes, the Airport is considered to be an enterprise similar to a commercial entity organized for

profit. The accounting and financial reporting policies of the City conform to generally accepted accounting policies for governmental units.

At McAllen-Miller International Airport, land fees and terminal space rentals are paid by signatory airlines under use and lease agreements; currently (September 2004) these are being renegotiated. In general, the use and lease agreements require the airlines to pay historically based, fixed rate field and runway use-fees (landing fees), rental rates with escalation clauses (terminal rentals) and certain other charges to enable the City to partially recover costs. Non-airlines revenues include concession fees, fuel flowage fees, and ground and hangar rentals. In past years, the City has subsidized Airport capital outlays when revenues have not been sufficient to cover both operating expenses and capital outlays.

2.8.2 Sources of Capital Financing

The approach used in the past by the City of McAllen to financial capital improvements is similar in concept to the approach used at many small/non-hub airports in the United States. Over the years, improvements to MFE have been financed through a combination of federal grants, capital contributions from the City, proceeds from General Obligation Airport Bonds (together with investment earnings), and third party financing. These sources, in addition to various other sources (passenger facility charges, airport revenue bonds and private financing), can continue to be used in the future.

The following sections present a preliminary discussion of possible funding sources and alternatives for the Capital Improvement Program (CIP):

- Federal Aviation Administration, AIP Grants. The Airport receives federal grants to financial eligible costs of certain capital projects. The federal grants are allocated through the Airport Improvement Program (AIP). AIP grants include entitlement grants, which are allocated among airports by a formula based on entitlements, and discretionary grants allocated in accordance with FAA guidelines. The Airport Improvement Program, reauthorized in 1984, provides federal discretionary and entitlement grants for eligible Airport projects. Part of the Airport development will be eligible for AIP grants.

- Federal Aviation Administration, Entitlement funding. This potential source of funding is based on a formula using the airport's passenger enplanements. Since 1991, the Airport has obtained almost $12 million in federal grants to fund capital development resulting in approximately $2 million of support per year. It is likely that additional grants, both entitlement and discretionary, will be provided as the growth of aviation activity at the Airport increases. However, federal funding at historical levels may not be realistic because of the trend of recent FAA appropriation cut-backs, the overall uncertainty of discretionary funding, and the possible elimination of the AIP program.

- Federal Aviation Administration, Passenger Facility Charge Funds (PFC). The Aviation Safety and Capacity Act of 1990, enacted by Congress on November 5, 1990, authorized the Secretary of Transportation to approve locally imposed PFCs of up to $3 per enplaned passenger; this was amended to as much as $4.50 per enplaned passenger in 2000. The proceeds from PFCs are to be used for certain AIP-eligible projects that preserve or enhance capacity, safety, or security; mitigate the effects of aircraft noise; or enhance airline competition that are not able to be funded by grants or through entitlements. PFCs may also be used to pay debt service on bonds or other indebtedness incurred to carry out eligible projects.

- Federal Aviation Administration, Facilities & Equipment Funds. The FAA provides money for navigational aids and air safety-related technical equipment through its Facilities & Equipment Appropriation. During the planning period, it will be assumed that required navigational aids to any airside development will be 100% supported by this funding source.

- City of McAllen Local funds. City funds, used in the past to fund the local match of AIP funds and for other capital improvements, can be used in the future both as a permanent financing and to temporarily finance certain capital projects until the ultimate funding source, perhaps PFC revenues, is collected by the City. City funds used to cover potentially temporary financial shortfalls due to the timing of the projects can be reimbursed when other funding sources are received.

- City of McAllen General Fund debt. General fund debt is another source of City-supported funding that has been used in the past as a substitute for the direct contribution of City funds on a year-by-year basis. In 1991, and again in 1993, the City of McAllen issued General Obligation airport bonds to fund airport improvements, specifically the new terminal building. Due to City election requirement in order to issue bonds payable from ad valorem taxes, general fund debt may not always be the best alternative for non-AIP eligible projects. Other financing options to be discussed can also be considered for these projects.

- Airport Revenue Bonds. As the Airport grows, airport revenue bonds may provide another source of local funds for improvements to the Airport. Repayment of this debt comes from airport revenues that would normally commence once the facility is operating. The City has not used revenue bonds in the past; however, as the net revenues of the Airport continue to increase, this financial option may become a viable alternative to general obligation bonds which require a taxpayer vote.

- Economic Development funds. The expansion and improvement of airport facilities provide significant economic benefits to the communities served, in terms of direct economic impacts and in terms of attracting outside businesses to the area. As such, the availability of economic development funds as an alternative source should be considered.

- Private Financing (Third Party). This Third Party funding sources offers a very beneficial alternative for financing the non-AIP eligible projects. The City of McAllen has in the past used private financing for airport hangar and Fixed Base Operator (FBO) facilities. It is common practice in the aviation industry for airports to lease land on a long-term basis to hangar and FBO private businesses with assurances from these operators that they will develop the needed improvements at their own expense. Many airports use this form of financing when the facility will be exclusively used by the developer. In recent years, the private sector has become more involved in airport development. There are varying degrees of private sector involvement potential.

  Some Wall Street experts argue that the new private capital will come from a large and previously untapped (at least for infrastructure) pool of equity investors who are interested in somewhat higher-risk projects than the buyers of municipal bonds. A few airports have used private funds to achieve rapid project development through use of the design-build concept reducing the time and cost of the project. Depending upon the type of development, third party financing is another possible funding source.

2.9 SOCIOECONOMIC INDICATORS

The McAllen Metropolitan Statistical Area (MSA) is among the fastest growing in the country in population and job growth. The main drivers of the McAllen economy are maquiladora trade, tourism, the agriculture/food processing industry, and population growth.

Mexico's maquiladora program was established in 1965. With the maquiladora, or twin plant, concept of manufacturing, labor-intensive work is done in Mexico and support facilities are on the U.S. side. Manufacturers are allowed to import their raw materials and components duty free, paying duty only on the value added upon exporting the finished product into the domestic market. Of the maquiladora locations along the Texas/Mexico border, Reynosa was first in percentage growth from 1989 to 1993.

McAllen caters to over 145,000 "Winter Texans" (November 1993 estimate), predominantly Midwesterners, who migrate to the Valley each winter. McAllen now has South Texas' largest concentration of healthcare facilities, serving "Winter Texans" and Mexican nationals, as well as local residents.

The next largest tourist component is Mexican nationals. It is estimated that Mexican Nationals account for up to 30 percent of retail sales in the Valley. McAllen has become the retail center of the Lower Rio Grand Valley. La Plaza Mall, just north of the Airport, is one of the most prosperous retail malls in the country, providing McAllen with the most sales tax receipts per capita of any mall in the United States.

Traditionally, the regional economy was based on agriculture, and Hidalgo County is Texas' largest crop producer. Cotton, vegetables, melons, and citrus fruits are signature crops in the Valley. McAllen's economy is now well diversified.

The petroleum industry's importance to the region has declined in recent years, although there is substantial natural gas well drilling in Hidalgo County. However, the Mexican gas fields of the Burgos Basin near Reynosa that will become developed in the next few years holds promise for improving McAllen's economy through strengthened ties with Reynosa.

2.9.1 Population

The border between the U.S. and Mexico is 1,952 miles long and is one of the most dynamic regions of the world. Since the passage of NAFTA, both sides of the Border have experienced significant population growth. By the end of the 1990s, the population in the largest Texas counties and Mexican states along the Texas-Mexico border had topped a combined 13.6 million. According to Mexico's preliminary census estimates, the population of the Mexican states bordering Texas—Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas—had increased 22 percent, to almost 12 million, from 1990 to 2000, adding 2.2 million residents. On the U.S. side, the population of El Paso, Webb, Hidalgo and Cameron counties increased about 391,000 inhabitants, from 1.4 million in 1990 to 1.8 million in 1999—a 29 percent increase. There are more than 7 million people living within a 150 mile radius from McAllen/Edinburg/Mission area.

Table 2-3 which follows this page contains the "medium/most likely scenario" population estimate based upon work prepared jointly by the Houston Advanced Research Center (HARC) and The Instituto Technólogico de Estudios Superiores de Monterrey (ITESM). The Master Plan Consultant labeled the study's two population estimates as "low" and "high" and developed one called "medium/most likely scenario" which is an average of the two. In addition, the consultant developed several "combinations" of counties on the U.S. side of the border as well as county combinations with Mexican states.

By 2025, Hidalgo and Starr Counties will have more than one million population with 12 million people in the greater McAllen area that extends as far as Monterrey, Mexico. Looking at population growth percentages on a five year and annual basis, for all scenarios, the population of the combination of Hidalgo and Starr counties is greatest, with an average annual growth rate of 3.75% over 30 years.

Another indicator of growth and economic integration is retail sales tax collections. **Table 2-4** below provides sales tax collections from 1997-2001. Over this period sales tax revenues increased by 74 percent. McAllen has the highest per capita sales tax revenues collected than any municipality in the nation which is due to the large numbers of Mexican nationals who come to McAllen to shop and come from as far away as Monterrey.

Table 2-3
McAllen Area Population
Medium/Most Likely Scenario

Area	1995	2000	2005	2010	2015	2020	2025
Hidalgo	464,000	545,000	620,000	695,000	777,000	859,000	957,000
Starr	46,000	58,000	69,000	80,000	94,000	109,000	127,000
Cameron	298,000	335,000	369,000	403,000	438,000	474,000	512,000
Willacy	18,900	20,200	21,300	22,400	23,300	24,200	24,600
Tamaulipas							
Border	1,183,000	1,367,000	1,540,000	1,693,000	1,840,000	1,991,000	2,144,000
Rest of State	1,326,000	1,474,000	1,607,000	1,734,000	1,850,000	1,961,000	2,070,000
Nuevo Leon							
Monterrey	2,978,000	3,370,000	3,760,000	4,136,000	4,502,000	4,862,000	5,217,000
Rest of State	560,000	601,000	634,000	662,000	688,000	714,000	741,000
Combinations							
Hidalgo+Starr	510,000	603,000	689,000	775,000	871,000	968,000	1,084,000
U.S. portion	826,900	958,200	1,079,300	1,200,400	1,332,300	1,466,200	1,620,600
Mexican Border	1,183,000	1,367,000	1,540,000	1,693,000	1,840,000	1,991,000	2,144,000
U.S.+Mexican Border	2,009,900	2,325,200	2,619,300	2,893,400	3,172,300	3,457,200	3,764,600
U.S.+Tamaulipas+Nuevo Leon	6,873,900	7,770,200	8,620,300	9,425,400	10,212,300	10,994,200	11,792,600
5-Year Percentage Increases							
Hidalgo+Starr		118.2%	114.3%	112.5%	112.4%	111.1%	112.0%
U.S. portion		115.9%	112.6%	111.2%	111.0%	110.1%	110.5%
Mexican Border		115.6%	112.7%	109.9%	108.7%	108.2%	107.7%
U.S.+Mexican Border		115.7%	112.6%	110.5%	109.6%	109.0%	108.9%
U.S.+Tamaulipas+Nuevo Leon		113.0%	110.9%	109.3%	108.3%	107.7%	107.3%
Annual Percentage Increases							
Hidalgo+Starr		3.6%	2.9%	2.5%	2.5%	2.2%	2.4%
U.S. portion		3.2%	2.5%	2.2%	2.2%	2.0%	2.1%
Mexican Border		3.1%	2.5%	2.0%	1.7%	1.6%	1.5%
U.S.+Mexican Border		3.1%	2.5%	2.1%	1.9%	1.8%	1.8%
U.S.+Tamaulipas+Nuevo Leon		2.6%	2.2%	1.9%	1.7%	1.5%	1.5%

Source: Joint Report of Houston Advanced Research Center (HARC) and The Instituto Technólogico de Estudios Superiores de Monterrey (ITESM)

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Table 2.5

McAllen-Miller International Airport

Historical and Projected Employment

Year	Hidalgo County	Airport Trade Area	Texas
Historical			
1985	113,721	212,944	8,720,100
1990	135,909	250,733	9,307,000
1995	164,920	303,367	10,539,000
1996	173,000	316,072	10,847,200
1997	184,359	331,653	11,287,900
1998	190,187	341,307	11,702,200
1999	199,172	355,161	11,970,900
2000	210,928	374,580	12,313,700
2001	215,867	382,621	12,535,000
2002	220,905	390,592	12,745,800
2003	225,985	398,572	12,956,500
Compounded Annual Growth	3.9%	3.5%	2.2%
Projected			
2009	258,386	449,227	14,289,500
2014	263,887	457,879	14,516,500
2019	291,639	510,742	15,675,000
2024	319,796	556,585	16,878,100
Compounded Annual Growth	1.7%	1.6%	1.3%

Sources: Woods & Poole Economics, and HNTB analysis.

Table 2-4 Retail Sales Tax Collections		
Year	McAllen	% Change
1997	$21,512,580	
1998	$30,358,178	41.1%
1999	$32,333,792	6.5%
2000	$35,414,389	9.5%
2001	$37,384,020	5.6%

Source: McAllen, 2002 Market Profile. McAllen Chamber of Commerce.

2.9.2 Total Employment

In 2003, total employment in the four county area of Hidalgo, Starr, Cameron and Willacy totaled 398,572. Compared to a 1985 total of 212,944, this employment level represents a compounded annual growth rate of 3.5 percent during these 18 years (see **Table 2-5**). During this period, employment growth in Texas was just 2.2 percent, which further supports the assertion that the greater Hidalgo County area has experienced extremely strong growth. Over the next twenty years, total area employment in these four counties is forecast to grow faster than that for Texas during the same period. As shown in **Table 2-5**, income growth is expected to average 1.6 percent annually through 2024, compared to 1.3 percent for the State.

2.9.3 Total Personal Income

In 2003, total personal income in the Lower Valley totaled $8.8 billion (measured in 1996 dollars). Compared to a 1985 total of $4.4 billion, this represents a compounded annual growth rate of 4.0 percent during these 18 years. As shown in **Table 2-6**, the majority of the greater McAllen area's income is generated in the counties of Hidalgo and Starr, i.e., 4.5 percent growth versus 4.0 percent for the 4-county trade area. During this period, income growth in Texas was just 3.4 percent.

During the master plan period, total personal income in the greater McAllen area is forecast to grow faster than that for Texas during the same period. As shown in **Table 2-6** income growth is expected to average 2.6 percent annually through 2024, compared to 2.0 percent for the State.

2.9.4 Per Capita Personal Income

Table 2-7 presents historical and forecast per capita personal income (PCPI) in 1996 dollars for the greater McAllen area. This measure is a combination of **Table 2.3** and **Table 2-6**. It is important to examine this measure because per capita income is sometimes a more accurate indicator of individuals' propensity to travel by air. In 2003, the PCPI of the four-county area was approximately $8,733, compared to $20,732 for the State of Texas. Between 1985 and 2003, PCPI in this area grew less quickly than it did for the State. However, it must also be noted that because the cost-of-living in this area is less than the State average, the impact is likely less than that suggested by the PCPI figures.

Table 2.6

McAllen-Miller International Airport

Historical and Projected Personal Income (Thousands of 1996 $)

Year	Hidalgo County	Airport Trade Area	Texas
Historical			
1985	$ 2,326,584	$ 4,350,373	$ 250,331,000
1990	$ 2,708,352	$ 4,937,199	$ 262,314,000
1995	$ 3,404,326	$ 6,089,857	$ 310,655,000
1996	$ 3,560,791	$ 6,333,325	$ 324,926,000
1997	$ 3,860,369	$ 6,785,086	$ 350,517,000
1998	$ 4,137,317	$ 7,254,817	$ 381,574,000
1999	$ 4,400,955	$ 7,631,676	$ 402,092,000
2000	$ 4,661,313	$ 8,061,644	$ 425,085,000
2001	$ 4,785,256	$ 8,249,932	$ 434,049,000
2002	$ 4,957,410	$ 8,525,560	$ 445,669,000
2003	$ 5,132,851	$ 8,805,071	$ 457,409,000
Compounded Annual Growth	4.5%	4.0%	3.4%
Projected			
2009	$ 6,277,543	$ 10,622,481	$ 533,321,000
2014	$ 6,481,696	$ 10,947,762	$ 546,792,000
2019	$ 7,561,030	$ 13,039,401	$ 618,027,000
2024	$ 8,743,612	$ 14,995,654	$ 696,309,000
Compounded Annual Growth	2.6%	2.6%	2.0%

Sources: Woods & Poole Economics, and HNTB analysis.

Table 2.7

McAllen-Miller International Airport

Historical and Projected per Capita Personal Income (Thousands of 1996 $)

Year	Hidalgo County	Airport Trade Area	Texas
Historical			
1985	$ 6,820	$ 6,801	$ 15,383
1990	$ 6,995	$ 6,979	$ 15,379
1995	$ 7,337	$ 7,537	$ 16,386
1996	$ 7,431	$ 7,608	$ 16,800
1997	$ 7,801	$ 7,911	$ 17,756
1998	$ 8,096	$ 8,210	$ 18,930
1999	$ 8,339	$ 8,383	$ 19,559
2000	$ 8,553	$ 8,595	$ 20,285
2001	$ 8,557	$ 8,586	$ 20,310
2002	$ 8,639	$ 8,662	$ 20,512
2003	$ 8,717	$ 8,733	$ 20,732
Compounded Annual Growth	1.4%	1.4%	1.7%
Projected			
2009	$ 9,241.10	$ 9,213.24	$ 22,123
2014	$ 8,530.11	$ 8,541.71	$ 22,362
2019	$ 8,980.54	$ 9,219.29	$ 23,568
2024	$ 9,336.04	$ 9,588.40	$ 24,829
Compounded Annual Growth	0.3%	0.4%	0.9%

Sources: Tables 2.1 and 2.3; HNTB Analysis

During the planning period, the PCPI is forecast to grow at a rate below that forecast for the State.

2.10 COMMUNITY CONTEXT

The following section describes the socioeconomic, land use and development, transportation, and environmental context of MFE.

2.10.1 Land Use and Development

The use of land near the airport, government controls on land use, and planned development in the airport vicinity are described below:

- Existing land use. Runway 13's runway protection zone extends west of 23rd Street onto undeveloped land where the airport controls some of the land in fee simple, some in avigation easement, and some land needs to be purchased either in fee or in avigation easement, as will be discussed in **Chapter 5: Facilities Requirements.** The Boeye Reservoir abuts Airport property on the northwest. La Piedad Cemetery is east of the air cargo facility. The western portion of the block north of the terminal building is undeveloped. The CBP complex occupies land immediately northeast of the terminal building and south of Wichita Avenue. North of Wichita Avenue and across from the general aviation area is the La Plaza shopping mall. More commercial development is east of the mall. On the southeast corner of Wichita Avenue and 10th Street is the McAllen Country Club golf course. A hotel, residences, and Cascade Park are located along 10th Street east of the Airport.

  Adjacent to the Airport on the west is Colonia Hermosa, a residential subdivision. Additional residential areas are within ½ mile from the Airport, to the southeast along the Main San Juan Canal, and west of 23rd Street. The Mission Pilot Channel borders the Airport on the south, and land south of the inlet is not yet developed but is subject to intense development pressure. Currently much of the property south of the Airport is zoned agricultural.

  In recent years, McAllen has expanded rapidly, both in land area and in developed area, with a noticeable growth trend toward the Airport's immediate vicinity. The land on the west, north and east side of the airport has been built up, as described above, for many years. In addition, there has been extensive development of retail and medical facilities in recent years in areas several blocks northeast of the Airport and south of Expressway 83.

- Development Controls. Land use within the city of McAllen is subject to the City's zoning authority. The City's 1977 zoning ordinance resulted from its comprehensive plans, Foresight McAllen. From the City website, "Foresight McAllen is a plan adopted by the City Commission for use in land use development decisions such as zoning, subdivision and capital improvements. The plan identifies future land use areas on the Physical Development Plan (PDP)

and major transportation facilities on the Thoroughfare Plan. The PDP shows five major land use categories: Open Space/Public Facilities, Low Density Residential, High Density Residential, Commercial, and Industrial. The Thoroughfare Plan shows routes for six different classes of roadways; Expressway, High Speed Arterial, Principal Arterial, Minor arterial, and Major Collector. These two plans work together to promote 12 general goals and policies for future development of the city. The plan is used as the basis for the planning process to guide the Planning and Zoning Commission and City Staff in recommending land development decisions which implement the general policies of the plan.

Streets and roads constitute a use of land that is also subject to City control. In addition, federal and state funding requirements have the affect of controlling the development of thoroughfares. The Hidalgo County Metropolitan Planning Organization (MPO), which is the Lower Rio Grande Development Council, plans surface transportation in the metropolitan area. The Hidalgo County MPO is comprised of McAllen, Pharr, Edinburg, Mission, Weslaco, Mercedes, Donna, San Juan, Alamo, Hidalgo, and Palmview. It also includes unincorporated urbanized area of Hidalgo County.

Another important aspect of land use control in the airport vicinity is the Mission Pilot Channel, governed by the Hidalgo Country Drainage District (HCDD) Number One. The HCDD has a master plan that identifies future improvements for the Mission Pilot Channel. It is incumbent the Airport Master Plan to incorporate the plans of the HCDD in its planning process.

Airspace around the airport is governed by Federal Aviation Regulation (FAR) Part 77 restrictions. The City and County have a Joint Airport Zoning Board to implement the height restrictions. It should be noted that this master plan will consider alternative alignments for a future parallel runway. If an alignment for a future parallel runway other than the one that is shown on the current master plan, the City's Airport Zoning Ordinance will need to be modified to protect the different airspace. This will be one of the recommendations in the master plan.

- Foreign Trade Zone (FTZ). The land south of the airport is outside the City limits. Land south of the Airport and west of 10th Street (State Highway 336) comprises the McAllen Enterprise Zone. State and local incentives attracted several industries to the zone although none within a mile of MFE. Within the enterprise zone is the 80-acre Foreign Trade Zone (FTZ) about 3 miles southwest of the airport.

  Foreign Trade Zones (FTZ) are granted by the U.S. government for the purpose of facilitating trade and increasing the global competitiveness of U.S.-based companies. An FTZ is an area within the United States that is considered "outside the country", or at least, outside the jurisdiction of U.S. Customs. Certain types of merchandise can be imported into an FTZ without going through formal Customs entry procedures or paying import duties. FTZs enable

companies to defer duty payments, and in the process, results in reducing costs through lower U.S. Customs fees, banking, insurance, and other fees. McAllen has one of the 260 FTZs established in the United States. The McAllen-Reynosa FTZ#12 was established in 1965 and is administered by the McAllen Economic Development District (MEDC). As identified on the following illustration, FTZ #12 is located in proximity to the McAllen-Miller International Airport.

According to the McAllen Economic Development Corporation, some amenities of McAllen's FTZ include: warehouse space; warehouse/distribution services, including international business office space; 24-hour maximum, gated security; interzone and international free port transportation coordination; contract in-bond assembly services; repackaging and relabeling services; inventory control; bilingual temporary personnel services; and a certified public truck scale. Over 600,000 square feet of rail-accessed warehouse space is available at the McAllen Foreign Trade Zone with long and short-term leases available.

- Recent Developments

  In the past few years, a new Civic Center was constructed northwest of the Airport on Ware Road and La Plaza Mall expanded with a major addition toward the southeast resulting in the reworking of South Main Street.

In addition, the new multi-purpose Dodge area recently opened. Located in Hidalgo just south of the Airport, the arena seats 5,500 for hockey, arena football, and soccer and as many as 6,800 for concerts.

Bicentennial Avenue was recently extended south of U.S. Highway 83 and parallel to the east side of La Piedad Cemetery, intersecting with Wichita Avenue at the Airport's terminal access road.

2.11 NEW AIRPORTS

The long-term development program for MFE is estimated to cost $105 million, excluding another $79 million in projects to be funded by others (see Chapter 8: 20-Year Capital Improvement Program). Invariably, the question will come up regarding whether it would be less expensive to develop a new airport site than to continue to develop the current one.

Study and study have concluded that it is almost always more cost-effective to stay at the current location over the long term. Unless the airport is totally encompassed by urban development with no opportunities for expansion, it is less expensive to expand the current facility, not to mention the time that it takes to develop a new facility. For example, the City of Chicago rebuilt the airport terminal for Midway Airport, which included building a portion of the terminal and parking structures bridging a major thoroughfare.

It takes approximately 30 years or more to develop a new airport site from the initial decision to plan a new airport until the time of ground breaking. This statement applies not only to new air passenger airports but often to new general aviation airports as well. Finding a suitable site and its initial environmental clearances may take more than 20 years itself. Airports are not considered good neighbors and much controversy is associated with their establishment. Generally residents identified as being part of new airport search areas create strong alliances to fight new airport development similar to the groups and associations that develop to complain about aircraft generated noise and airport expansion for airports that already exist.

An order-of-magnitude cost associated with a new air carrier airport is about $500 million dollars. Recent air carrier airport developments of Northwest Arkansas (Fayetteville) and Mid-America (suburban St. Louis in Illinois) were developed for less than $300 million but included considerable federal subsidy, which cannot be anticipated in the future. The new air carrier airport planned for Chicago for which land is being acquired in the south suburbs will cost around $500 million. Planning for that airport assumes a relatively low level of federal funding as well as the potential for private-public financing, a first for an American airport.

One of the big ticket items for a new airport is the development of infrastructure, particularly at a Greenfield site. The $500 million identified above does not include the cost of extending infrastructure to the site. Often the cost of roadway and utilities

linkages are as much as one third to one half of the cost of the facility itself, depending upon the new airport's location.

Several notable new airport experiments in the last ten years resulted in staying at the original location, including the abandonment of a new airport that was built and operated for more than 20-years. During the 1990's, the Metropolitan Airport Commission (MAC) that controls the Minneapolis-St. Paul International Airport (MSP) studied in great detail the long-term aviation needs for that metropolitan area. It conducted a dual track planning process that simultaneously studied new airport sites and redevelopment of the existing airport to meet long-term needs. Ultimately the decision was made to restructure the current MSP airport site. No doubt, Northwest Airlines heavily influenced the decision to not develop a new airport, which they considered to be too expensive.

Another interesting case is Aéroports de Montréal (ADM). In 1975, Mirabel International Airport was opened to great worldwide fanfare as the airport of the future. Located 40 minutes from downtown Montréal, the new facility was the largest airport in the world in terms of land area at the time, with expansion capabilities to handle aviation demand for well beyond a century. A huge infrastructure program was associated with the facility, including multi-lane divided highways and rail transit leading from Montréal to the airport. The existing airport, Dorval International, was left unkempt. Over time, the Bombardier Corporation constructed their Canadair regional jet manufacturing plant in the midfield location at Dorval which later would preclude consideration of a new midfield passenger terminal. In late 1995, the airlines collectively requested that they be allowed to return to Dorval (since renamed the Montréal – Pierre-Elliott Trudeau International Airport). This occurred despite the fact that the facility was in great disrepair. Since that time, there have been ongoing terminal expansion projects.

The McAllen-Miller International Airport is in proximity to downtown, its location of being in the transportation center of the greater McAllen metropolitan area and in proximity to several bridges to Mexico, with adjacent land for expansion, is a very valuable asset for the City. While the potential development program that this master plan will recommend will be expensive, it will be much more cost effective than considering an alternative location.

Chapter 3
AIRPORT ACTIVITY FORECASTS

3.1 PASSENGER FORECAST

The following section discusses the Airport's Air Trade Area, the socioeconomic structure of its residents, recent trends in air service, and the Base Case forecasts of commercial demand, including passenger enplanements, aircraft departures, and fleet mix for air carriers.

3.1.1 Air Trade Area

In forecasting the potential passenger air traffic for any commercial scheduled passenger service airport, it is critical to determine from where the outbound travelers using the airport would come or where the inbound travelers are headed. For an airport without any measurable airline hubbing activity, it is even more essential. These areas are known as air trade areas.

The size of an airport's air trade area varies with the type and quality of commercial passenger service present at all airports in the region. In some cases, the passenger air service area for more unique services, such as international passenger services, might encompass the entire region if one airport, such as MFE, has the majority of international service. In other cases, such as shorter haul flights, each airport in the region might have its own air service area. Air service areas, therefore, are not distinct regions from which all travelers use certain airports exclusively.

Travelers within a region may use multiple airports depending on trip type, trip purpose, schedule of service, ground transportation convenience at peak or non-peak periods, and other reasons. The general tendency is for larger airports to have air service areas that overlap those included in the air service areas of smaller airports, while smaller airports generally do not have air service areas that overlap those of larger airports.

MFE is located in south Texas, and there are a total of three airports in this general area that support commercial passenger service: MFE, Harlingen (HLN), and Brownsville Airport (BRO).

MFE is located just south of McAllen, at the southern border of Texas and Mexico, near the Mexican city of Reynosa. HLN is located approximately 40 miles east of McAllen, making it less proximate to the Mexican border, but closer to the tourist destinations along the Padre Island National Seashore. BRO is approximately 55 miles east-southeast

of McAllen, at the southern-most tip of the state and located closest to south Texas beaches. Because of competing facilities to its east, MFE primarily attracts passengers coming from or headed to locations that are in the four counties (Hidalgo, Starr, Cameron, and Willacy) immediately surrounding the Airport.

A review of the Airport's air travel market revealed that MFE travelers primarily come from or are bound to these four counties (the primary Air Trade Area), but that a measurable number also come from or are bound to a secondary market (the secondary Air Trade Area) that consists of Mexican cities and other jurisdictions directly across the border from McAllen.

3.1.2 Socioeconomic Data

Socioeconomic data was presented in **Chapter 2: Inventory**. These data were used to test models for forecasting passenger growth, as discussed below.

In 2003, the total primary Air Trade Area had a population of approximately 1.01 million people. Compared to a 1995 total of 0.81 million, this represents a compounded annual growth rate of 2.8 percent during this 8-year period. The population of the Mexican border grew at a similar rate, and when considered together with the primary Air Trade Area, the compounded annual growth rate from 1995 to 2003 was also 2.8 percent.

The population for the Air Trade Area, which grew at rates faster than that of the State of Texas between 1995 and 2003, is forecast to grow significantly during the planning period. Through 2024, the total Air Trade Area's population is expected to grow at a compounded annual rate of 1.9 percent, compared to 1.1 percent for Texas. This growth will be led by growth in the primary Air Trade Area, which is expected to experience population growth of 2.1 percent annually. Stronger growth in the primary Air Trade Area is a good indicator of future growth at the Airport.

Population is the first of four key socioeconomic variables that are examined when determining the potential number of travelers that could use an airport. The remaining measures relate to the employment status and relative wealth of that population. Those with higher per capita incomes have a higher propensity to travel by air.

In 2003, total employment in the Air Trade Area had grown at a compounded annual growth rate of 3.5 percent during the 18 years period (1985-2004). During this period, employment growth in Texas was just 2.2 percent, which further supports the assertion that the Air Trade Area has experienced extremely strong growth. During the master planning period, total employment in the Air Trade Area is forecast to grow faster than that for Texas. This substantial growth further supports a strong expectation for passenger growth at the Airport.

In 2003, total personal income in the Air Trade Area totaled $8.8 billion (measured in 1996 dollars). Compared to a 1985 total of $4.4 billion, this represents a compounded annual growth rate of 4.0 percent during these 18 years, compared to 3.4 percent for Texas. During the forecast period, total person income in the Air Trade Area is forecast

to grow faster for the State. This substantial growth further supports a strong expectation for passenger growth at the Airport.

Forecast per capita personal income (PCPI) is a measure that combines the impact of population and person income. It is important to examine this measure because per capita income is sometimes a more accurate indicator of individuals' propensity to travel by air. In 2003, the Air Trade Area's PCPI was approximately $8,733, compared to $20,732 for the State of Texas. Between 1985 and 2003, PCPI in the Air Trade Area grew less quickly than it did for the State. These differences suggest that persons residing in the Air Trade Area may be less likely to afford travel when compared to the average traveler from other regions of Texas. However, it must also be noted that because the cost-of-living in the Air Trade Area is less than the State average, the impact is likely less than that suggested by the PCPI figures. During the planning period, the Air Trade Area's PCPI is forecast to grow at a rate below that forecast for the State.

3.1.3 Air Service Trends

Enplanement growth can often be forecast more accurately with a thorough understanding of the air service elements impacting the airports in the region. Air service trends in southern Texas have varied among the three commercial airports in this region. McAllen, the second-largest airport of the three, has performed better than the others, both over the long term and in recent years. Some of this faster growth has been due to the faster socioeconomic growth in the McAllen MSA, which in turn has led to faster growth in air service. New airlines interest in McAllen has been greater than other valley communities (Northwest, in 2003 for a period of less than one year and Allegiant Air in 2005). As the MFE air service improves at a quicker rate than the other airports, some additional travelers are diverted away from these other airports to MFE. The remainder of this section highlights the air service trends among the four airports.

Enplanements

Total enplanements among all three airports have declined at an average annual rate of 2.1 percent from 1996 through 2003. During this period, MFE declined at an annual rate of 1.3 percent, HLN declined at an average rate of 2.6 percent, and BRO declined at a rate of 2.3 percent annually. Significantly in 2003, only MFE posted a measurable increase in passenger traffic (see **Table 3-1**). Please note that all tables that are not embedded in the text are following the page on which each table is first mentioned in the text.

As MFE has grown faster than the other airports, its share of total enplanements in the region has continued to grow. MFE increased its share of regional enplanements from 36.5 percent in 1996 to 38.6 percent in 2003.

Average Domestic Airfares

In general, there has been a negative (rising) trend in domestic airfares in the Air Trade Area. MFE has seen its average fare increase from $139 to $171 between 1993 and

2003, which represents a compounded annual increase of 2.1 percent (see **Table 3-2**). At BRO, the increase has been more substantial (5.6 percent annually). At HLN, however, the presence of Southwest Airlines has kept fare increases more modest. Fares at HLN have grown at an annual rate of 1.7 percent between 1993 and 2003. These growth rates suggest that were it not for the "Southwest effect" at HLN, passenger growth at MFE may have been more substantial..

Departing Seats

As a general rule, passenger trends mirror capacity trends. When capacity increases, traffic tends to climb, and when capacity shrinks, traffic tends to decline. At U.S. airports in recent years, capacity has shrunk for many, with airlines removing mainline jet service and replacing it with turboprops and/or regional jets. Since 1994, total departing seats at MFE have declined at a rate of 1.2 percent per year (see **Table 3-3**). However, there are some notable positive developments during this period worth citing in this analysis.

First, MFE has not seen its mainline jets replaced with turboprops and regional jets. Since 1994, departing seats by regional airlines have been eliminated (Table 3-3), with all seat departures in 2003 performed by mainline carriers. Second, and perhaps more importantly, total departing seats in 2003 grew 14.2 percent over the year prior. This growth occurred at a time when many airports were still losing seats as a result of the economic downturn and continuing influences after the events of September 11, 2001. These factors support the positive portrayal of MFE in **Table 3-4**, which depicts the increase in seats per departure experienced at MFE since 1994. In 2003, commercial passenger departures at MFE had an average of 137.0 seats, which is the highest of any year since 1994. With this level of departing seats, the Airport's load factor declined moderately, to 67.8 percent. The combination of departing seats growth and modest decline in load factor suggest additional growth in the near term.

3.1.4 Enplanement and Enplanements per Departure Forecasts

With an understanding of the Airport's passenger traffic history and potential for growth, it was possible to develop a model for forecasting passenger enplanements. Enplanement levels, as discussed earlier, are sensitive to local economic factors such as population, employment, and income.

Using multi-variable regression analysis and historical data, several relationships were tested. The potential driving factors tested included socioeconomic variables, aviation industry variables, and instrument variables (also called dummy variables). The socioeconomic variables included population, employment, income, and per capita income for the entire Air Trade Area, as well as just the primary Air Trade Area. The aviation industry variables included MFE yields and fares. Instrument variables representing the one-time impact of September 11, and subjective, larger-than-usual decreases in average fares and yields were also tested. The variables were tested in both linear and logarithmic model formulations, and were performed using data ranges beginning in 1983 and 1993, and ending in 2000, 2001, and 2002.

Table 3-1

McAllen-Miller International Airport

Historical Passenger Enplanements - Regional Comparison

Year	McAllen - Miller	Market Share	Harlingen	Market Share	Brownsville	Market Share	Regional Total
1996	311,639	36.5%	470,027	55.0%	73,003	8.5%	854,669
1997	312,685	36.6%	461,029	53.9%	80,944	9.5%	854,658
1998	309,265	36.4%	466,604	54.9%	73,875	8.7%	849,744
1999	327,668	37.8%	469,214	54.1%	70,866	8.2%	867,748
2000	328,061	38.0%	468,360	54.2%	67,463	7.8%	863,884
2001	298,298	36.9%	438,453	54.3%	70,854	8.8%	807,605
2002	278,696	37.7%	391,325	52.9%	70,074	9.5%	740,095
2003	284,567	38.6%	391,358	53.0%	61,973	8.4%	737,898
Compounded Annual Growth							
1996 - 2003	-1.3%		-2.6%		-2.3%		-2.1%
1996 - 2000	1.3%		-0.1%		-2.0%		0.3%

Source: Airport Records

Table 3-2

McAllen-Miller International Airport

Historical Average One-Way Airfares - Regional Comparison

Year	McAllen - Miller	Annual Growth	Harlingen	Annual Growth	Brownsville	Annual Growth
1993	$ 139		$ 93		$ 117	
1994	$ 125	-9.7%	$ 87	-6.6%	$ 123	4.9%
1995	$ 129	3.0%	$ 90	3.5%	$ 142	15.2%
1996	$ 139	7.8%	$ 95	6.1%	$ 145	2.5%
1997	$ 142	2.1%	$ 96	0.8%	$ 143	-1.5%
1998	$ 149	4.8%	$ 97	1.3%	$ 155	8.3%
1999	$ 154	3.6%	$ 100	2.6%	$ 168	8.3%
2000	$ 163	5.5%	$ 105	5.3%	$ 182	8.1%
2001	$ 158	-3.3%	$ 103	-2.0%	$ 167	-8.2%
2002	$ 168	6.4%	$ 105	1.8%	$ 177	6.2%
2003	$ 171	1.7%	$ 110	4.9%	$ 203	14.6%
Annual Growth 1993 - 2003		2.1%		1.7%		5.6%

Source: U.S. Department of Transportation, Origin & Destination Survey.

Table 3-3

McAllen-Miller International Airport

Historical Departing Passenger Seats

Year	Major/National Carrier	Annual Growth	Regional Carrier	Annual Growth	Total	Annual Growth
1994	466,116		23,351		489,467	
1995	474,224	1.7%	15,903	-31.9%	490,127	0.1%
1996	432,809	-8.7%	13,589	-14.6%	446,398	-8.9%
1997	412,565	-4.7%	16,506	21.5%	429,071	-3.9%
1998	409,709	-0.7%	17,052	3.3%	426,761	-0.5%
1999	446,290	8.9%	12,642	-25.9%	458,932	7.5%
2000	457,768	2.6%	2,100	-83.4%	459,868	0.2%
2001	457,866	0.0%	456	-78.3%	458,322	-0.3%
2002	367,537	-19.7%	-	N/A	367,537	-19.8%
2003	419,616	14.2%	-	N/A	419,616	14.2%
Compounded Annual Growth 1994 - 2003		-1.2%		N/A		-1.7%

Source: Official Airline Guide

Table 3-4

McAllen-Miller International Airport

Historical Departing Passenger Seats and Load Factors

Year	Enplanements	Departing Seats	Departures	Seats per Departure	Load Factor
1994	338,359	489,467	3,956	123.7	69.1%
1995	324,066	490,127	4,418	110.9	66.1%
1996	311,639	446,398	3,901	114.4	69.8%
1997	312,685	429,071	3,677	116.7	72.9%
1998	309,265	426,761	3,488	122.4	72.5%
1999	327,668	458,932	3,504	131.0	71.4%
2000	328,061	459,868	3,520	130.6	71.3%
2001	298,298	458,322	3,376	135.8	65.1%
2002	278,696	367,537	2,910	126.3	75.8%
2003	284,567	419,616	3,062	137.0	67.8%
Compounded Annual Growth 1994 - 2003		-1.7%	-2.8%	1.1%	-0.2%

Source: Official Airline Guide, Airport Records, HNTB Analysis.

None of the equations that were calculated showed strong correlations with MFE enplanement levels. As such, alternative models were evaluated. The model that produced the best results, from a statistical and theoretical standpoint, was a simple growth rate formula, which specified MFE enplanements as a function of the growth rates of population and PCPI in the Air Trade Area, with a one-time upward adjustment in 2004 to account for the increased traffic generated by Northwest Airlines.

Based on the considerations noted above, enplanement forecasts were developed, and are presented in **Table 3-5**. As shown in **Table 3-5**, total enplanements are projected to increase from approximately 284,567 in 2003 to 510,500 million in 2024, which represents a compounded annual growth rate of 2.8 percent.

There are several assumptions implicit in this enplanement forecast:

- The historical relationship between enplanements, population, and PCPI will continue throughout the forecast period. Forces that could disrupt this relationship, such as a return to airline regulation, severe congestion at destination airports, or the wide-scale use of teleconferencing as a travel alternative, could alter this relationship.

- There will not be a major presence by a low-cost carrier, such as Southwest, at MFE.

- After adjusting for inflation, fuel prices will remain stable over the forecast period, as projected by the FAA, allowing real yields to continue to remain stable or decline.

- The population's distribution of income through the forecast period will be similar to what it is today.

3.1.5 Scenario High Forecast

One of the factors than this forecast could not easily input into the enplanement forecasts for MFE is its use by Mexican nationals. This would require an on site survey effort that was not part of the forecast process. Along with all the other intangibles, Mexican national air passenger activity would be heavily influenced by Mexican trends such as prevailing policy, currency fluctuations, and economic conditions, particularly those in Reynosa. However, it is likely that the PCPI profile of the average Mexican national flying from MFE would be similar to or greater than the average U.S. citizen flying from McAllen. Accordingly, it is recommended that future airport master plans include a passenger survey to determine the extent that Mexican nationals fly from McAllen.

Included with these forecasts is a high scenario forecast. It assumes there will be an increasing number of Mexican nationals that are not captured by the forecast model. While the baseline forecasts do include any current impact of Mexican nationals flying from MFE as origin/destination passengers, scenario years 2009, 2014, and 2024 are increased by .75 percent per year to a total of 15 percent by the end of the forecast period

Table 3-5

McAllen-Miller International Airport

Forecast of Passenger Enplanements

Year	Real PCPI Growth Factor	Air Trade Area Population Growth Factor	Northwest Increment	Passenger Enplanements
2003				284,567
2004	1.018	1.028	10,000	307,800
2009	1.000	1.144	-	363,000
2014	1.022	1.112	-	404,000
2019	1.022	1.104	-	444,000
2024	1.022	1.106	-	485,000
Compounded Annual Growth (2003-2024)				2.6%

Sources: Woods & Poole Economics, HNTB

Note: Passenger enplanement levels equal previous year total times each growth factor, plus the Northwest increment in CY 2004.

to account for future increases. These increases are not assumed as part of the base for compounding future levels. These estimates are considered to be conservative and are based upon an unscientific, average day counting of vehicles parked in the Airport's parking lot. A walk through of the parking lot on Thursday, April 22, 2004 and Friday, April 23, 2004, found that approximately 12.9 percent of the vehicles had Mexican license plates. Airport staff considers this to be a low percentage and can range as high as one-third or greater during certain holiday periods.

3.1.6 FAA Terminal Area Forecast (TAF)

The Federal Aviation Administration prepares annual statistical forecasts of enplanements for passenger carriers and operations forecasts for several categories of aircraft operations. These operations forecasts are: air carrier (includes both passenger and air cargo), air taxi and commuter (passenger operations on aircraft of 60 seats and less), general aviation, and military. General aviation and military operations forecasts are broken down into the categories of local and itinerant.

The TAF is important for consideration since the FAA uses this tool to check the reasonableness of aviation forecasts with the national model, which is a regional economic model that allocates national projections on a top down basis. The enplanement and departure forecasts described in **Section 3.1.4** above exceed the 10 percent deviation that the FAA considers to be a maximum allowable deviation without considerable additional detail forecast information. This master plan did not include provisions to prepare additional detail information for the FAA to alter their analysis. Consequently, the passenger forecast identified in **Section 3.1.4** and the Scenario High Forecast identified in **Section 3.1.6** will not be used in this master plan but remains as alternative forecast tracks that can be reevaluated in subsequent master plans for potential validity.

However, there was an adjustment made to the FAA TAF with the concurrence of the FAA. The FAA latest available TAF at the time of this forecast's preparation uses the year 2003 for baseline information. The Year 2003 enplanement level cited by the TAF is 263,181 enplanements. This forecast also used base year 2003, but the actual number of enplanements according to Airport Staff records is 284,567. The FAA will accept the actual Airport record as a baseline. Adjustments to the baseline for purposes of this forecast include the following steps:

- Analysis of the FAA forecast on a year-to-year basis to derive a percentage of scenario year to base year. For example, the TAF base year of 2003 is 263,181 enplanements. The estimate for Year 2010 is 312,236 enplanements. FAA TAF Year 2010 is 18.64 percent greater than base year 2003. This percentage was calculated for each year from 2004 to 2020, the last year of the TAF forecast.

- The MFE forecast extends to 2024. The change in annual numbers of enplanements from year-to-year was calculated for the TAF. An extrapolated number for the FAA TAF was developed for years 2021 to 2024, corresponding to the MFE forecast. Percentage changes between extrapolated years and the

base year were developed. The TAF forecast number for 2020 is 380,843 and the extrapolated figure for 2024 is 408,284.

- Using the actual base year enplanement level of 284,567, the base year level was multiplied by the percentage of forecast horizon year corresponding with the same year of the TAF. For example 118.64 percent was used as the multiplier for the actual base year to derive a number for 2010 enplanements.

- The FAA permits a maximum ten percent deviation. Each horizon year number was increased by 9.9 percent. The result, 485,189 rounded to 485,000, which is five percent less that the forecast described in **Section 3.1.4**. This is within the margin of error for a 20-year forecast. The Consultant considers that the slightly higher 510,500 number to be a reasonable forecast but still conservative given the potential that exists for significant growth in the Lower Valley. Nevertheless, the Adjusted FAA TAF forecast of 485,000 will be the recommended forecast. Operational levels will be adjusted correspondingly. Regardless of how one looks at the forecast, whether from the FAA Adjusted level or the level forecast by the Consultant, both forecasts are within each other's margin of error, meaning they are essentially the same.

3.1.7 Fleet Mix/Operations Forecast

To determine how the composition of the passenger aircraft fleet will develop in MFE, a review of current airline fleets, orders, and retirement schedules was performed. **Table 3-6** and **Table 3-7** provide forecasts of average seats per departing commercial passenger aircraft, average enplaning load factor, commercial passenger departures, and commercial passenger operations.

The addition of service by Northwest Airlink in 2004 brought RJs to MFE, and reduced the average seats per departure accordingly, from 137.0 to 119.6 (see **Table 3-10**). From that point forward, it was assumed that additional RJs would enter the fleet. (This assumption is felt still to be valid despite Northwest's decision to discontinue McAllen service in early 2005). Even though MFE has enjoyed service from predominantly mainline jets in recent years, it is reasonable to assume that regional jets would be used when new airlines initiate service. Therefore, by 2009, the average departing size is expected to decrease to 110.9 seats per departure. By 2014, and from that point forward, the average seats per departure is expected to be approximately 108.7. With a constant load factor, enplanements per departure are expected to decline over time, from 92.9 in 2003, to 81.1 in 2004, 75.2 in 2009, and 73.7 in 2014 and beyond.

In **Table 3-7**, forecasts of enplanements and enplanements per departure are used to forecast departures (and operations) by commercial passenger carriers. As shown, the combination of increasing enplanements and decreasing enplanements per departure causes significant growth in commercial passenger aircraft operations, which are expected to grow from 6,124 in 2003 to approximately 13,200 in 2024. This represents a compounded annual growth rate of 3.7 percent, which is approximately double the growth expected nationwide over the next 20 years.

These uncertainties increase toward the end of the forecast period when new technologies and changes in work and recreational practices may have an unpredictable impact on aviation activity.

Table 3-6

McAllen-Miller International Airport

Forecast Average Seats per Aircraft and Load Factor for Aircraft Serving McAllen-Miller International Airport

Year	Average Seats Per Aircraft (a)	Average Enplaning Load Factor (b)	Enplanements Per Aircraft Departure (c)
2003	137.0	67.8%	92.9
2004	119.6	67.8%	81.1
2009	110.9	67.8%	75.2
2014	108.7	67.8%	73.7
2019	108.7	67.8%	73.7
2024	108.7	67.8%	73.7

(a) Assumed to decline as regional jets are introduced by Northwest and others during the planning period.
(b) Assumed to remain constant.
(c) Average seats per aircraft multiplied by average enplaning load factor.

Sources: FAA Aviation Forecasts: Fiscal Years 2003-2014,
FAA Long-Range Aviation Forecasts: Fiscal Years 2005-2020, and
HNTB analysis.

Table 3-7

McAllen-Miller International Airport

Forecast of Passenger Carrier Aircraft Departures

Year	Passenger Enplanements (a)	Enplanements Per Aircraft Departure (b)	Aircraft Departures (c)	Aircraft Operations (d)
2003	284,567	92.9	3,062	6,124
2004	307,800	81.1	3,800	7,600
2009 Recommended	363,000	75.2	4,800	9,600
2009 HNTB	352,000			
2009 Scenario (e)	364,000			
2014 Recommended	404,000	73.7	5,500	11,000
2014 HNTB	400,100			
2014 Scenario (e)	430,000			
2019 Recommended	444,000	73.7	6,000	12,000
2019 HNTB	451,500			
2019 Scenario (e)	503,000			
2024 Recommended	485,000	73.7	6,600	13,200
2024 HNTB	510,500			
2024 Scenario (e)	588,000			
Compounded Annual Growth				3.7%

(a) Table 2.9.
(b) Table 2.10.
(c) Passenger enplanements divided by enplanements per aircraft departure.
(d) Aircraft departures multiplied by two.
(e) Assumes increasing enplanements by Mexican citizens.

Sources: As noted and HNTB analysis.

3.2 AIR CARGO FORECAST

Development of air cargo forecasts for the McAllen-Miller International Airport requires analysis of the huge Texas air cargo market as generated by trade with Mexico. It will be necessary to estimate a reasonable share of that market as potential for handling through McAllen, since the Airport handles little scheduled air cargo today and statistics regarding on-demand air cargo are not existent.

This section of the forecast chapter:

- Provides current air cargo information.
- Presents the results of extensive interviews with tenants and business people throughout McAllen to get a handle on on-demand air cargo.
- Provides an assessment of air cargo throughput based upon the best available information; and,
- Develops an air cargo forecast for McAllen based analysis of the information researched.

One of the challenges associated with studying air cargo is the lack of specific data that one can obtain from air cargo airlines themselves; this is true regardless of the U.S. market. Unlike U.S. air passenger airlines that the U.S. Department of Transportation mandates specified information, there is no such requirement for commercial air cargo airlines. Exclusive air cargo carriers consider specific information about their business as proprietary. As a result, anecdotal or indirect information must be obtained regarding scheduled and on-demand air cargo operations with assumptions being made regarding load factors. Sometimes, this information can be crosschecked with airport data for aircraft landed weights, subtracting air passenger operations.

For McAllen, air cargo forecasts need to be created. There have been few scheduled air cargo airlines operating at McAllen over the years and there is little historic data, except for belly cargo. Complicating issues is the lack of available information from other airports nearby, primarily Valley International in Harlingen and Brownsville/South Padre International in Brownsville. A significant new air cargo facility developed at Valley International has resulted in luring freight forwarders and scheduled air cargo carriers to Valley International from Brownsville. Consequently any historic air freight information from Brownsville is no longer useful for trends calculation, except to allocate to Valley International.

3.2.1 Trade between the United States and Mexico

It will be necessary to take a more inclusive look at trade between Texas and Mexico, particularly between Border Texas and Mexico, to determine potential relationships for future air cargo activities at McAllen, providing a share of the Lower Valley's market reasonably exists. As an indication of the kinds of aircraft operations that occur between McAllen and airports in Mexico, Canada, and other international destinations, **Appendix A-1** provides a table of these operations occurring at McAllen from 1990-2003 for scheduled air

passenger and charter carriers, both passenger and cargo operations; baseline 2003 data extends through June only.

For McAllen to be competitive, it is essential that cargo aircraft be able to operate during all times of the year to existing major market destinations nonstop, such as Toronto and Detroit, since the economies of McAllen and the maquiladora industry of Reynosa is heavily oriented toward the auto industry.

The best and primary source of information for trade between the United States and Mexico is the U.S. Department of Commerce (USDOC). The USDOC publishes the Intermodal transportation database provided by the Bureau of Transportation Statistics, which offers air carrier statistics for various airports in the Valley[i]. The database provided origin destination flow data for the Brownsville, McAllen, and Harlingen airport. This origin destination flow data lists cargo according to weight, carrier, and time. However, this data, as mentioned before, is exclusive to scheduled air passenger carriers and reflects belly cargo statistics.

Therefore, it is necessary to investigate other sources of U.S. agency data to provide a means of determining potential air cargo flow data to airports in the Valley. Data provided by the Texas Center for Border Economic and Enterprise Development[ii] is most helpful to understanding cargo demand to the Texas Border region and McAllen.

Trade flow data lists the top 25 imports from Mexico and top 25 exports to Mexico in terms of weight in pounds as well as according to their U.S. Dollar Trade Value for eleven ports of entry into the Texas Border region (see **Appendix A-2** for years 1997-2002).

The purpose for providing these tables is to relate the U.S. Dollar Trade Value by Port of Entry to total tonnage to create a procedure for use in air cargo forecasting, as will be described subsequently. While it is well known that almost all the cargo moves by truck, and the statistics bear this out, a significant proportion of the dollar value is or will be carried by air. Air cargo, by its nature, is high value and increasingly Just-In-Time oriented.

Trade between the United States and Mexico has been steadily increasing since the passage of the North American Free Trade Agreement (NAFTA) in 1994. In addition, air cargo trade between the United States and Latin America is estimated to be significant in the future:

- U.S.-Mexico trade grew from $60 billion in 1991 to $205 billion in 2000, a 341 percent increase. Texas-Mexico trade during the same period grew from $28 billion to $159 billion, a 568 percent increase. In 2000, the Rioplex Ports of Entry (Hidalgo and Cameron counties primarily) accounted for $25 billion or 12 percent of the U.S. total. This is more trade than Arizona and New Mexico combined (8 percent) and nearly as much as California (14 percent)[iii]. Significantly in 2001, Texas was the leading exporter compared to other important U.S. state economies.

- According to the Federal Highway Administration, the demand of air freight services in Texas between 1998 and 2020 will grow at a 6.8 percent average annual rate. The Latin American Trade and Transportation Study (LATTS) forecasts a 5.9 percent annual

growth rate for the southeastern transportation alliance states (15 states, including Texas), while the Mexican air cargo market is expected to grow at an average rate to 7 percent year rate.

Interestingly the largest non-food industry in Mexico and Latin America is logistics and transportation. This represents between 10 and 12 percent of GDP for Latin America, which is proportionately larger than the United States, i.e., 7-to-8 percent of GDP. Air cargo traffic in Mexico and Latin America is overwhelmingly international in scope with Mexico's manufacturing sector leading demand for time sensitive deliveries. International air cargo is strongest in Mexico where time sensitive components and tools are imported by Mexico's vast maquiladora industry. Mexican and Latin American low-cost assembly can be competitive only if transactions with thousands of component suppliers are efficiently managed through logistics firms optimizing transportation links[iv].

The Rio Grande Valley region was the fastest growing economy in the United States, growing 48.5 percent between 1990-2000 with Texas being the state with largest import and export market to Mexico. There has been a slowing in the exponential growth between the United States and Mexico since NAFTA as a result of competition between China and the maquiladora industry in Mexico for U.S. market share. However, the auto parts industry is expected to continue to grow. This is a primary industry in McAllen and the primary maquiladora industry for Reynosa.

It is well known that the grand majority of all goods carried in this country is by truck, whether it is domestic or foreign. Increasingly in the United States, goods are transported from Asia to Europe through east or west coast ports and then across the United States by truck. Indeed, NAFTA has resulted in a huge increase in trade between the United States, Mexico, and Canada. Similarly, trade between the U.S. and Mexico continues to be dominated by overland transport. **Table 3-8** provides data from the Federal Highway Administration regarding a forecast of existing freight shipments to, from, and within Texas from 1998 through 2020. It is an especially important table as it provides an estimation of the percent of air cargo movement for all points in Texas. While the percent of all cargo carried by air is very small, its value is disproportionately high. In 1998, only .11 percent of total inbound and outbound freight was carried by air; however the value of air freight represented 10.0 percent of the total. By 2010, air freight is forecast to comprise .16 percent of the total tonnage but 11.8 percent of total value. By 2020, air freight is forecast to grow slightly to .17 percent of total tonnage and represent 12.9 percent of total value.

With regard to the Lower Rio Grande Valley in particular, northbound land traffic from Mexico through Brownsville and McAllen international bridges almost tripled during the period from 1994 to 2001, while southbound traffic remained the same or decreased during the same period. This trend is indicative of the increasing U.S. bound production of maquiladoras located in Reynosa and Matamoros.

Table 3-8. Freight Shipments To, From, and Within Texas 1998, 2010, and 2020[v]

	Tons (millions)			Value (billions $)		
	1998	**2010**	**2020**	**1998**	**2010**	**2020**
State Total	1,764	2,444	2,990	1,125	2,243	3,673
By Mode						
Air	2	4	5	113	265	472
Highway	1,008	1,483	1,872	841	1,681	2,756
Other [a]	358	424	485	46	65	92
Rail	282	388	473	102	191	295
Water	113	145	155	23	42	12
By Destination/Market						
Domestic	1,258	1,749	2,114	892	1,707	2,720
International	506	694	876	233	536	953

Note: Modal numbers may not add to totals due to rounding.
[a] The "Other" category includes international shipments that moved via pipeline or by an unspecified mode.

As indicated above, the value of goods carried by air is significant compared to its weight. **Table 3-9** shows the trend indicated by the trade flow data for the top 25 imports from Mexico and top 25 exports to Mexico for the U.S. Border Region, i.e., El Paso, Laredo, McAllen, and Brownsville. This table provides information relative to the value of good moving through the Texas Border region.

The eleven border crossings for which data was reported for Texas was summarized in terms of the four border cities and the closest airports to the border crossings; there are five major airports capable of handling cargo crossing the border that will be moved by air. The four border cities and the five airports are: the El Paso area, El Paso International Airport; the Laredo area, Laredo International Airport; the McAllen area, McAllen-Miller International Airport; and, the Brownsville area, Brownsville/South Padre International and Harlingen Valley International Airports.

The following list groups the four border cities (five airports) and the eleven border crossings associated with the cities in terms of proximity to airport:

- The City of McAllen and border crossings of Hidalgo, Progreso, Rio Grande, Roma;
- The City of Brownsville and the border crossing of Brownsville;
- The City of Laredo and border crossings of Laredo, Del Rio and Eagle Pass;
- The City of El Paso and border crossings of El Paso, Fabens, and Presidio.

Laredo continues to dominate the overland transportation cargo market between the U.S. and Mexico. In addition, the Laredo International Airport was the seventh busiest international cargo airport in the nation in the year 2000, with over a million pounds of cargo shipped, a 14 percent increase since 1999[vi]. Laredo's advantage is based on two

Table 3-9

Texas Exports & Imports as Part of U.S. Trade With Mexico, 1997-2002

($000,000)

Port-of-Entry	1997	% Total Market	1998	% Total Market	1999	% Total Market	2000	% Total Market	2001	% Total Market	2002	% Total Market	1997-2002	% Total Market
Brownsville											]			
Export	$2,532	11.8%	$2,080	9.4%	$2,770	11.6%	$3,151	9.8%	$3,142	10.4%	$2,481	8.4%	$16,156	10.1%
Import	$3,171	9.0%	$3,147	8.2%	$3,564	7.8%	$4,177	7.5%	$3,476	6.2%	$3,341	5.9%	$20,876	7.3%
Subtotal	$5,703	10.1%	$5,227	8.6%	$6,334	9.1%	$7,328	8.3%	$6,618	7.7%	$5,822	6.8%	$37,032	8.3%
% Import, Local Market	55.6%		60.2%		56.3%		57.0%		52.5%		57.4%		56.4%	
El Paso														
Export	$4,866	22.7%	$5,515	24.9%	$5,389	22.6%	$7,827	24.2%	$7,299	24.3%	$8,111	27.4%	$39,007	24.5%
Import	$9,540	27.2%	$12,118	31.5%	$13,286	29.1%	$15,798	28.4%	$16,295	29.0%	$16,609	29.5%	$83,646	29.1%
Subtotal	$14,406	25.5%	$17,633	29.1%	$18,675	26.9%	$23,625	26.9%	$23,594	27.4%	$24,720	28.8%	$122,653	27.5%
% Import, Local Market	66.2%		68.7%		71.1%		66.9%		69.1%		67.2%		68.2%	
Laredo														
Export	$12,320	57.4%	$12,607	57.0%	$13,177	55.2%	$18,174	56.3%	$16,821	55.9%	$16,024	54.2%	$89,123	55.9%
Import	$19,041	54.2%	$19,555	50.9%	$25,252	55.3%	$31,239	56.2%	$31,998	57.0%	$32,103	57.0%	$159,188	55.4%
Subtotal	$31,361	55.4%	$32,162	53.1%	$38,429	55.3%	$49,413	56.2%	$48,819	56.6%	$48,127	56.0%	$248,311	55.6%
% Import, Local Market	60.7%		60.8%		65.7%		63.2%		65.5%		66.7%		64.1%	
McAllen														
Export	$1,754	8.2%	$1,924	8.7%	$2,525	10.6%	$3,134	9.7%	$2,808	9.3%	$2,936	9.9%	$15,081	9.5%
Import	$3,364	9.6%	$3,600	9.4%	$3,588	7.9%	$4,383	7.9%	$4,407	7.8%	$4,284	7.6%	$23,626	8.2%
Subtotal	$5,118	9.0%	$5,524	9.1%	$6,113	8.8%	$7,517	8.6%	$7,215	8.4%	$7,220	8.4%	$38,707	8.7%
% Import, Local Market	65.7%		65.2%		58.7%		58.3%		61.1%		59.3%		61.0%	
Texas														
Export	$21,472	100.0%	$22,126	100.0%	$23,861	100.0%	$32,286	100.0%	$30,070	100.0%	$29,552	100.0%	$159,367	100.0%
Import	$35,116	100.0%	$38,420	100.0%	$45,690	100.0%	$55,597	100.0%	$56,176	100.0%	$56,337	100.0%	$287,336	100.0%
Total	$56,588	100.0%	$60,546	100.0%	$69,551	100.0%	$87,883	100.0%	$86,246	100.0%	$85,889	100.0%	$446,703	100.0%
% Import, Local Market	62.1%		63.5%		65.7%		63.3%		65.1%		65.6%		64.3%	

Source: Federal Highway Administration, Office of Freight Management and Operations

factors. First, the need to exchange cargo on the border between U.S. based and Mexican based trucks prior to crossing into the other country; and second, the large volume of transport moving through Laredo creates more flexible and lower priced interconnection options (transferring cargo from U.S. to Mexican trucks) than either Brownsville and McAllen. This trend will continue until NAFTA-related changes permit the cargo exchange to occur at places other than at the Border (for example, San Antonio or Houston), or for the same truck to go from source in Mexico to its destination in the United States without the need to transfer the cargo.

3.2.2 Factors Affecting McAllen's Potential for Air Cargo Growth

There are several other factors that could also affect future increases in air cargo from Texas airports. Some of these are:

- The Lower Rio Grande Valley is the fastest growth area of the United States Border area and McAllen is the fastest growing economy in the Valley. The area has an extremely high birth rate and, combined with the migration of adults from Mexico, jobs are scarce. The area has a booming economy and this trend is expected to continue, although at a slowing rate, through 2020. McAllen area employment is projected to grow at an annual rate of 2.6 percent, highest of the three Border areas of Texas (here, Brownsville is included as part of the Lower Rio Grande Valley) and 0.75 percent greater than Texas' overall anticipated employment growth rate over the period. The State of Texas forecasts that transportation and business services, linked to growing trade, will each grow at an annual rate of 4 percent[vii].

- According to the United States Census Bureau, the McAllen-Edinburg-Mission Metropolitan Statistical Area (MSA) was the fourth fastest growing area in the nation during the 1990's; the adjacent Brownsville-Harlingen-San Benito MSA was the 28th fastest growing area in the country during the same period.

- A number of factors influence the number of Mexican nationals who visit the Rio Grande Valley and where they spend their money. The most important of these factors are NAFTA, monetary exchange rates, growth of the maquiladora industry, Mexico's economy, and the increase of the limit on the amount of goods brought into Mexico which was increased to $400 from $50. Based upon the most recent annual visitor survey reported by the McAllen Chamber of Commerce, the largest percent of Mexican national tourists are from Monterrey (29 percent), Reynosa (23 percent), and Matamoros (15 percent). Shopping was cited by 91 percent of respondents as a reason for being in the Valley followed by 44 percent visiting friends or relatives (multiple responses were possible). The average expenditure per Mexican household per year in the valley was estimated at approximately $3,438, down from previous years[viii].

- The McAllen-Edinburg-Mission MSA benefits greatly from the maquiladora industry. Highlights of the benefit to the local economy are listed below:[ix]

- Total industry output generated by the greater McAllen manufacturing and maquiladora activity adds up to $4 billion. This is the total value of production generated by all the maquiladora related activities.
- A total of 32,577 jobs are sustained for the McAllen area as a result of the greater McAllen manufacturing and maquiladora activity.
- The value-added impact is $2 billion. This includes employee compensation, proprietor income, other property income, and indirect business taxes.
- The tax impact shows that a total of $436.6 million is generated in federal, state, and local taxes.

- McAllen is very aggressive at taking advantage of the momentum the community has in terms of its economic boom and the continuing strengthening of relationships between the maquiladora industries on both sides of the border. International business development was the topic of an interview with Keith Patridge, Executive Vice President of the McAllen Economic Development Corporation (MEDC). Mr. Patridge stated that the MEDC continues an ongoing dialogue with almost 3,000 companies worldwide and is involved in significant discussions with 50 or more at any time. The average number of new companies that build new locations, expand existing locations, or relocate to McAllen each year is in a range of 25-30. The interview discussion centered upon both McAllen's domestic and international market pursuits. It is important to note that many of the communities in which McAllen markets itself, and from which there are inquiries, are domestic and international communities that have a key stake in the auto industry.

The lists below are presented in terms of rank order of the number of corporations expressing a potential interest in McAllen; more than one community listed within a group indicates a virtual tie in the number of corporate inquiries from those communities.

- Domestic Corporate interest:
  - Texas (Dallas/Fort Worth, Houston, Austin and San Antonio) and Chicago, Illinois;
  - California (Los Angeles and San Jose), Indianapolis, Indiana, and Detroit, Michigan;
  - New York City;
  - Ohio (Cleveland, Columbus, and Cincinnati);
  - Florida (Miami and Orlando) and Milwaukee, Wisconsin;
  - Northeastern New Jersey;
  - Nashville, Tennessee;
  - Missouri (St. Louis and Kansas City);
  - Atlanta, Georgia;
  - Pennsylvania (Philadelphia and Pittsburgh);
  - Denver, Colorado;
  - Boston, Massachusetts;
  - Iowa (Des Moines and Davenport);

  - Kansas, Kentucky, North Carolina, Oklahoma and South Carolina;
  - Alabama and Virginia

- International corporate interests:
  - Mexico City, Mexico;
  - Toronto, Ontario;
  - Japan;
  - Germany and China;
  - United Kingdom;
  - Taiwan and Finland; and,
  - Korea, Alberta, Philippines, and Italy.

- A boost can be anticipated for McAllen's economy from existing economic development plans for the maquiladora industry, petroleum, and manufacturing center in Tamaulipas and Nuevo Leon. Since NAFTA was implemented in 1994 and through March 2000, Mexico's maquiladora industry has been the most dynamic sector of the Mexican economy, adding 1,400 new plants and creating about 640,000 new jobs—increases of 68 percent and 110 percent, respectively, during this period[x]. Total maquiladora production was projected to reach $83 billion in 2000, with about $66 billion, or 80 percent generated by the border maquiladoras[xi]. In 1999, about 61 percent of the maquiladoras were located along the U.S.-Mexico border and 39 percent in interior Mexico. Most of the border maquiladoras are located in the cities of Tijuana (764), Mexicali (190), Juárez (331), Reynosa (115), and Matamoros (139). These maquiladoras employed more than 600,000 in March 2000[xii].

  The almost 600 maquiladoras located in cities along the Texas-Mexico border employed 375,000 in March 2000. Total production in 2000 reached $49 billion for maquiladoras located in Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas[xiii]. It is interesting to note that some new maquiladoras have started to locate in the interior of Mexico due to traffic congestion in the northern border cities[xiv]. The principal maquiladora industry sectors in these Border States are electrical machinery, electronics, apparel, and auto parts[xv].

  Maquiladora-related businesses on both sides of the border are being advised to continue manufacturing auto parts, but to stay away from apparel and electronic merchandise production[xvi]. Economic development leaders warned that the maquiladora industry in Mexico has lost about 200,000 jobs due to direct competition from China. (This accounts for the relatively slow growth in the future projections of air cargo for the period 2010-2020, as compared to the period 2000-2010.) From 2001 to present, Mexican imports to the United States climbed from $130 billion to $134 billion. Imports from China to the U.S. increased from $102 billion to $124 billion in the same time period. However, when compared to all of the major maquila centers in Mexico, the city of Reynosa has proved to be a success story.

As a consequence of Chinese competition, the Reynosa border maquila centers recognize that they need to rely increasingly on Just-In-Time logistics (lower inventory levels and less slack production capacity) in order to maintain or reach higher competitive levels and have made strategic adjustments to do so. This strategy will create a greater dependence on flexible, reliable and more comprehensive transportation services, including air freight services. Additionally, anticipated border and land transportation facilities congestion anticipated to occur in the coming years will also increase the demand for package and air freight services.

The Instituto Nacional de Estadistica Geografia e Informatica reported in 2003 that Reynosa is the leading city in maquiladora job growth of the of the five manufacturing cities along the Mexican border, compared to Juarez, Matamoros, Nuevo Laredo, and Piedras Negras.

In 1989, there were 17 maquiladora plants owned by American companies operating in Reynosa today, that number is 185 and growing. Some of the more well-known U.S. based companies are: Lucent Technologies, R.R. Donnelly & Sons, Eaton Corporation, Kimball Electronics, Delphi Automated Systems, Emerson Electric Company, General Electric, Hoffman Engineering, Converse, Johnson Controls, TRW, West Bend, Whirlpool, Zenith, Black and Decker, Siecor Corporation, and Vanity Fair[xvii]. Typically the more labor-intensive, lower skill work is performed by maquiladoras on the Mexican side of the border and the work requiring more skilled labor occurs on the U.S. side. In McAllen's case, most products manufactured in Reynosa are returned to McAllen for assembly and distribution. In addition, administration of maquiladora operations is usually performed from the U.S. side as well[xviii].

- Development plans for Mexican Airports along the border could have the effect of reducing potential air lift from U.S. airports. According to the Tamaulipas State Government's Department of Industry, Commerce and Infrastructure, several Tamaulipas airports are planning future expansion. These cities are Matamoros, Reynosa, Ciudad Victoria, and Nuevo Laredo. Discussion of expansion plans for the Matamoros, Nuevo Laredo, and Ciudad Victoria airports were determined in interviews with the Tamaulipas State Government[xix].

  - It is important to note that Reynosa's airport, the General Lucio Blanco-Reynosa International Airport, is not operated by the Aeropuertos y Servicios Auxiliares (ASA), Mexico's counterpart agency to the Federal Aviation Administration, but rather by *Grupo Aeroportuario Centro - Norte (OMA).* Several years ago, Mexico established a series of airport concession groups for purposes of offering them to large international consortia to operate providing that each consortium maintain the facilities according to their contract as well as provide ASA with guaranteed revenues. This is also the same operator who has the concession for

Monterrey's airport. Monterrey is Mexico's third largest city with a population of approximately 3.7 million.

There are specific plans for airport expansion in the near future in terms of establishment of air cargo buildings. According to Mr. Ruben Arena, a Reynosa airport operations representative, the runway is prepared to handle three (3) 727 cargo planes per hour. Mr. Arena also verified that the airport will be considered a "recinto fiscalizdo" or Foreign Trade Zone (FTZ). Within an FTZ, fees would only apply when merchandise or goods are removed from the airport. A new air cargo terminal building facility was scheduled to become operational in April 2004. The current runway length at Reynosa International is 6,200 feet long. However at this writing, there are no known plans for runway extension.

- The Tamaulipas government itself is proposing a $50 million public private investment venture with another consortia, *Grupo Aeroportuario ASA Corporativo*" for the development of Matamoros, Nuevo Laredo and Ciudad Victoria airports into multimodal passenger and freight terminals. If this project becomes a reality, it is estimated that together, these airports would handle 89,000 tons of air cargo within the next three years. These projects have not yet been authorized by ASA despite political pressure from the Tamaulipas government. At the same time, the Tamaulipas State Government is also negotiating the transition of these airports from federal to state jurisdiction, ostensibly to gain more control over the timing and funding of future improvements.

- Major Highway Development Plans in the United States. Facilitating future linkages between the United States, Mexico, and Canada is the future I-69 corridor (NAFTA Highway) that will pass through the McAllen/Rio Grande Valley area. The points of entry that will be connected to I-69 handle 48 percent of the freight moved by truck to Mexico, and will stimulate the already dynamic growth of the Rio Grande Valley to what promises to be the new center of international trade and commerce in the NAFTA Region. The following graphic provides an illustration of the proposed I-69 corridor from Mexico to Canada.

- Major highway development plans in Mexico have the impact of reducing the travel time from production to delivery. A press statement issued by the Tamaulipas State Government on September 22, 2003 reported on the completion of the Juan Capitan – El Chihue Highway (Carretera Serrana). This Mexican interstate highway links Matamoros to San Luis Potosi via Ciudad Victoria. The highway connects with (future) Interstate 69 at the Los Tomates Bridge in Brownsville. This highway will create a parallel transportation route to the existing Reynosa/Monterrey/Mexico City option, and will be significantly more efficient than the existing Matamoros/Ciudad Victoria/Mexico City route[xx].

  Such developments add further justification for the trend that has been witnessed during the preparation of these forecasts, i.e., the increasingly identifiable economic relationships that exist between U.S. border cities and their Mexican counterparts. The Federal Bank of Dallas proposes a definition for the "Border City" which it defines as "those Texas Cities that have a corresponding sister city in Mexico." Texas Border Cities that meet the Federal Reserve Bank's definition and their corresponding sister cities are: McAllen and Reynosa; Brownsville and Matamoros; Del Rio and Ciudad Acuña; Eagle Pass and Piedras Negras; El Paso and Juarez; and, Laredo and Nuevo Laredo[xxi]. These border city pairs share three dominant factors that tend to integrate both their economies and their infrastructures, which are:

  - A large transportation and distribution sector serving international traffic;
  - A retail sector inflated by serving two cities; and,

- A government sector swollen by border enforcement and by public programs that address the high poverty levels.

- Certainly the primary factor affecting short-term air freight services in the Lower Rio Grande Valley today is the emergence of the freight forwarding facilities at the Harlingen-Valley International Airport. The attraction of freight forwarders to Harlingen and the construction of new facilities at the airport have resulted in the relocation of scheduled air cargo carriers serving the local Matamoros-Reynosa maquiladora industry from the Brownsville/South Padre Island International Airport to Harlingen to take advantage of the centralized location between McAllen/Reynosa and Brownsville/Matamoros. Harlingen, while centrally located between McAllen and Brownsville, is located approximately 45 minutes north of the border from either of the two.

- With recent economic downturns in both the United States and Mexico and the maquiladora industry being affected by lower cost production in Asia, there has been a noticeable decline in the cargo movement, in both directions, for both McAllen and Brownsville city pairs. However, the maquiladora industry in Reynosa has been less affected than that in Matamoros as a result of greater diversification and its more high tech oriented natures. Consequently, the decline has been more precipitous for the city pair of Brownsville/Matamoros than for McAllen/Reynosa.

- No doubt in today's era of border awareness, the consequence of the existing trade agreements between the United States and Mexico is an issue. A report titled "*NAFTA and the Lower Rio Grande Valley of Texas: Measuring Impacts* provides a rough analysis of the various components making up free trade in the Lower Rio Grande Valley[xxii]. Certain findings mentioned in the report are limited due to the few years that NAFTA has been in operation. However, the report does provide an insight into how NAFTA is beginning to impact U.S./Mexico trade, particularly in the transportation services sector. Specific findings include:
  - It is expected that transportation service providers will be challenged by a new set of market conditions including[xxiii]:
    - Increased demand for reliable, flexible, cost-effective, timely, and visible door-to-door freight services.
    - Just-In-Time lower inventory levels and less slack production capacity creating greater dependence on transportation services, thereby increasing demand for package and airfreight services.
    - Simultaneous increase in robustness and fragility of logistics and transportation systems, which will lead to increasing freight traffic and congestion along trade corridors and at ports, airports, and border crossings.

  - These new market conditions will present future challenges for logistics services providers including:

- The need to provide better freight services with added complexity in an insecure and uncertain global environment.
- High expectations and investment in information technology (IT) and Intelligent transportation systems (ITS) for scheduling, routing, dispatching, highway and traffic management, shipment tracing, and stowage and terminal management.
- Expectations of highway congestion problems worsening, especially regarding landside access to ports and terminals.
- Insufficient rail and intermodal terminal capacity.
- Challenges regarding public and private financing of system maintenance and new capacity.

- Another factor in the increasing economic strength of the McAllen/Reynosa border region is the Burgos Basin project, a priority mega-project for Petroleos Mexicanos (PEMEX) to meet the demand of natural gas in northeast Mexico. The basin is located on 12.4 million acres (over 19,000 square miles or 50,000 square kilometers) extending over portions of north Tamaulipas, Nuevo Leon and Coahuila. Sixty percent of this basin is located in Tamaulipas and the project is expected to bring thousands of new direct and indirect jobs to Tamaulipas, Coahuila, Nuevo León, and the border region during 2004-2006. Due to the proximity of the City of Reynosa to the refinery location, Reynosa is expected to receive a significant economic boost from this project. Anticipated Mexican federal and state government investment is estimated to be $20 billion U.S. dollars. Such a project could provide great market opportunities for both the passenger and freight services for the Reynosa/McAllen region.

- NAFTA is making an important contribution to the expansion of U.S. agricultural trade with Canada and Mexico. For some commodities as beef, dairy products, and fruits, the agreement is boosting exports and imports substantially above levels that would have occurred without the agreement. Agricultural trade with Canada and Mexico increased from 25 percent of agricultural imports in 1990 to 34 percent in 1999 and from 17 percent of agricultural exports in 1990 to 26 percent in 1999. Fruits and vegetables have increased particularly as a result of NAFTA but development of this trade is also due to other factors, such as changing consumer preferences, U.S demand, adverse weather conditions, and fluctuations in Mexican and Canadian currencies[xxiv].

- Foreign Trade Zones (FTZ) are granted by the U.S. government for the purpose of facilitating trade and increasing the global competitiveness of U.S.-based companies. FTZs enable companies to defer duty payments, and in the process, results in reducing costs through lower U.S. Customs fees, banking, insurance, and other fees. Established in 1965 as one of the first FTZs, McAllen is administered by the McAllen Economic Development District (MEDC) and is located several miles southwest of the airport (see also, **Chapter 2: Inventory**). The FTZ has over 600,000 square feet of rail-accessed warehouse space with long and short-term leases available.

3.2.3. Existing Air Cargo

3.2.3.1 Belly Cargo

Table 3-10 provides an historic analysis of McAllen belly cargo as provided by U.S.DOT reports and Airport records for a 10-year period, 1994-2003. Data for outbound charter air cargo for baseline year 2003 was derived from tenant interviews. Total air cargo has dropped dramatically since 1997, the peak year for air cargo tonnage and still remains at about 2001 levels.

3.2.3.2 On Demand Cargo

Interviews during the master plan process with on demand air cargo freight forwarder and air cargo carriers estimated that 95 percent or more of cargo moved from McAllen is generated by maquiladora industries. Approximately 80 percent of the cargo is related in some form with finished auto products. Of the total related to auto products, approximately 75 percent of the cargo moved was to replenish Just-In-Time inventories.

Table 3-11 provides an estimation of the on-demand cargo handled by freight forwarders at McAllen for 2003 as determined through interviews. This table provides numbers of operations and weight carried by aircraft type. There was a consensus among those interviewed that year 2003 was not as good as previous years, as evidenced on **Table 3-10**. In 2003, approximately 1,000 tons or 2,000,000 pounds of on-demand outbound air cargo moved through McAllen and was handled by freight forwarders at the airport.

Table 3-11
On-Demand Air Cargo 2003
Outbound Air Cargo Only

Aircraft	Total Takeoffs	Total Weight (Pounds)	Total Weight (Tons)
Falcon-20	130	313,368	157
Lear 60	144	158,617	79
Lear 25	130	390,000	195
DC-9	102	844,358	422
DC-6	4	68,400	34
Convair	20	80,636	40
B-737	7	151,886	76
Total Operations	537	2,007,265	1,004

Tenant interviews identified a series of anecdotal circumstances that underscore the importance of lack of runway length or inability to handle demand that constrains air cargo handling at McAllen. Excerpts of these circumstances follow:

Table 3-10

Historic Belly and On-Demand Air Cargo

Tons (1)

	Belly Freight			Belly Mail			Total Belly	Scheduled/Charter(2)			Total Cargo		
Year	Inbound	Outbound	Total	Inbound	Outbound	Total		Inbound	Outbound	Total	Inbound	Outbound	Total
1994	864	622	1,486	40	696	736	2,222	458	459	917	1,361	1,778	3,139
1995	768	527	1,295	41	812	853	2,148	417	251	668	1,225	1,591	2,816
1996	836	543	1,379	43	978	1,021	2,399	1,563	1,011	2,574	2,442	2,532	4,973
1997	984	390	1,374	81	1,010	1,091	2,465	2,066	1,391	3,457	3,131	2,792	5,923
1998	899	778	1,677	56	960	1,016	2,693	1,625	916	2,541	2,580	2,654	5,234
1999	1,104	951	2,056	48	901	949	3,005	1,037	930	1,967	2,189	2,783	4,972
2000	1,049	768	1,816	51	912	963	2,779	2,497	430	2,928	3,597	2,110	5,707
2001	840	515	1,354	35	839	874	2,228	733	579	1,312	1,607	1,933	3,540
2002	834	641	1,475	14	457	472	1,947	249	1,009	1,258	1,098	2,107	3,205
2003	880	809	1,689	12	426	438	2,127	251	1,004	1,255	1,143	2,239	3,382

Source: Airport Records

Notes

(1)All numbers are round to nearest ton.

(2)Scheduled/Charter for 2003 Outbound is Charter only as was determined from interviews with freight forwarders. Inbound Scheduled/Charter estimated assuming same percentage for total as 2002, i.e., 20% of total.

- In general, headways to move JIT products have decreased as a result of increased border security since 9/11/01. Before 9/11, forwarders estimated an average time of 30 minutes to move goods through U.S. customs at the border as opposed to 90 minutes today. There is now a 10 percent mandatory check requirement for all packages, e.g., 30 boxes if the shipment contains 300 boxes. The additional time has resulted in missing the "local" (i.e., McAllen) window for shipments.

- In instances where the largest shipments are handled, often a forwarder must consider use of more than one aircraft due to a combination of offloading constraints due to a combination of lack of runway length, temperature and desired non-stop haul distance. One forwarder cited a shipment requiring a DC-8 loaded to near capacity. Due to circumstances, more than one aircraft, a B-737 and a DC-8, was required to move the shipment from McAllen. Rather than commissioning two aircraft to McAllen, the shipment was taken directly to Harlingen and handled by one DC-8 operation.

- Another forwarder's example related the need for multiple aircraft to handle an emergency time situation created by the extra time it took to clear a shipment of JIT auto parts by U.S. customs. Due to a complete shipment security check, the order had been delayed at the border for more than 24 hours. The window of opportunity to move the shipment destined for Detroit had narrowed to 6 hours. Penalties associated with late delivery were $150,000 per minute. Accordingly, the lease cost of the aircraft was not an issue. The size of the delivery required a DC-8. Again due to runway constraints at McAllen, two aircraft would have been required, a DC-8 and a B-737. The difference in time between McAllen and Harlingen of approximately 45 minutes was weighed against the risk associated of not being able to get two aircraft in time to meet the deadline for the complete delivery. Ultimately, the decision was made to take the additional time to truck the delivery to Harlingen to load the full shipment on one aircraft enroute to Detroit.

- Quality control for automobile parts is so severe that one defect of one item will negate the entire shipment. Consequently, less handling and less time enroute results in fewer opportunities for defects. One forwarder commented that he is not willing to invest in equipment to better handle larger shipments because of runway constraints. The example given had to do with investing in a K-loader, a large piece of equipment that lifts air cargo containers off-loaded from trucks up to an aircraft's cargo doors or vice versa. If circumstances existed that there was the opportunity to move larger shipments on a continuous basis throughout the year, it would be worth the investment.

- One freight forwarder noted that on certain days that a fully loaded Falcon jet had offloading penalties associated with it if its destination was east of Little Rock, Arkansas.

- Several agricultural product examples were noted. For example, there have been inquires regarding moving okra from McAllen to Japan as opposed to trucking it to Houston and moving it from there. The additional time that it takes to truck goods to Houston was cited as an issue that substantially increased the per pound cost of perishables. One freight forwarder discussed the potential for flying fruit on a weekly basis to Toronto or, potentially to Germany.

- A charter carrier investigating the potential for DC-8 operations to Toronto provided the following example. Each trip to Toronto (1,448 nautical miles or 1,645 statute miles) would cost $90,000. Due to the existing runway length at McAllen, the aircraft (a DC-8) could carry 71,000 pounds versus the 104,000 pound cargo configuration being investigated. The smaller capacity results in a cost per pound of produce of $1.27 as opposed to $.87 per pound at the higher capacity. Consequently, the company is considering flying from Harlingen or even Laredo.

- Similarly, JIT imports from Germany are not feasible unless there was the opportunity to land in McAllen. The additional time that it takes to truck from Houston after an 8-24 hour partial customs at Houston and then clearing customs in McAllen results in an unacceptable 36-48 hour time frame.

- One freight forwarder noted that the majority of JIT cargo carried by Emery and Burlington in the last five years from Brownsville was actually generated in the McAllen/Reynosa area.

- One freight forwarder commented that finding belly cargo space was not always possible. On one particular day, there was no space available for one parcel weighing only nine pounds.

3.2.4 Summary of Significant Points Relative to the Potential McAllen Air Cargo Market

The three main drivers of the Texas air freight market are: Just-in-Time logistics of the Reynosa-Matamoros maquiladora industry, petrochemical exploration and industry expansion from the Burgos Basin project, and increasing NAFTA-related trade and associated indirect impacts. Consequently, the McAllen air cargo freight market will continue to be regional in nature and limited to meeting the cargo needs of the immediate border area. Nevertheless, this is a most significant market and one which would place McAllen as a major player in United States air cargo. The magnitude of the potential market for Texas from El Paso, Laredo, McAllen and Brownsville/Harlingen is so significant as to warrant facilities at each location; these already exist at El Paso, Laredo, and Harlingen.

The following points summarize the positive and negative factors associated with McAllen's potential for air cargo growth.

On the positive side are the following points:

1) The Lower Rio Grande Valley is the fastest growth area of the United States Border area and McAllen is the fastest growing economy in the Valley. The McAllen-Edinburg-Mission Metropolitan Statistical Area (MSA) was the fourth fastest growing area in the nation during the 1990's.

2) The McAllen-Edinburg-Mission MSA benefits greatly from the maquiladora industry and, as a result, the economies of McAllen and Reynosa are becoming more and more integrated. The continuing emergence of McAllen/Reynosa as a "Border City" is considerably larger than the Brownsville, Harlingen and Matamoros market and is more diversified.

3) McAllen is very aggressive at taking advantage of the momentum the community has in terms of its economic boom and the continuing strengthening of relationships between the maquiladora industries on both sides of the border. At any given time, more than 50 businesses from throughout the United States, Canada, Europe, and Asia are considering McAllen as a place to build a new business, expand an existing business or relocate their business.

4) The McAllen business community recognizes that much of the maquiladora industry of the McAllen/Reynosa market is auto product and JIT oriented. Consequently, the domestic and international business focus is with communities that are auto-oriented, such as Detroit, Toronto, Windsor, Mexico City, Queretaro, Nashville, Greenville (SC), Birmingham (AL), Japan, and Germany.

5) Economic projections have already factored in the impact of increasing competition with China. Reynosa border maquila centers recognize that they need to rely increasingly on Just-In-Time logistics (lower inventory levels and less slack production capacity) in order to maintain or reach higher competitive levels and have made strategic adjustments to do so.

6) Due to the proximity of Reynosa to the refinery location, the estimated $20 billion Burgos Basin natural gas or oil project is anticipated to generate significant construction and exploration related jobs, as well as significant air freight and passenger related demands during 2004-2006.

7) NAFTA is making an important contribution to the expansion of U.S. agricultural trade with Canada and Mexico. Already there is evidence that a market for fruit and vegetables to Canada and, potentially, Europe is being investigated.

8) The McAllen-Reynosa area has an active Foreign Trade Zone, FTZ#12 of 260 granted by the U.S. government, which has 600,000 square feet of rail-accessed warehouse space is available and in proximity to the McAllen-Miller International Airport.

On the other hand, several important issues that could keep the potential for air cargo growth at McAllen to develop are:

1) The emergence of the freight forwarding facilities at the Harlingen-Valley International Airport.

2) Existing runway constraints to handle cargo at McAllen as well as the current unwillingness of freight forwarders to invest in additional equipment at McAllen that would enable them to handle more cargo.

3) Potential plans for future airport development in Mexico could reduce the potential for air cargo being flown from airports in the United States, and,

4) Issues relative to border security and the apparent U.S. retrenchment from an open border policy will be a continuing issue that could slow the rate of growth forecast for movement of goods between the United States and Mexico for all transportation modes.

In conclusion, the significant growth which has occurred in McAllen/Reynosa over the past decade and forecast to continue over the next decade does have some challenges. On balance, the positives tend to outweigh the negatives in favor of a robust potential for future air cargo growth. Short-term trends for primary air cargo growth at Harlingen is certain but may be counterbalanced by the comparatively greater current and potential growth rates of the Reynosa maquiladora industry vis-à-vis the Matamoros maquiladora industry. In addition, Mexican border airport development is uncertain with issues of priority (concessionaire development of Monterrey versus Reynosa), governance (ASA or Tamaulipas government control of developing Matamoros, Nuevo Laredo and Ciudad Victoria), and funding (availability and timing).

In the long-term, the continued integration of the economies of border city communities could result in an identifiable separation of air service markets that would favor McAllen serving the McAllen/Reynosa market and either Valley International or Brownsville/South Padre International serving the Brownsville/Matamoros market. From the size of the potential air cargo market, separate facilities appear to be warranted.

3.2.5 Air Cargo Forecast for McAllen

This section presents the air cargo forecasts for McAllen. The methodology for deriving a belly air cargo forecast is discussed with the forecast itself, whereas the methodology for deriving the scheduled/on-demand forecast is presented in a separate section.

3.2.5.1 Belly Cargo Forecast

Preparation of a forecast of belly cargo for McAllen used an analysis of air cargo trends over the period 1994-2003. Belly cargo increased from 1994 until 1999 and then began a steady decline, returning to levels around the same as in 1994 by 2003. The belly cargo forecast was developed upon a ratio of passengers per ton carried. Over the ten years,

this ratio fluctuated from a high of 280 passengers per ton carried in 1995 to a low of 207 passengers per ton in 1999, the peak year. The average for the period was 245 passengers per ton carried.

It is assumed that over the forecast period, there will be increases in load factors, fleet adjustments, and a tendency toward an increasing weight of bags per passenger with its corresponding reduction in cargo hold capability available for air cargo. Consequently, the assumed average of 245 passengers per ton carried per year will be increased by 1 percent per year over the course of the forecast period. This assumption causes a decrease in rate of belly cargo tonnage carried as the passenger numbers increase resulting in the forecast presented in **Table 3-12.**

Table 3-12

Belly Cargo Forecast (Tons)

McAllen-Miller International Airport

Year	2009	2014	2019	2024
Passengers	704,000	800,400	903,000	1,021,000
Belly Cargo	2,873	3,114	3,180	3,415

3.2.5.2 Methodology for Preparing a Forecast of Scheduled/On-Demand Air Cargo

The lack of comparable and verifiable air cargo data for Lower Rio Grande Valley's air cargo market necessitates the development of a unique forecast procedure to determine a share of market for McAllen. Due to the nature of a forecast that estimates a market demand based upon facilities that do not currently exist (runway length, in particular), a very conservative approach will be taken.

The primary tenets for estimating a market share for McAllen are:

- Identify the air cargo market between the United States and Mexico;
- Identify what portion of that market would be handled in the Border Region of Texas; and,
- Establish a method to determine what share of the Texas Border market is reasonable for consideration as being potentially served by McAllen.

United States and Mexican Air Market -- A detailed study of Latin American trade and transportation included trade forecasts between the United States and Mexico and primary countries in Latin America[xxv]. This study identified metric tonnage forecasts for products for the baseline year of 1996 plus forecasts for 2010 and 2020. Importantly, the study also identified the air cargo portion, as identified in **Table 3-13.**

Table 3-13
Forecast of Export and Import Cargo Tonnage
United States and Mexico (000)

	1996		2010		2020	
	Air Cargo Tons	**Total Cargo**	**Air Cargo Tons**	**Total Cargo**	**Air Cargo Tons**	**Total Cargo**
Export	180	56,880	820	145,290	1,760	236,630
Import	370	108,390	840	209,360	1,700	314,520
Total	550	165,270	1,660	354,650	3,460	551,150

Source: Latin American Trade & Transportation Study (LATTS), Wilbur Smith Associates

Value of Trade Between the Texas and Mexican Border Market -- In 2000, the U.S. Department of Transportation Bureau of Transportation Statistics reported that $159 billion of the $205 billion trade between the United States and Mexico occurs with Texas, which is 77.6 percent. Using statistics from the Texas Center for Border Economic and Enterprise Development also for the year 2000, it was determined that the value of trade between the Texas Border region and Mexico is $94 billion, which is 59 percent of Texas and 46 percent of United States trade with Mexico.

These forecasts will assume that the value of trade between the Texas Border region will remain at approximately 46 percent of the U.S. total. Given the considerable growth that has occurred since 1994 and is forecast to continue, this is considered to be a conservative assumption.

Relating Trade Value and Cargo Weight -- Also for purposes of these forecasts, it will be assumed that there is a 1:1 ratio between value and cargo. Of course, this is not true since there are widely varying values between products and often bulk products are pennies per pound whereas some products are thousands of dollars per ounce. Nevertheless, this assumption will be used as a surrogate to correlate the 46% of the value of goods that moves between the U.S. and the Texas Border region as referring to 46% of the air cargo.

For example, in terms of these forecasts, if 50 percent of the value of cargo at Texas Border crossings is at Laredo, then 50 percent of the Texas Border air cargo generated would be flown through Laredo. Because of JIT nature of air cargo, it could be said that a larger percentage of the cargo generated by the maquiladora industry at Reynosa is JIT relative to the other Texas Border markets which could indicate that a larger percentage of the portion of the value of cargo trucked across the border at McAllen is air cargo and potentially able to be flown from McAllen. If this is true, then the base assumption for McAllen that the value of the cargo trucked is similar to the proportion of air cargo generated by the maquiladora industry would be conservative. However, this cannot be verified.

Table 3-13 presents the forecast of air cargo with the United States and Mexico for years 1996, 2010, and 2020, as reported by LATTS. **Table 3-14** and **Table 3-15** provides a forecast of air cargo to the Texas Border region assuming 46% of the total (**Table 3-14**)

and recasts those numbers in terms of the master plan scenario years of 2009, 2014 and 2024 (**Table 3-15**).

Table 3-14
Estimate of the Texas Border Air Cargo Market
(Tons)

	1996	2010	2020
Export	82,800	377,200	809,600
Import	170,200	386,400	782,000
Total	253,000	763,600	1,591,600

Table 3-15
Estimate of the Texas Border Air Cargo Market
Recast in MFE Master Plan Horizon Years
(Tons)

	2009	2014	2024
Export	356,200	550,000	983,000
Import	371,000	544,600	940,000
Total	727,200	1,094,600	1,923,000

McAllen's Share of the Texas Border Region Air Cargo Market -- A conservative approach also is taken relative to identifying the potential air cargo market share for McAllen of the Texas Border region. Based upon analysis of the value of cargo tonnage for the top 25 products crossing the border in the past 5 years (1997-2002) presented on **Table 3-9**, approximately 8.7 percent of the total value of Texas Border cargo crossed at McAllen, whereas 8.3 percent crossed at Brownsville. In 1997, Brownsville/Matamoros accounted for 10.1 percent and McAllen/Reynosa accounted for 9.0 percent. McAllen/Reynosa surpassed Brownsville/Matamoros for the first time in 1998. For Brownsville/Matamoros, the 5-year average of 8.3 percent is a little misleading since the value of shipments in 1997 and 1998 skewed the average for the period higher than the trend. From 1999 to 2002, Brownsville/Matamoros shipment values declined by 1.8 percent of total (8.6 percent to 6.8 percent) whereas the McAllen/Reynosa market decline by a much smaller percentage, 0.7 percent (9.1 percent to 8.4 percent)

To develop a range of forecast scenarios, the potential air cargo market for McAllen was evaluated both in terms of value of total air cargo (import and export) as well as export only. As mentioned, approximately 8.7 percent of the value of the total Border Texas cargo crossed the border at McAllen locations over the period 1997-2002. However, if one develops a regression analysis to extrapolate the trend of value of McAllen to total Border Texas import cargo value over the 20-year forecast period based upon market estimates for Border Texas in **Table 3-9**, the proportion of cargo value imported at McAllen locations decreases to 5.8 percent by 2020 (see **Table 3-16)**[xxvi].

Therefore it is this range that will be used to prepare scenario air cargo forecasts for McAllen– a high range of 8.7 percent of market (the proportion of McAllen value to total

Border Texas cargo value between 1997 and 2002); a low range of 5.8 percent of market (extrapolated McAllen import value to total Texas Border import value in 2024); and an average, or mid-range scenario percentage of 7.25 percent.

Section 3.2.5.3 presents the air cargo forecast for McAllen developed from the methodology described above.

Table 3-16
Regression of Texas Import Market
Comparison of McAllen to Texas Border
(Millions)

Import Year	McAllen	Texas Border	Percent
Actual			
1997	$3,364	$35,116	9.6%
1998	$3,600	$38,420	9.4%
1999	$3,588	$45,690	7.9%
2000	$4,383	$55,597	7.9%
2001	$4,407	$56,176	7.8%
Regression			
2024	$11,000	$190,000	5.8%

3.2.5.3 Forecast of Future Scheduled and On-Demand Air Cargo

At each step of the process, a conservative approach is taken to prepare an air cargo forecast for McAllen, taking into consideration the large, existing air cargo market between the United States and Mexico, and particularly the Texas Border region. Key factors in support of substantial growth in air cargo at McAllen are based upon the market analysis presented in this section, in particular:

- McAllen's MSA population growth is the fastest in Texas and the fastest in the Border region. Hidalgo County will have a population of more than 1,000,000 by 2020;

- McAllen is the second largest metropolitan area along the U.S. Border region in Texas to El Paso;

- McAllen's economy is, in part, associated with its sister city of Reynosa. Reynosa is the largest city in Mexico along the U.S. border with a current population of approximately 1.2 million[xxvii].

- The McAllen/Reynosa economy is robust and Reynosa is the most robust of the Border cities in Mexico.

- The City of McAllen has focused upon allying itself with the automobile industry and its associated maquiladora industry. The Chamber of Commerce and the McAllen Economic Development Commission aggressively seeks domestic and

international business ties, expansions or business relocations with cities that are automobile manufacturing oriented.

- A significant proportion of the cargo produced by the McAllen/Reynosa market is Just-in-Time oriented.

It is recognized that there is neither the runway length nor the full ground handling facilities in place to handle a burgeoning air cargo, if demand for the McAllen air cargo market potential immediately came into existence. Consequently, the following assumptions are made regarding accommodating the potential market over the forecast period:

- A runway extension of at least 1,700 feet (total approximately 8,500 usable feet) is in existence by 2009 or is well underway. Since the forecast air cargo potential is many times the amount handled by McAllen today, there would be anticipated a ramping up of the ability of the airport to handle a large air cargo operation. It is assumed that approximately 30 percent of the potential air cargo market for McAllen would be handled by McAllen in 2009. In other words, the three scenarios assume 30 percent of the range of 8.5 percent of total air cargo market for the Texas Border region (high), 7.25 percent (medium) or 5.8 percent (low).

- The runway extension is operational and cargo handling facilities are in place with the potential for increasing both the runway length and the ground facilities by 2014. At that time, it is assumed that the operation would have ramped up to serve approximately 65 percent of the potential air cargo market for McAllen would be handled by McAllen;

- A runway length of 10,000 feet and cargo handling facilities would be in place by the end of the planning period to enable McAllen to handle 100 percent of its potential air cargo market; and,

- All aircraft are assumed to be fully loaded with load factors of 90 percent, plus or minus. For initial operations of B-767-300 aircraft in 2014, a 90 percent load factor is not assumed as off-loading penalties are assumed to exist due to the potential for high temperatures and a runway length of 8,500 feet.

Table 3-17 provides the recommended low range air cargo tonnage forecast scenario and operations by aircraft type based upon forecast assumptions. **Appendix A-3** contains more detail cargo tonnage and operation forecasts for on-demand and scheduled air cargo, by scenario (low, medium, and high), and by aircraft type, including assumptions about scheduled frequency of operations. **Table 3-17** is the low scenario forecast and was selected because there is no scheduled air cargo activity today. Therefore, an emerging air cargo forecast market that develops from a near zero base to a substantial air cargo airport should begin with the low estimate until measurable air cargo trends are established.

Table 3-17
McAllen Air Cargo Forecast

Aircraft	2009 Frequency	2009 Operations	2009 Tonnage	2014 Frequency	2014 Operations	2014 Tonnage	2024 Frequency	2024 Operations	2024 Tonnage
B-757-200	3/week	312	3,861	1/day	520	6,435	3/day	1,560	19,305
DC9-15F	2/week	208	782						
DC-8	1/week	104	2,551						
DC-10-10F	1/month	24	518						
B-727-200	1/week	104	854						
B-737-700	2/week	208	1,872	3/day	1,560	14,040	6/day	3,120	28,080
Falcon 20	1/day	520	725	2/day	1,040	1,451	4/day	2,080	2,902
Fokker 27	1/day	520	1,217	2.4/day	1,248	2,920	4/day	2,080	4,867
A-300				5/month	120	2,457	1/day	520	10,647
B-767-300				1/day	520	12,051	2/day	1,040	24,102
MD-11				2/month	48	1,939	1/day	520	21,008
Total		2,000	12,380		5,056	41,300		10,920	110,900

3.3 GENERAL AVIATION FORECAST

This section of the report presents the aviation activity forecasts for the McAllen-Miller International Airport for general aviation and military activity. The forecast provides several ranges of potential activity as well as several alternative forecasts. These are provided for purposes of developing alternative planning scenarios.

The basic premise for developing general aviation forecasts is that aviation activity correlates well to the socio-economic characteristics of a community. For the purposes of these McAllen forecasts, the main focus will be on the regional economy and to a lesser extent the national economy, which will be discussed first.

3.3.1 General Aviation Trends Analysis

An analysis of national trends in general aviation is important to understanding the context in which all airports in the U.S. operate. An improving national economy creates varying opportunities for increased business in regions and individual communities, depending upon their economies. In the same way, changes in the national general aviation fleet have implications for changes in the itinerant operations of airports across the country.

According to the *FAA Aerospace Forecasts FY 2004-2015*, general aviation continues to be a vital part of aviation in the United States. At year-end 2003, there were 19,576 civil and joint use airports/heliports/seaplane bases in operation with 5,286 available for public use. Of these, 510 airports were classified as commercial service (also used by general aviation). This leaves a total of 19,066 airports/heliports (97.4%) used almost exclusively by general aviation aircraft, with 4,776 available for public use.

In addition, general aviation accounts for the largest number of civil aircraft in the United States and accounts for the majority of operations handled by towered and non-towered U.S. airports, as well as for the majority of certified pilots in the U.S.

In 2002, there were over 218,915 active civil aircraft in the United States. This includes 211,244 active general aviation aircraft (over 96.5 percent of the active fleet), nearly 5,175 large passenger and cargo jet aircraft, and over 2,496 regional/commuter aircraft (including regional jets).

Of the 625,011 active certificated pilots at the end of 2003, private pilots accounted for 38.6 percent of the total. In addition, it is estimated that general aviation itinerant and local operations totaled 88.8 million in fiscal year 2002, 72.6 percent of the total 122.3 million operations at towered and non-towered U.S. airports.

August of 2004 marked the 10th year since the passage of the General Aviation Revitalization Act (GARA). Despite the recent downturn, general aviation shipments have more than doubled while billings have more than tripled during this period. The General Aviation Manufacturers Association, GAMA, estimates that more than 25,000

manufacturing jobs had been created in the general aviation industry as a result of GARA. However, the 2001 economic recession, combined with the lingering effects of the events of September 11th, resulted in the loss of some jobs in general aviation manufacturing and there is some retrenching of the gains, particularly noticed relative to sales of high end corporate jets.

The most important event in general aviation in recent years has been the advent of the fractional market. Since their start in the 1980s, fractional ownership providers have steadily increased their customer base. According to data from Aviation Data Service (ADS), at the end of 2003 there were 4,331 shares involved in fractional ownership of more than 767 aircraft. Despite this growth (4.9 percent increase over 2002 and 41.3 percent increase over 2000), it is believed only a small percentage of this market has been developed. Based on ADS estimates, the corporate fleet totals 14,800 and includes almost 9,500 flight departments. ADS statistics indicate that the corporate aircraft fleet and number of business flight departments grew at annual rates of 5.6 and 4.6 percent, respectively, between 1993 and 2003.

3.3.1.1Active Fleet

The active general aviation aircraft fleet is expected to increase at an average annual rate of 1.2 percent over the 13-year forecast period, increasing from 211,244 in 2002 to 246,415 in 2015. However, this growth includes the addition of a new aircraft category – light sport aircraft – that is expected to enter the active fleet in 2004 and account for 20,915 aircraft in 2015. There has been a steady interest in kit aircraft over the past decade, sufficient to warrant the new category.

There appears to be two separate general aviation economies: turbojet aircraft that follow one market pattern; while piston, turboprop, rotorcraft, and experimental aircraft follow a separate "growth" pattern. The number of single-engine piston active aircraft is projected to decrease from 143,503 in 2002 to 143,350 in 2003, maintain this level in 2004, and then begin a period of slow recovery, reaching 148,450 in 2015. This represents an average annual growth rate of .3% over the 13-year period.

The number of active multi-engine piston aircraft is expected to decline by .5% per year over the forecast period, from 17,584 in 2002 to 16,490 in 2015. The turbine-powered fleet is expected to increase at an average annual rate of 3.5% over the next 13 years. The number of turboprop aircraft is expected to increase from 6,841 in 2002 to 8,120 in 2015. This represents an average annual growth rate of 1.3% over the next thirteen years. In addition, the rotorcraft fleet is forecast to grow only .6 percent annually over the next thirteen years.

On the other hand, turbojet aircraft are forecast to increase on average by 4.9% annually, from 8,355 in 2002 to 15,510 in 2015.

3.3.1.2 Conclusion

Several factors are needed for an airport to provide the sustained serviceability that must be in place in order for the business community to depend upon the facility as part of its ongoing transportation network. These are:

- A consistent growth in population. Hidalgo County has an estimated rate of population 1.9 percent per year over the next 20 years, which is among the fastest growth rates in Texas, itself a fast growth state.

- A significant population base. Hidalgo County has almost 600,000 people and will grow to beyond 1 million by the end of this forecast period. In addition, McAllen's sister city in Mexico, Reynosa, which has twice the population of Hidalgo County has the best economy of Mexico.

- Reasons to anticipate improving conditions relative to growth in the national general aviation industry. The McAllen Economic Development Corporation tracks 3,000 businesses nationally and internationally in terms of their potential for locating, relocating, or expanding in McAllen. Negotiations are ongoing with as many as 30 new businesses each month. Many of these businesses have used private aviation in traveling to and from McAllen.

- Reasons to anticipate stability in aviation laws and regulations over the forecast period.

- A potential trend for based general aviation aircraft at McAllen with Mexican registry. This would only be expected to occur in limited fashion but, due to increasing land ownership of Mexican nationals in the Lower Rio Grande Valley, has not yet been evidenced.

3.3.2 McAllen Market Service Area

McAllen acts as the corporate general aviation airport for the region which generally corresponds with the primary air passenger service area of Cameron and Starr counties. This is evidenced by the continuing trend toward increasing average fleet size that operates at the airport, as described below. The McAllen Market Area has several airports that are in direct competition with MFE for general aviation traffic, as identified in **Chapter Two: Inventory, Table 2-1 Neighboring Airports.** The key general aviation airports in proximity to MFE are:

- Mid Valley Airport, Weslaco, Texas. Mid Valley has a 4,998' x 70' runway and is located 14 miles east of MFE. The airport has 111 based aircraft, including 1 jet; and,
- Edinburg International Airport, Edinburg, Texas. Edinburg has a 5,000' x 75' runway and is located 17 miles north of MFE. The airport has 15 based aircraft.

There are no other public use airports within 30 nautical miles.

In some ways, the service area for MFE general aviation is like an airport near a major body of water – the proximity to the U.S. border decreases its potential for a 360˚ service area. While it is plausible to consider that Mexican registered aircraft could base at McAllen, and this has happened in the past, it is not anticipated that this will be a factor for purposes of this master plan.

A factor in general aviation market areas is the business development and per capita income in neighborhoods in proximity to the airport. The growth at McAllen is associated with general business growth throughout the community and not adjacent high per capita residential areas. The Lower Rio Grande Valley has low per capita incomes.

3.3.3 Baseline Airport Activity

Aviation activity forecasts for MFE will be prepared for 5-year (2009), 10-year (2014) and 20-year (2024) planning horizons.

3.3.3.1 Results of Expert Panel and Identification of Local Trends

Early in the master plan process, a Focus Group meeting was held for purposes of gaining input for development of the aviation activity forecasts. This meeting was held on November 17, 2003. The Focus Group consisted of the membership of the Airport Board. It acted as both the panel for an Airport Vision discussion as well as the panel for a discussion of airport trends.

The Focus Group identified a series of trends particular to MFE that could impact future aviation activity. Local and national aviation trends identified pertinent to MFE include:

- Levels of pilot training activity have been relatively constant and are not anticipated to experience significant growth in the future.

- While the overall number of general aviation operations has been relatively constant for the past several years, there has been a noticeable increase in the size of the general aviation fleet operating at McAllen. As much as 20% of all activity today is by jets and increasing. In general, this percentage increase results from a decline in piston operations. The general impression by the expert panel is that pilots of smaller aircraft are making decisions to operate at nearby general aviation airports. This would result in a continuing trend toward a large average general aviation fleet.

- In addition, the percentage operations by the heavy corporate jets operating at McAllen also is increasing and is a factor of increasing on-demand charter and fractional operations.

- The potential for smaller, more efficient, and affordable jet aircraft. This would improve the cost benefit of operating jet aircraft for businesses and likely result in more point-to-point business travel via general aviation as opposed to traveling through commercial passengers hubs;

- The Airport's gateway location to Reynosa maquiladora operations as well as Mexico, in general, attracts corporate aviation.

- Increasing border security as a result of September 11th has resulted in an increase in military flights through McAllen as well as an increase in helicopter activity of the U.S. Customs & Border Patrol (CBP).

- An expanding professional sports presence in McAllen along with a new Convention Center makes the City a much more attractive location to potential businesses and resident. Specifically in terms of local professional sports, there is now Arena football, baseball, hockey, and basketball along with a new Sports Center. It is anticipated that the new Convention Center will generate a need for a more seats from the airlines as well as stimulate corporate business travel.

3.3.3.2 Recent Growth

Since 1997, there has been a trend toward overall increases in aircraft, rebounding to around the 100 based aircraft level. **Table 3-18** provides historic general aviation operations and based aircraft based upon FAA Air Traffic Control Tower counts.

Table 3-18
Historical Based Aircraft and General Aviation and Military Operations

Year	Based Aircraft	Itinerant General Aviation	Itinerant Military	Local General Aviation	Local Military	Total GA	Total Military
1990	148	38,102	957	11,816	716	49,918	1,673
1991	122	32,564	1,143	9,648	748	42,212	1,891
1992	102	31,391	1,068	12,082	752	43,473	1,820
1993	102	31,838	884	12,840	648	44,678	1,532
1994	94	34,284	1,107	14,271	692	48,555	1,799
1995	94	32,214	1,483	17,998	492	50,212	1,975
1996	94	34,194	2,614	20,604	54	54,798	2,668
1997	87	34,872	3,557	16,764	246	51,636	3,803
1998	87	31,112	4,596	14,063	234	45,175	4,830
1999	83	33,811	5,220	17,387	327	51,198	5,547
2000	83	33,583	5,694	13,600	407	47,183	6,101
2001	92	31,544	6,106	15,423	452	46,967	6,558
2002	114	31,475	6,233	18,638	504	50,113	6,737
2003	116	32,247	8,065	16,177	657	48,424	8,722

Source: FAA records.

3.3.4 General Aviation Based Aircraft Forecasts

3.3.4.1 Factors Affecting Selection of Forecast Methodology

Aviation is increasingly an economic activity and is directly related to cyclical behavior of local economies. Because of dynamic and unique economic relationships, the growth of general aviation can no longer as reliably predicted by using traditional statistical techniques such as share of U.S. market or extrapolation of historic trends. Shaping events in general aviation such as local business climate, proximity to home or work, insurance and liability costs, hangar costs, fuel prices, economic upheavals and September 11, 2001 affect the value of aircraft and do not make traditional statistical methods as meaningful.

Therefore, this forecast will develop a series of economic development assumptions that will be used in this master plan and can be used in future master plans for forecast updates. Such methodology is similar to that used to develop alternative forecast tracks for national FAA aviation forecasts. In time of economic growth, a higher growth track in used whereas a slower rate of growth is used when there is an economic downturn.

3.3.4.2 Economic Conditions Based Forecasts

From experience with preparation of numerous aviation economic studies and forecasts for airports, the consultant has developed a series of forecast tracks based upon economic growth conditions for use in this study. These tracks are consistent with the method established by the FAA for updating national forecasts.

The three forecasts are analogous with the different rates of future population growth. These are:

- A Low Growth Forecast – This scenario assumes that the growth rate for based aircraft will be equal to the rate of population growth for Hidalgo and Starr Counties. The associated annual rate of growth for this forecast is 0.8 percent. This rate of growth is very similar to the rate of growth in based aircraft at the airport over the last five years.

- Medium Growth – This scenario assumes that the growth rate for based aircraft will be equal to the average rate of population growth for the Hidalgo and Starr Counties based upon the sum of the low and high scenarios. With the many factors cited by the Expert Panel, this scenario results in the assumption that there will be an increasing rate of growth over historic averages due to the increasing wealth in the region, increasing employment opportunities in the region, and the expanding economies of McAllen/Reynosa. The associated annual rate of growth for this forecast is approximately 1.5 percent.

- High Growth – This scenario assumes that the growth rate for based aircraft at MFE will be influenced by a combination of regional and national factors

occurring in a long-term growth economy. It will also be assumed that the economy of Reynosa will continue to be robust over the time period. The associated annual rate of growth for this forecast is approximately 2.2 percent.

Table 3-19 provides the low, medium and high growth forecasts for based aircraft growth assuming the varying assumptions relative to population growth rates.

Table 3-19
Forecast Based Aircraft Scenarios

	Average Annual percent Change			
		2009	2014	2024
Low	0.80	125	130	136
Medium	1.50	130	140	163
High	2.20	141	163	188

3.3.4.3 Regression Analysis

Regression analysis is a commonly used tool for forecasts. The assumption is that the historic relationship of based aircraft growth over a period of years can logically be anticipated to extend into the future.

Given the dynamic environment that always surrounds aviation, aviation activity at a particular airport, as a mode of transportation, is a unique reflection of a combination of local, regional, and national economic conditions. Consequently, this consultant prefers the economic conditions measures for which population growth serves as an acceptable surrogate. Nevertheless, regression can be a reliable predictor when there are either consistent growth rates, whether slow or fast, over a period of time, which is not the case for McAllen. Two regressions were run for McAllen:

- Based upon regression analysis of based aircraft over the period 1990-2003, the forecast of based aircraft for scenario years for MFE results in a decrease in based aircraft – 99 for 2009, 93 for 2014 and 90 for 2024. The peak number of based aircraft in 1990 of 148 skewed the numbers negative.

- Based upon a regression for the historic ten year period of 1994-2003, the results resemble the high forecast scenario -- 145 for 2009; 160 for 2014; and 190 for 2024.

3.3.4.4 Recommended Forecast

After evaluating the various forecasts developed here, the Consultant recommends that the low range economic forecast be used for the McAllen-Miller International Airport. While it is felt that there is sufficient evidence that the economy of the McAllen/Reynosa region is poised for significant long-term growth and growth that could exceed historic growth rates, there is a restructuring of the fleet that continues to be a significant factor.

Consequently, it is anticipated that there will be a change in the average fleet size over the course of the next few years in both operations as well as based aircraft. This factor is the reason that the decision was made to choose the low scenario for forecast based aircraft growth. In total, the number of based aircraft will restructure toward a much higher level of larger aircraft, as some smaller piston aircraft will relocate to outlying general aviation facilities.

3.3.4.5 Comparison of Forecasts

The recommended forecast will be compared with the FAA's annual forecasts, called Terminal Area Forecasts (TAF) for airports throughout the United States.

The FAA prepares annual forecasts for passengers (air carriers and regionals) and for aircraft operations (commercial, commuter and air taxi, and general aviation). For general aviation, the operations forecasts include air taxi, general aviation itinerant, military itinerant, general aviation local, military local, based aircraft, and annual instrument operations. After September 11, 2001, the FAA held its update of TAFs until the new trends could be sorted out.

Table 3-20 provides a comparison between the FAA TAFs and these master plan forecasts. In terms of based aircraft, the recommended master plan forecast and the FAA TAF are, for practical purposes, very similar. Recommended forecasts range from approximately the same as the TAF in 2009 to 12 percent lower in 2024.

There is a 10 percent difference in 2024 between the master plan forecast of general aviation operations and the TAF; the TAF is higher. The TAF forecast for 2020 of 59,100 was extrapolated by the Consultant to 61,200 for Year 2024, using the declining rates observed in data for 2004 through 2020. The two forecasts both assumes a declining rate in the growth of general aviation itinerant activity, whereas the Consultant forecast assumes an absolute decline after 2009. The absolute decline assumes that the restructuring of itinerant activity will result in a shift from larger percentages of activity performed by smaller aircraft to the larger aircraft, as will be described in the next section. This reflects the comments of the Expert Panel, tenant interviews, and interviews with people throughout the community. While the forecasts indicate declining absolute activity, this is not a negative forecast. A larger fleet results in substantial opportunities for increasing fuel sales as well as increases in other aviation-revenues like aircraft repairs, avionics, refurbishing, and similar services.

Table 3-20
Comparison of TAF and Recommended Master Plan Forecasts

	2009	2014	2019	2024
Operations				
TAF	53,100	55,800	58,500	61,200
Recommended Master Plan	56,800	55,900	55,600	55,100
Based Aircraft				
TAF	126	135	145	154
Recommended Master Plan	125	130	133	136

3.3.5 General Aviation Forecasts by Aircraft Type

The primary change anticipated by the FAA in the most recent edition of the FAA Forecasts for years 2004-2015, is a continuing percentage redistribution of the general aviation fleet. Based on FAA forecasts, for every one piston aircraft added to the general aviation fleet in the next 10 years, experimental aircraft excluded, 1.45 turboprops and 2.64 turbojets will be added. The other categories remain the same or slightly decrease.

Table 3-21 provides a comparison of the current fleet at McAllen and the U.S. general aviation fleet. This table shows that the average fleet at McAllen is for jets, turboprops and multi-engine piston aircraft is greater than the percentages existing in the U.S. fleet. For forecast purposes, it will be assumed that the average fleet size at McAllen will remain larger than the average U.S. fleet for general aviation.

Table 3-21
U.S. and McAllen Fleet Mix Comparison

	Jets	Turboprops	Multi-Engine Piston	Single-Engine Piston	Rotorcraft	CBP	Total
Baseline Fleet Mix Percentages for McAllen	5.88%	6.72%	15.13%	63.87%	0.84%	7.56%	100.00%
U.S. General Aviation Fleet Mix Percentages	4.63%	3.74%	9.54%	78.14%	3.95%		100.00%
US Fleet % Annual Growth	4.90%	3.50%	-0.50%	0.30%	0.60%		1.20%
McAllen Fleet % Annual Growth							0.80%

Table 3-22 provides the forecasts for McAllen by aircraft type assuming that the average aircraft fleet will remain increasingly larger than the average for the U.S., taking into account U.S. trends. For example, there is forecast to be a decline in the number of multi-engine piston aircraft in the fleet, which is reflected in the forecasts for McAllen.

Table 3-22
Forecast of Based Aircraft By Type

	Jets	Turboprops	Multi-Engine Piston	Single Engine Piston	Rotorcraft	CBP	Totals
Baseline	7	8	18	76	1	9	119
2004	7	8	18	77	1	9	120
2009	10	10	17	77	1	10	125
2014	13	12	17	75	2	11	130
2019	17	14	17	71	2	12	133
2024	23	17	16	65	2	13	136

3.3.6 General Aviation Operations Forecasts

The baseline operation for McAllen is approximately 407 operations per based aircraft for general aviation. Developing operations forecasts using based aircraft as the primary parameter is a tenuous exercise since there is such a wide range of aircraft types and use of those aircraft from airport to airport. However, this is a widely accepted procedure and one used by many consultants across the country.

3.3.6.1 Estimating Operations Per Based Aircraft

In developing these forecasts, the Consultant used the methodology identified in the July 2001 publication, a "Model for Estimating General Aviation Operations at Non-Towered Airports Using Towered and Non-Towered Airport Data" (see **Appendix A-4)**. This report was prepared for the Statistics and Forecast Branch of the FAA in July 2001 and includes 232 airports from around the nation, including McAllen.

From this publication, the Consultant developed an analysis of general aviation based aircraft and operations at representative general aviation airports in similar metropolitan areas throughout the country. A combination of towered and non-towered airports was used because of the often better consistency that exists with data from towered airports. Based upon consultant experience, there is little variation between the typical operations of itinerant activity between towered versus non-towered airports for similar levels of itinerant operations. Business-oriented airports, whether commercial, reliever, or general aviation, have itinerant activity spread throughout the day with multiple peaks, morning, afternoon, and evening. The difference for general aviation in average activity is the degree of flight training. This can range widely from busy corporate only airports that average as low as 250 operations per based aircraft to recreational/flight training airports that may have 900 operations per based aircraft or more. The sample of a subset of airports identified from this study specifically for McAllen falls in a similar range of 256-597 operations per based aircraft.

Appendix A-4 also provides the full airport data taken from the appendix of publication cited above. **Appendix A-5** is a subset of that data which the Consultant refers to as representative airports for McAllen.
These 19 airports have several primary features in common:

- A range of operations per based aircraft between 256 to 597. McAllen's historic range (1990-2003) is 337 to 594 or almost precisely the same as the sample.

- An operational range between 42,000 and 72,000 annual operations or smaller-to-larger than McAllen is today; and,

- Located in metropolitan areas with a similar population range, i.e., an average with population within a 25-mile range of 400,000 to 2,000,000, the same as McAllen.

These three parameters produced a list of 19 representative airports, 15 towered and 4 non-towered facilities. The average number of operations per based aircraft for the 19 airports is 397 compared to 407 for McAllen. Consequently, both the TAF estimate of 397 operations per based aircraft in 2024 and the Consultant estimate of 405 operations per based aircraft for McAllen are reasonable.

3.3.6.2 Forecast of Total Military Operations

Since the number of military operations at a given airport is a function of national security policy, it is a standard FAA practice not to forecast operations. Typically, operations of the base year, in this case 2003, are held constant. Therefore, the number of total military operations and portion that are itinerant and local will be forecasted to be the same as 2003 levels for all scenario years, 2009, 2014, and 2024. These levels are:

- Total military operations, 8,400
- Itinerant military operations, 8,000
- Local military operations, 400

3.3.7 Itinerant and Local Operations

For baseline year 2003, 65.4 percent of total activity is itinerant. Trends over the past decade have been cyclical with higher levels of itinerant activity in the early 1990's, and lower levels in the last six years with a trend of increasing back to historic levels of 70.3 percent. For purposes of forecasting local operations, the forecast will be held constant at 29.7 percent of total general aviation activity.

In terms of military operations, the average split for the last 10 years was 90 percent itinerant and 10 percent local. This forecast will hold baseline year 2003 percentages for itinerant and local operations constant, which are 92.1 percent itinerant and 7.9 percent local. **Table 3-23** provides the itinerant and local operations forecast.

Table 3-23: Aircraft Operations Forecast

Type of Activity	Baseline	2009	2014	2024
Civil Operations				
Itinerant	31,200	39,900	39,300	38,700
Local	16,500	16,900	16,600	16,400
Military Operations				
Itinerant	8,000	8,000	8,000	8,000
Local	400	400	400	400
Total Operations				
Itinerant	39,200	47,900	47,300	46,700
Local	16,900	17,300	17,000	16,800
TOTAL	56,100	65,200	64,300	63,500

Table 3-24 provides an analysis of general aviation operations by type to illustrate the fundamental restructuring of general aviation activity forecast for MFE based upon the following assumptions:

- The percentage of annual itinerant operations by jets will increase from 20 percent currently to 30 percent over the forecast horizon;
- Similar to national fleet trends, turboprop activity will increase by approximately 1.3 percent annual over the forecast horizon;
- Similar to national fleet trends, multi-engine piston activity will decrease by approximately 0.5 percent annual; and,
- Activity by general aviation pistons will decrease over the forecast horizon.

Table 3-24
Forecast of Itinerant Operations by Type

Aircraft Categories	Baseline	2009	2014	2024
Jet	6,213	8,900	9,800	11,600
Turboprop	3,034	3,300	3,700	4,000
Multi-Engine Piston	3,139	3,000	3,000	2,800
Single Engine Piston	18,769	24,700	22,800	10,300
Total Itinerant Operations	31,195	39,900	39,300	38,700

3.3.8 Annual Instrument Operations (AIO)

An instrument operation is defined by the FAA as an arrival or departure operating in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal approach control facility. The aircraft must be executing an IFR flight plan or Special VFR (SVFR) clearance or provided approved standard separation while conducting practice instrument approaches. The pilot must complete the

published approach and then cancel IFR. AIO forecasts are the basis for determining requirements for upgraded instrument approaches.

The assumption of these forecasts takes into consideration the increasing number of instrument-rated pilots and the increasing sophistication of the instrumentation of aircraft. Given the general aviation fleet that operates at McAllen, there is a high percentage of instrument operations as a percent of total general aviation itinerant activity, i.e., approximately 34.8 percent for baseline 2003.

Forecasts of general aviation annual instrument operations will assume an increasing number of instrument operations commensurate with the growth in the past five years, which was 3.5 percent, growing from 31.3% to 34.8% of total operations. Applying a growth of 3.5% per 5 years over the planning horizon, the forecast of annual instrument operations for scenarios years are:

- 2009, 15,300 annual instrument operations or 38.3 percent;
- 2014, 16,400 annual instrument operations or 41.8 percent; and,
- 2024, 18,900 annual instrument operations or 48.8 percent.

3.3.9 Forecasts of Peak Activities for General Aviation

Peak activity forecasts are used for airfield capacity analyses and for gauging the timing for future facilities improvements. A separate discussion of peak hour will be prepared to discuss the total peak hour for the airport inclusive of air passenger and air cargo operations.

There are several peaking parameters typically used in airport master planning. These are:

- Peak Month. The Peak Month is month in which the highest numbers of aircraft operations occur. Typically, the peak month occurs during the summer. Peak month activity for general aviation ranges from 10 to 20 percent, with the lower percentages representing more active, business-oriented airports, such as McAllen. A lower percentage means that activity is spread out across the day, mirroring typical air passenger schedules in arrival and departure times. For McAllen, the peak general aviation activity occurs in July and represents 11 percent of annual activity, inclusive of military operations.

- Peak Day. The Peak Day is usually calculated as the average day of the peak month. Since the peak month is July, the average peak day of the peak month is $1/31^{st}$ of the monthly operations. Consequently, this parameter is also referred to as the Peak Month Average Week Day (PMAWD). For forecast purposes, the PMAWD is 30.4 or the value of 365 days divided by 12 months, as the future peak hour could shift between months having 30 or 31 days.

- Peak Hour. This is the most important of the peaking statistics. It is used to determine the operational capacity of the airport and to measure against aircraft delay. The statistic is important to calculating when new facilities, such as apron expansions, taxiway construction or even new runways would need to be constructed. Or in the absence of the possibility to build new facilities, the amount of delay in terms of minutes per operation that would be endured at certain times of the day. With business general aviation, there is the same need to arrive and depart during morning and late afternoon and evening peaks as there is with commercial passenger operations. Also, the tendency for military activity to occur during the day will be taken into consideration. This has the consequence of tending to increase the concentration of peak hour activity as the flights occur more during business hours of the day rather than over a normal course of 14 hours from 6:00 AM until 10:00 PM.

For general aviation activities, peak hour statistics are often determined by data from ATCT. In general, peak hour statistics often range from 9 to 15 percent of daily operations. The more active the airport, the less the peak hour represents of daily activity. For McAllen and taking into consideration military activity, the peak hour percentage used is 10 percent.

Table 3-25 represents the peaking forecasts for MFE.

Table 3-25
Forecast of Peak Statistics

Year	Total Operations	Peak Month	Peak Day	Operations as a Percent of Peak Day	Peak Hour
2003	56,100	6,171	203	10	20
2009	65,200	7,172	236	10	24
2014	64,300	7,073	233	10	23
2024	63,500	6,985	230	10	23

3.3.10 General Aviation Passenger Forecasts

Concluding the forecast chapter is an estimation of the number of general aviation passengers. Typically, these forecasts have been developed by simply multiplying the number of aircraft operations times a factor representing pilots and passengers. For today's complex corporate-oriented facilities, it is necessary to look at the fleet mix operating at a given airport and their reasonable number of pilots and passengers.

Table 3-26 is an estimate of general aviation passengers that was developed based upon information from the National Air Transportation Association (NATA), the National Business Aircraft Association (NBAA), pilots, aircraft manufacturers, as well as

conversations with Airport staff. General aviation passenger forecasts are used for determining terminal and landside facilities requirements.

Table 3-26: Estimated Annual General Aviation Passengers

Aircraft Type	Average Occupancy	Baseline 2003	2009	2014	2024
Jet (Small, medium and large)	4.83	15,000	21,500	23,700	28,000
Turboprop	3.50	5,300	5,800	6,500	7,000
Multi-Engine Piston	2.50	3,900	3,800	3,800	3,500
Single-Engine Piston	2.00	18,800	24,700	22,800	20,300
Total Passengers		**43,000**	**55,800**	**56,800**	**58,800**
Forecast Landings By Type					
Jet		3,100	3,950	4,900	5,800
Turboprop		1,500	1,650	1,850	2,000
Multi-Engine Piston		1,600	1,500	1,500	1,400
Single-Engine Piston		9,400	12,350	11,400	10,150
Total		**15,600**	**19,950**	**19,650**	**19,350**

3.4 SUMMARY OF FORECASTS

This section consists of two important sections of the report that presents the basis for development of demand capacity analyses and facility requirements for the master plan.

3.4.1 Stage Length and Design Aircraft

Stage, or haul, length is the range of distance of an aircraft flight. Stage length is significant to airport design because the longer the stage length, the more fuel is required, and the heavier the aircraft will be. To be considered an appropriate airport design criteria, the maximum stage length should be traveled at least 500 times per year.

McAllen's top passenger destinations have historically been Houston, Dallas/Fort Worth, Austin, Las Vegas, Chicago and Indianapolis (1,200 miles), Los Angeles (1,300 miles), and Detroit (1,400 miles). In the last decade with the massive maquiladora industrial development and its considerable ties with the auto industry, other destinations with auto industry connections have developed, such as Toronto, Birmingham, Greenville, South Carolina, as well as interest in the UK, Germany, and China. In addition, there have been occasions when perishables have been flown to these destinations, in particular to

Canada. Therefore, the conceivable design stage length is 1,600 miles, the distance from McAllen to the Toronto Lester P. Pearson International Airport.

The B-767 is projected to be the largest aircraft regularly using the Airport for the forecast period. Currently, the largest aircraft to use the airport on a semi-regular basis is the DC-8 operating with loading restrictions. It is anticipated that DC-8 aircraft will be phased from the aircraft fleet in the United States in the next few years. The B-767 models fall within Airport Reference Code (ARC) D-IV, as does the DC-8 (see Chapter 4 for information regarding airport design criteria). It is anticipated that other ARC D-IV aircraft will operate from McAllen as well, including the B-757, MD-11 and A-300. Primarily, larger jet operations will be conducted by ARC C-III aircraft such as the B-737 series aircraft.

3.4.2 Summary of Aviation Activity Forecasts

Table 3-27 presents a summary of aviation activities forecasts for the McAllen-Miller International Airport, compiling the various forecasts that have been identified in the passenger, air cargo, and general aviation/military forecasts described above.

Forecasts of annual instrument operations and peak statistics were developed as separate forecasts once the passenger, air cargo, and general aviation/military forecasts were prepared.

A forecast of annual instrument operations was developed under the assumption that new pilots will continue the trend of increasing higher percentages of instrument rated-pilots and that new generation aircraft will increasingly have avionics for completing instrument flight plans. Further, the assumptions are that passenger, cargo, and military activity will conduct instrument operations and that there will be increasing percentages of general aviation itinerant traffic conducting instrument operations, currently at 35%. It is assumed that this percentage will increase at a similar rate as the period 1990-2003. By 2024, the percent of general aviation itinerant activity that will conduct instrument operations is assumed to be 49 percent.

Similarly, airport-wide peak activity is based upon analysis of monthly data for the period of 1998-2003. Over this six year period, the peak month was August for all aircraft activity. Surprisingly, the distribution of operations over the course of the year was surprising flat. The range of activity on a monthly basis was 7.64 percent of annual activity in December to 8.97 percent of activity in August. Consequently, it was assumed a relatively higher percentage of operations would occur during peak hour, approximately 13 percent today decreasing to approximately 10 percent by the end of the forecast period, as operations increase as well as the potential for concurrent peaks with the different aircraft types.

Table 3-27

Summary of Forecast Aviation Activity

Forecast	Baseline	2009	2014	2024
Enplanements				
Recommended	285,000	363,000	404,000	485,000
Scenario	285,000	364,000	430,000	588,000
Passengers (Enpl * 2)	570,000	726,000	808,000	970,000
Air Cargo (Tons)				
Belly	2,100	2,900	3,100	3,400
All Cargo	1,300	12,400	41,300	110,900
Total	3,400	15,300	44,400	114,300
Operations				
Passenger	7,600	9,600	11,000	13,200
All Cargo	1,300	2,000	5,100	10,900
General Aviation	47,700	56,800	55,900	55,100
Military	8,400	8,400	8,400	8,400
Total	64,900	76,800	80,400	87,600
Annual Instrument Operations	26,600	35,500	39,400	49,000
Peak Statistics (Operations)				
Month	5,700	7,400	8,400	9,600
Design Day	187	243	276	316
Peak Hour	24	29	31	33
General Aviation Based Aircraft	119	130	130	136

[i] Intermodal Transportation Database, U.S. Department of Transportation Bureau of Transportation Statistics.

[ii] Top 25 exports and imports through Texas ports, Texas Center for Border Economic & Enterprise Development. U.S. Department of Commerce Bureau of the Census, Foreign Trade Division.

[iii] Latin American Trade & Transportation Study, Wilbur Smith and Associates, 2001.

[iv] Latin American Market Report, Tendencias: Industry Analysis, Latin American Logistics and Cargo Transport-The Quiet Giant, John Price, http://tendencias.inforamericas.com/article_archive/2002/0204/0204_industry_analysis.htm.

[v] Federal Highway Administration, Office of Freight Management and Operations, State Profile-Texas, pg. 1, http://ops.ffwa.dot.gov/freight/freight_analysis/state_infor/texas/profile_tx.htm.

[vi] Laredo Market Overview 2001, Transportation and Infrastructure issues, pages 1-2, http://recenter.tamu.edu/mreports01/laredo7.html.

[vii] Comptroller's Forecast: Growth in Three Border Areas, Carole Keeton Strayhorn, Texas Comptroller of Public Accounts, Pg 4-5, http://ww.window.state.tx.us/border/ch15/ch15.html.

[viii] Economic Forecast 2003, McAllen Chamber of Commerce, pg. 37-50.

[ix] Economic Impact of the Greater McAllen Area Manufacturing and Maquiladora Activity on the Local Economy, S.J. Sethi, Ph.D, Associate Executive Director, and Jorge Manzano, Research Associate, Data & Information Systems Center, Office of Central Operations & Community Services, The University of Texas-Pan American, September, 2002, Executive Summary, Pg. 1.

[x] CIEMEX-WEFA, Maquiladora Industry Outlook (Eddystone, Pennsylvania, May 2000), Pg. 3.1-3.

[xi] Ibid Pg. 5.2.

[xii] "Maquila Scorecard", Twin Plant News (August 2000), Pg. 54.

[xiii] CIEMEX 55. –WEFA, Maquiladora Industry Outlook (Eddystone, Pennsylvania, May 2000), Pg. 5.9.

[xiv] CIEMEX-WEFA, Maquiladora Industry Outlook (Eddystone, Pennsylvania, May 2000), Pg. 3-8.

[xv] Ibid, Pg. 8.

[xvi] Real Estate Center Bulletin, The Texas A&M University, October 24, 2003, http://recenter.tamu.edu/mreports02/mcallen5.asp.

[xvii] "The Millennium Report and Forecast, January, 2000, McAllen Chamber of Commerce, Pg. 23.

[xviii] "Texas: Diversity Keeps Economy Strong", Bizsites.com, Pg. 3-4. http://www.bizsites.com/2001/on01/WSC_texas.html.

[xix] Expansion plans issued by Aeropuertos y Servicios Auxiliares. Department of Industry, Commerce and Infrastructure, Tamaulipas State Government.

[xx] Press Statement 4041, Carretera Juan Capitan-El Chihue, Lista y Gratuita, September 22, 2003, Secretaria de Desarrollo Urbano y Ecologia (Secretariat of the Ecology and Urban Development), Tamaulipas State Government.

[xxi] Ignacio E. Rodriqiez and Oralia De Los Reyes, "An Updated Overview of the Texas Border", Crossborder Institute for Regional Development, August 15, 2002, Pg. 10-11.

[xxii] Morales, J. Daniel, and Judith I. Stallman. NAFTA and the Lower Rio Grande Valley of Texas: Measuring Impacts. Department of Agricultural Economics, Texas A&M University, 2000.

[xxiii] North American Freight Flows and Trends Report, Harry Caldwell, Federal Highway Administration, Office of Freight Management and Operations.

[xxiv] Economic Research Service, U.S. Department of Agriculture, "North American Free Trade Agreement: Impact on U.S. Agriculture", http://www.ers.usda.gov/Briefing?NAFTA/impact.htm.

[xxv] Latin American Trade & Transportation Study, Section B2: Latin American Trade Forecasts, http://www.wilbursmith.som/latts/alliance/Sec%20B2%20Latin%20American%20TradePercent20forecasts.pdf.

[xxvi] Due to the economic recession and the effects of September 11, 2001, year 2002 information was not used for purposes of the regression analysis.

[xxvii] Website, http://www.medc.org/reynosa.shtml, Pg. 3.

Chapter Four
DEMAND/CAPACITY ANALYSIS

4.0 INTRODUCTION

The purpose of this chapter is to determine the capacities of existing facilities at MFE and compare them with future demand. Demand is the level of activity occurring or expected to occur on a certain facility. Capacity is the ability of that facility to accommodate the activity level. Analysis of the relationship between demand and capacity serves to identify deficiencies in the system.

Facilities subject to capacity analysis in Chapter 4 are presented in three major groups: airside, terminal and landside facilities. The capacity of the airport is determined by the weakest link of the three.

Chapter 5 addresses facility requirements, which includes capacity deficiencies identified in this chapter as well as correcting any existing deviations from FAA standards and constructing facilities needed to accommodate future demand in a timely manner.

4.1 AIRPORT DESIGN CRITERIA

The FAA has developed a methodology for determining airfield geometry that is described in Advisory Circular (AC) 150/5300-13, ***Airport Design***. This methodology relates to aircraft characteristics and the requisite design criteria and development standards necessary to accommodate the physical characteristics of a particular aircraft. These airport design criteria are standards linked to the ***Airport Reference Code*** (ARC) pertaining to the approach speeds and wingspans of aircraft, also presented in the FAA document. The ARC is comprised of two components. The first component is a letter that denotes the ***Aircraft Approach Category*** that represents an aircraft's approach speed. The second component is a Roman numeral that denotes the ***Airplane Design Group*** (ADG) and relates to the aircraft's wingspan. Please refer to **Table 4-1.**

Table 4-1: FAA Airport Reference Code

Aircraft Approach Category	Aircraft Approach Speed (kn.)	Airplane Design Group	Aircraft Wingspan (ft.)
A	<91	I	<49
B	91-<121	II	49-<79
C	121-<141	III	79-<118
D	141-<166	IV	118-<171
E	>=166	V	171-<214
		VI	214-<262

FAA Advisory Circular 150/5300-13, *Airport Design*, establishes criteria for designing airports. Design criteria are used for the largest aircraft that operate "frequently" at an airport, i.e., 250 or more annual landings or 500 annual operations.

As indicated on MFE's Airport Layout Plan (ALP), the design aircraft for the McAllen-Miller International Airport is a D-IV. A D-IV aircraft has the approach speed of 141-166 knots and a wingspan between 118-171 feet. Predominant aircraft in this group in today's fleet include:

- McDonnell Douglas, DC-8
- McDonnell Douglas, DC-10
- McDonnell Douglas, MD-11
- Boeing, B-777
- Boeing, B-767

Research conducted for this master plan confirms retention of the D-IV role for MFE.

Table 4-2 presents the FAA Design Criteria applicable for MFE, providing criteria for runways with approaches for C&D aircraft with visibility lower than ¾ mile which pertains to design criteria for Runway 13/31.

4.2 AIRSIDE CAPACITY ANALYSIS

The three components of an airport are: airfield, terminal, and landside. These components each have a capacity, i.e., a maximum amount of traffic where the airport can function. All must be in balance for the airport to function efficiently.

There are numerous thresholds for capacity in what constitutes an acceptable level of delay. Typically, capacity refers to the level where associated delay becomes unacceptable. Capacity for the airfield is generally expressed in terms of hourly delay in aircraft operations. For the terminal area at a general aviation airport, capacity is the ability to handle itinerant and based aircraft, aircraft movements and their passengers during the peak hour. For the landside, capacity is ease of access (vehicles per lane per hour) and vehicles accommodated in the parking areas during the peak hour.

With simulation models, many scenarios can be evaluated by varying the levels of delay. Regarding the airfield, capacity increases can be achieved through additional runways, taxiways or upgraded navigational aids that enable an airport to operate during reduced visibility conditions. Such improvements also reduce levels of delay. Additional delay reduction techniques, hence some minor capacity increases, can be associated with reduction of aircraft occupancy time on runways through high-speed taxiways or enhanced maneuverability on the airfield through the construction of additional taxiways or holding pads. Delay can be reduced at terminal facilities with expansions of building facilities or apron. Landside capacity can be increased through enlarged or better organized parking areas as well as provision of additional curb, if necessary.

TABLE 4-2

FAA DESIGN STANDARDS
FOR AIRCRAFT APPROACH CATEGORIES C AND D

ITEM		I	II	III	IV	V	VI
					Current & Ultimate Design		
RUNWAYS							
LOWER THAN 3/4 SM							
Length		Refer to AC 150/5300-13 Para. 301					
Width		100'	100'	(1) 100'	150'	150'	200'
Shoulder Width		10'	10'	(1) 20'	25'	35'	40'
Blast Pad Width		120'	120'	(1) 140'	200'	220'	280'
Blast Pad Length		100'	150'	200'	200'	400'	400'
Safety Area Width (2)		500'	500'	500'	500'	500'	500'
Safety Area Length Beyond R/W End		1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
OFZ Width and Length		Refer to AC 150/5300-13 Para. 306					
OFA Width		800'	800'	800'	800'	800'	800'
OFA Length Beyond R/W End		1,000'	1,000'	1,000'	1,000'	1,000'	1,000'
Runway Centerline to:							
	Parallel Runway Centerline	Refer to AC 150/5300-13 Para. 207 & 208					
	Hold Line	Refer to AC 150/5340-1					
	Taxiway/Taxilane Centerline	400'	400'	400'	400'	(3) 400'	600'
	Aircraft Parking Area	500'	500'	500'	500'	500'	500'
	Helicopter Touchdown Pad	Refer to AC 150/5390-2					
	Building Restriction Line (BRL) (4)	745'	745'	745'	745'	745'	745'
TAXIWAYS/TAXILANES							
Width		25'	35'	(5) 50'	75'	75'	100'
Edge Safety Margin		5'	7.5'	(6) 10'	15'	15'	20'
Fillet Configurations (7)							
	Radius of T/W Turn	75'	75'	100'	150'	150'	170'
	Length of Lead-in	50'	50'	150'	250'	250'	250'
	Radius for JO - Symmetrical Widening	62.5'	57.5'	68'	105'	105'	110'
	Radius for JO - One Side Widening	62.5'	57.5'	60'	97'	97'	100'
	Radius for Centerline Tracking	60'	55'	55'	85'	85'	85'
Shoulder Width		10'	10'	20'	25'	35'	40'
Safety Area Width		49'	79'	118'	171'	214'	262'
OFA Width		89'	131'	186'	259'	320'	386'
T/L OFA Width		79'	115'	162'	225'	276'	334'
Taxiway Centerline to:							
	Parallel Taxiway/Taxilane Centerline	69'	105'	152'	215'	267'	324'
	Fixed or Movable Object	44.5'	65.5'	93'	129.5'	160'	193'
Taxilane Centerline to:							
	Parallel Taxiway/Taxilane Centerline	64'	97'	140'	198'	245'	298'
	Fixed or Movable Object	39.5'	57.5'	81'	112.5'	138'	167'

(1) For airplanes w/a MGTOW greater than 150,000 lbs., the R/W width is 150', the shoulder width is 25', and the blast pad width is 200'.

(2) For A/P Reference Code C-I & C-II, 400' is permissible. For r/w's designed after 2/28/83 to serve Category D, the width increases 20' for each 1,000' of airport elevation above MSL.

(3) 400' for airports at or below an elevation of 1,345', 450' for airports between 1,345' and 6,560', and 500' for airports above 6,560'.

(4) Represents 35' Height Restriction Line

(5) For airplanes in Design Group III w/a wheelbase equal to or greater than 60', the standard width is 60'.

(6) For airplanes in Design Group III w/a wheelbase equal to or greater than 60', the edge safety margin is 15'.

(7) For airplanes in Design Group III w/a wheelbase equal to or greater than 60', the fillet radius is 50'.

The capacity of the airfield is a measure of the theoretical maximum number of aircraft operations that it can accommodate over a specified period of time. There are a variety of methodologies used for determining airfield capacity, including advanced simulation techniques that model aircraft from the airspace environment to the terminal. The most widely accepted methodology was used in the study. FAA developed a handbook for this purpose, i.e., FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay.* The handbook identifies determination of runway system capacity generated by three statistical measurements:

- Hour Capacity. Hour capacity (throughput capacity) is a measure of the maximum number of operations which can be accommodated on the airport or airport component in an hour. Two operating scenarios may apply: visual flight conditions or instrument flight conditions.

- Annual Service Volume (ASV). This is a reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft fleet mix, weather conditions, etc., that would be encountered over a year's time. Unlike hourly capacity, which is a level of saturation that cannot be sustained over several hours, ASV is a measure of capacity as an acceptable level of service.

- Aircraft Delay. This is the average amount of time each aircraft will be delayed as a consequence of a capacity deficit.

Major factors can affect airfield capacity. The most important factors at MFE are weather conditions, runway system configuration and use, and aircraft fleet mix. Airspace, air traffic control procedures, and noise abatement procedures are other factors that can affect airfield capacity, but they are not significant to MFE's capacity.

Weather conditions that affect runway capacity include ceiling, visibility, prevailing wind direction, and wind velocity. Aircraft operations at an airport are categorized according to combinations of ceiling and visibility conditions, defined as follows:

- Visual Meteorological Conditions (VMC). These are weather conditions during which Visual Flight Rules (VFR) apply. However, it is common that commercial and military pilots use Instrument Flight Rules (IFR) during VMC. According to the handbook, VFR conditions occur whenever the cloud ceiling is at least 1,000 feet above the ground level and the visibility is at least three statute miles. At MFE, VFR conditions occur 91.8 percent of the year.

- Instrument Meteorological Conditions (IMC). These are weather conditions during which Instrument Flight Rules apply. IFR conditions occur whenever the report cloud ceiling is at least 500 feet but less than 1,000 feet and/or visibility are at least one statute mile but less than three statute miles. At MFE, IFR conditions occur 5.7 percent of the time.

- Wind Direction. McAllen's runway system consists of primary Runway 13/31 oriented northwest/southeast and general aviation runway 18/36 oriented north/south. The principle runway should be oriented as closely as practical in the direction of the prevailing wind. Therefore when landing and taking off, aircraft are able to maneuver on a runway as long as the crosswind is not excessive.

  A secondary runway is necessary at an airport when wind conditions are such that aircraft cannot operate 95 percent of the time. This parameter also applies to smaller aircraft when a large proportion of an airport's activity is general aviation. If the primary runway cannot handle 95 percent of the general aviation activity, a second, or crosswind runway, is often provided. For purposes of planning and design, a crosswind runway for general aviation is considered necessary for aircraft weighing less than 12,500 pounds gross takeoff weight operating at 10.5 knots (12 miles per hour).

  A windrose analysis is used to determined airport wind coverage and is part of the basic information that is found in the Airport Layout Plan set. Typically, windroses are constructed for two different weather conditions, all weather and IFR. The all weather windrose analysis for MFE indicates that the primary runway is oriented to obtain 98.5 percent coverage at 13 knots and 96.1 percent coverage at 10.5 knots. THE windrose analysis for IFR weather conditions indicates that the primary runway has 98.0 percent wind coverage at 13 knots and 95.4 percent wind coverage at 10.5 knots. Therefore, during both all weather and IFR conditions, the primary runway meets the minimum criteria for wind coverage for both large and small aircraft. Based upon this analysis, a crosswind runway, or Runway 18/36 is not needed at MFE.

  Runway 18/36 is used exclusively for small aircraft. In combination with primary Runway 13/31, the wind coverage for all weather conditions is 99.0 percent and the wind coverage for IFR conditions is 99.3 percent.

- Poor Visibility and Ceiling (PVC). These conditions exist whenever the cloud ceiling is less than 500 feet and/or the visibility are less than one statute mile. At MFE, PVC conditions occur 2.5 percent of the time.

- Approximately one percent of the time weather is "below minimums" at MFE, meaning the cloud ceiling is less than 500 fee and the visibility is less than one statute mile.

Pilots flying by VFR are individually responsible for maintaining safe separation from other aircraft. Air Traffic Control (ATC) is responsible for separation of IFR traffic. Airfield capacities are typically lower during IMC than during VMC due to the requirement for increased airspace separation between aircraft.

Normally aircraft must land and takeoff into the wind. According to ATC personnel, south flow (departures and arrivals on Runways 13 and 18 toward the south) occurs 90

percent of the time. North flow (departures and arrivals on Runway 31 and 36 toward the north) occurs only 10 percent of the time and usually occurs during the winter months and becomes a factor.

The number, layout, and spacing of runways are important determinants of airfield capacity. In terms of capacity, MFE has only one runway, Runway 13/31. Runway 18/36 is used less than 5 percent of the time and is only available to VFR aircraft under 12,500 pounds. Since the two runways intersect, this eliminates most circumstances when the two runways could be used for simultaneous arrivals or departures. However due to the relocation of the threshold of Runway 35 by 338 feet from its original location, Runway 36 can have simultaneous operations during south flow conditions, as long as the aircraft landing on Runway 13 can hold short of the intersection with Runway 18/36.

Aircraft fleet mix is a key factor in determining capacity because differences in size and speed of aircraft affect the requirements for lateral and in-trail separation of aircraft. FAA Advisory Circular 150/5060 defines four weight classes, indicated in **Table 4-3. Table 4-4** provides the current and projected fleet mixes for the four aircraft weight types.

Table 4-3
Aircraft Weight Classifications

Aircraft Weight Class	Maximum Takeoff Weight (Pounds)	Number of Engines	Wake Turbulence Classifications
A	12,500 # or less	Single	Small
B	12,500-41000 #	Multi	Small
C	41000-255,000#	Multi	Large
D	255,000# or more	Multi	Heavy
According to the FAA Order 7110.65J regarding Wake Turbulence, the weight classifications cited in this table will remain until superseded (date of Notice, 7/6/97). The only exceptions are the SF-340, ATR-42 and BA-41 will be exempt from the small category and will be classified as large aircraft for separation purposes. On-going studies by NASA may exempt other aircraft in the future.			

Source: FAA Advisory Circular 150/5060-5, Airport Capacity and Delay and USDOT, FAA Notice, N7110.171, July 6, 1997.

Table 4-4
Fleet Mix By Weight Classification

Aircraft Classification	Baseline	2009	2014	2024
For VFR Hourly Capacity				
A	71%	67%	64%	56%
B	16%	16%	16%	16%
C	13%	16%	18%	23%
D	0%	1%	1%	5%
For IFR Hourly Capacity				
A	31%	26%	23%	16%
B	37%	37%	34%	31%
C	33%	36%	40%	44%
D	0%	1%	3%	10%

Table 4-5 shows the various runway operating configurations at MFE. In winter, IMC occurs more often when wind shifts to the north. This exhibit also indicates the current and projected fleet mix indices for the IFR and VFR conditions. The mix index computation is the percent of Class C aircraft plus 3 times the percent of Class D aircraft. Under IMC, the fleet mix shifts to heavier aircraft because most general aviation operations are VFR. As shown by the mix index, the fleet mix also shifts to heavier aircraft with time.

Table 4-5
AIRPORT OPERATING CONFIGURATIONS

84% of the Year
South Flow VFR

>----------►

13 31

	Mix Index
Baseline	13%
2009	18%
2014	22%
2024	38%

8% of the Year
North Flow VFR

◄----------<

13 31

	Mix Index
Baseline	13%
2009	18%
2014	22%
2024	38%

6% of the Year
South Flow IFR

>----------►

13 31

	Mix Index
Baseline	33%
2009	40%
2014	49%
2024	73%

2% of the Year
North Flow IFR

◄----------<

13 31

	Mix Index
Baseline	33%
2009	40%
2014	49%
2024	73%

Legend

► Departures

> Arrivals

Mix Index = % Class C Aircraft + (% Class D aircraft x 3)

4.2.1 Hourly Capacity

The percentage of arrivals, the prevalence of touch-and-go operations, and the number and location of taxiway exits are additional variables used to determine the maximum number of aircraft operations which can be accommodated in one hour.

In most cases, the higher the percentage of arrivals during the peak periods, the lower the capacity. Except in unique circumstances, the arrival/departure split is typically 50/50, and this split is assumed for MFE.

A touch-and-go is a training maneuver in which a pilot lands and immediately takes off without exiting the runway or stopping. The percent of touch-and-goes is the ratio for touch-and-go landings to total operations. In IMC, there are no touch-and-go operations. The higher the percentage of touch-and-goes, the higher the capacity. MFE's percent touch-and-goes, 25 percent to 30 percent but decreasing over the 20-year planning period as a result of more passenger, air cargo and itinerant corporate general aviation activity, increases the basic VFR hour capacity by 10 percent.

Since many landing aircraft do not need the full runway length, the runway throughput is most efficient when aircraft can exit the runway as soon as they slow to taxiing speed. The longer an aircraft remains on the runway, the lower the capacity of that runway. Ideal locations for exit taxiways vary by type of aircraft. The taxiway exits at MFE reduce the basic VFR and IFR hourly capacity of the runway by 9 to 16 percent, depending upon the mix index.

Using the variables described above, the VFR, IFR and weighted hourly capacities were calculated (See **Table 4-6**). The PVC hourly capacity of MFE is 50 operations, about the same as the IFR hourly capacity. The weighted hourly capacity takes into account all weather conditions.

Table 4-6
Hourly Capacity versus Demand
Aircraft Operations

	VFR			IFR			
Year	**Demand**	**Capacity**	**Use**	**Demand**	**Capacity**	**Use**	**Weighted Capacity**
Baseline	24	84	29%	8	53	15%	82
2009	28	80	35%	10	53	19%	78
2014	31	77	40%	12	53	23%	75
2024	38	70	54%	17	53	32%	69

Taxiway capacity at some airports is less than runway capacity. This in not the case at MFE. The full parallel taxiway on the terminal side of the runway provides unimpeded access to apron areas and, for the most part, traffic flow is one-way.

4.2.2 Annual Service Volume (ASV)

In contrast to hourly capacity, ASV is a service level measure and not an indication of maximum number of operations. With regard to ASV, the following conditions apply:

- As annual operational demand approaches the ASV, delay to aircraft starts to increase rapidly and exponentially;
- When annual demand equals ASV, a reasonable level of service may still exist during non-peak periods;
- When annual demand is 20 percent higher than ASV, the airport will experience significant congestion nearly all the time; and,
- When annual demand exceeds a level 20 percent greater than ASV, virtual airfield gridlock occurs.

Considering these factors, annual demand was compared to the ASV over the planning period. With changes in the aircraft fleet more toward a homogeneous fleet mix, but no physical changes to the airfield configuration, the capacity increases slightly from approximately 157,000 operations for the baseline condition in 2003 to 163,000 by 2024. Accordingly, the ratio of demand to capacity grows from 41.4 percent for the baseline year to 53.7 by 2024.

The common rule of thumb for advance planning is that planning for new facilities should be initiated at 60 percent of airport capacity and be operational by the time airport operations reach 80 percent of capacity. Based upon this analysis and forecast levels, it will not be necessary to begin planning for additional airfield capacity within the master planning period.

The facility that enhances airfield capacity far more than any other is the construction of a new runway, indicating that planning for a new runway should begin at the time the airfield reaches the 60 percent of capacity milestone. Certainly, one or possibly two additional airport master plans will be prepared during this period wherein the advisability and timing will be reevaluated. Consequently, the value of this analysis is to indicate that there is a potential need for an ultimate runway and that it is prudent to plan to accommodate it, although the facility would not be built or even planning within this master plan's horizon.

4.2.3 Aircraft Delay

Aircraft delay is a consequence of shortfall in airfield capacity. Delay is the time difference between an unconstrained and a constrained operation. As demand approaches capacity, delays to aircraft rise rapidly. Average delay per aircraft operation at MFE is estimated to increase over the 20-year planning period. Toward the end of the planning period, departure delay could become an issue during the peak hour. However, this

analysis has assumed that there would be some air cargo activity during the peak hour. If this is not the case and if there is a tendency toward spreading out activity over the course of the day, such anticipated delay reduces dramatically.

Even so, the indication of approaching the threshold of acceptable departure delay, defined her as three minutes per aircraft, is not an indication of an airport with delay problems. Delay becomes a problem when there are successive hours of continuous activity at peak levels wherein air traffic activity cannot resume normal flow conditions. This is not the case at McAllen since the peak hour is buffered by considerably slower levels of activity in earlier and later periods.

4.3 TERMINAL CAPACITY ANALYSIS

The terminal area capacity analysis addresses gates, aircraft parking, and the passenger terminal building.

4.3.1 Gates/Aircraft Parking

The previous master plan used 1995 as the base year (324,000 enplanements, 648,000 passengers) and forecast a 20-year level (2015) of 799,000 enplanements or about 1.6 million passengers. As forecasts tend to mirror economic projections of the time frame in which they are developed no matter who is the forecaster, the forecasts developed in this master plan are beginning from the end of a recession as well as still reverberating from the tragic events of September 11, 2001. The base year level of enplanements was 2003 (285,000 enplanements or 530,000 passengers) and the recommended 2024 forecast is 485,000. In terms of facilities planning, the master plan will also reflect on the capability of the facility to accommodate the high scenario forecast for 2024 of 588,000 enplanements or roughly 1.2 million passengers in order to determine whether the facility can accommodate such levels or if land should be earmarked for an alternative location for a terminal in the future.

Certainly the key to determining the number of gates needed is the coincidence of the peak passenger period, whether enplaning, deplaning or a combination. Some airport's peak hour is neither the peak enplaning hour nor the peak deplaning hour but an hour where there is both significant enplaning and deplaning activity that is overall greater in passenger activity than either of the individual peaks.

Given the current terminal configuration, it is not likely that air carrier gate capacity will constrain airport capacity before 2024 unless there is a significant change in the way airlines operate at the airport, e.g., an airline establishing a mini-hub operation at McAllen. Given the growth patterns identified during this master plan, although considerably more conservative than the previous master plan, the sense is that the community is poised to exceed the forecasts identified in this master plan, particularly as the per capita income in McAllen and Reynosa improves.

Nevertheless, considerations relative to increasing the capacity at the airport's security checkpoint may require either the relocation of Gate One or, less likely, an innovative addition to the other side of the concourse walkway and to the southeast which could reconfigure or augment the archway ramping down to the Federal Inspection Services area.

For purposes of this update, similar methodology will be used as the previous master plan, using the FAA Advisory Circular 5360-13, *Planning and Design Guidelines for Airport Terminals.* The FAA document contains several methods for analyzing gate requirements. Based upon a recent schedule (September 2004), the peak hour of the week occurs between 11:00 AM and noon on Sunday with two arrivals and three departures; for the remainder of the week, it is the same hour but with two arrivals and two departures.

Providing that a similar peaking arrangement continues as the airport grows and adds flights, the peak hour in 2024 will be a combination of eight arrivals and departures. The former master plan developed gate projections assuming six air carrier gates (narrowbody jet parking positions) and two commuter gates (turboprop parking positions). Since that time, turboprops have disappeared from the McAllen daily fleet, which is now largely narrowbody jet. However, with the Northwest Airlines' experiment into the McAllen market in 2004, regional jets became part of the fleet mix and the forecasts project that the mix of regional jets will continue into the future. If this were not to be the case and a mix of narrowbody aircraft continues, this further extends the existing terminal configuration's capability to handle aircraft at gate, unless arrival and departure frequencies consolidate. Increasingly, the expectation of customer's level of service requires that every gate have loading bridge capability. It is not uncommon to find that some loading bridges are configured to serve two gates; depending upon airport policy and operating agreement with its airlines.

Table 4-7 considers future gate analysis using five different methods of analysis to construct the following range of capacities:

Table 4-7
Range of Operations for Gate Considerations

	High	Low	Average
Annual Air Carrier Departures	11,200	5,400	7,900
Annual Commuter Departures	5,400	2,400	4,000
Total Departures	16,600	7,800	11,900

The forecast demand for the year 2024 is 13,200 air carrier departures, including approximately 4,500 by regional jets. In terms of gate requirements, the potential for changing average seating configuration to slightly smaller over the forecast period as a result of more regional jets serving the McAllen market requires a review of gate requirements. Accordingly, based upon current forecasts, there will be a need for 8 gates during peak conditions by 2024, the same as forecast by the previous master plan. Five to six will be required for narrowbody aircraft and 2-3 gates for regional jets. Since

loading bridges have become the acceptable level of service for every gated aircraft, this requires 4 additional loading bridge positions.

4.3.2 Re-Evaluating Passenger Terminal Building Space Allocation

The passenger terminal building was designed to serve approximately 500,000 annual enplanements; an enplanement is a departing passenger. This is approximately the recommended forecast for year 2024, i.e., 485,000 enplanements or 970,000 passengers. The high scenario for the master plan is 588,000 enplanements or about 1.2 million passengers. In the past, several different criteria have served to validate those numbers.[1] It can be concluded from this general overview that the terminal has sufficient size to accommodate the passenger demand. Yet, there is the need to re-evaluate how the terminal building's internal space is allocated.

Common Use Terminal Facilities. Recent trends in the airline industry such as Common Use Terminal Facilities (CUTE), electronic ticketing, security screening, checked bag screening, and requirements for additional space in the outbound bag room require a review of terminal space needs in the facility requirements section. CUTE and electronic ticketing have the impact of reducing terminal space needs, whereas heightened security requirements and additional space needs for explosive detection systems have added to terminal space needs.

While passenger traffic volume has largely recovered from pre-9/11 levels, many airlines are still in financial trouble with limited ability to support needed facility expansion programs. The growth of "low-cost/high volume" carriers in the market has created a need for airports to respond quickly to accommodate the new passenger demand, while holding down costs for the carriers.

Specifically, airports are faced with additional ticketing demand with limited facilities and restricted expansion opportunities – "doing more with less". Ticketing positions that can flexibly serve more than one carrier is a concept worth exploring. This shared-use concept proves the opportunity to leverage existing facilities and minimizes or defers alternative measures that require expenditures to increase building size. Creating a "load distribution" system that can provide airports with the ability to manage and optimize the use of its facilities is desirable during a time of reduced budgets and airline uncertainties.

[1] As reported by the previous MFE master plan by Black & Veatch, Thompson Consultants International (TCI) surveyed five airports with annual enplanements between 350,000 and 1,000,000 and found the buildings averaged 0.2 square feet per enplaned passenger. A University of Texas airport planning course used a factor of 190 square feet per peak hour passenger. Based upon FAA Advisory Circular 5360-12, the MFE terminal has a capacity of 700,000 annual enplanements calculated by using 150 square feet of passenger terminal space for each peak hour passenger. However, considering the number of gates and aircraft parking positions, that same advisory circular indicates that MFE's terminal capacity is 550,000 enplaned passengers, 500,000 using air carrier gates and 50,000 using commuter gates.

CUTE is not a new concept. Where it has been implemented, facility use is maximized. CUTE provides the flexibility to share existing facilities among the airport's carriers. With the advent of self-service electronic check-in kiosks, the carriers have financially benefited from the ability to eliminate the agent-passenger interface for routine transactions. This has reduced the labor needed to process a flight, while reducing the passenger transaction time, since there are more "points of sale" available to passengers. Application of Common Use Self Service (CUSS) is beneficial within the CUTE environment, as it enables an equal application of technology at all CUTE positions. Implementation of CUSS throughout an entire terminal, regardless of other CUTE applications, optimizes the airport's use of existing spaces by eliminating redundant equipment.

Many airports around the world, primarily outside the US, have adopted some form of CUTE and CUSS. Within the US, Las Vegas International Airport is one of the first to develop and implement a CUSS system for the ticket hall function. Each self-service kiosk is equipped to "call-up" any of the participating airlines reservation/check-in systems to serve passengers. A few airports in the enplanement range of the size of McAllen have designed and installed CUTE in specific areas of the terminal and concourse. One such airport is Lehigh Valley International Airport (ABE) in Lehigh, Pennsylvania. The ABE opened a new 6-gate concourse eight years ago which was designed and constructed with CUTE technology. Since the majority of passenger activity was handled by only two airlines, the two airlines utilized the gates over 90% of the time. However, ABE's commitment to CUTE now positions it to take full advantage of the technology to more easily adapt to the changing aviation environment.

Flexibility. Imagine a ticketing hall that has 20 dual-position ticket counters (6-3" standard). This equates to 40 ticketing positions either to be used by airline agents and a combination of kiosk/self-service units (SSU). With all 40 positions equipped with self-service units and assuming a ratio of 1 agent for every 5 SSU's, only 8 airline agents would be required to staff and assist passengers, compared to 100 agents without SSU.

Now imagine that the SSU's are part of a CUTE system and the number of SSU's allocated to each airline is dependent on the airlines' flight schedules. One narrowbody (RJ size aircraft to A321/B757) flight equates to 4 SSU positions and 1 airline agent to adequately process passengers (check-in and baggage check) in a timely fashion. One widebody (B767 size aircraft to B747) flight would require up to 10 SSU positions and about 3 agents, and so on. Also, imagine that above each agent position is an LCD or plasma screen with the airport's logo displayed. This image could include advertisement and regional information displayed on the screen until an airline flight schedule demands positions to process passengers. During a period of one to two hours before a scheduled departure time, the display above a specified number of SSU's would be dedicated to the airline assigned to the position and the airline logo will be displayed.

It could be argued that these improvements could be financed by public space AIP or PFC funding since most of the equipment and facility changes would occur in the public spaces and the system is not specific to any one tenant. Charging the airlines on a per-use

basis is one avenue to investigate or another avenue could be based on market share by airline.

CUTE and CUSS are benefiting many airports around the world. Since each airport is unique, a study is recommended to confirm the viability of CUTE and CUSS for a specific airport.

4.4 LANDSIDE CAPACITY ANALYSIS

The landside capacity analysis addresses passenger terminal curb, automobile parking, and access roads.

4.4.1 Public Parking

The current capacity for public automobile parking is 1,363 spaces. This consists of 890 spaces directly north of the terminal building for short-term (190 spaces) and long-term (692 spaces) parking along with 473 spaces just east and southeast of the terminal, which are presently used for overflow (218 spaces) and very long-term parking (255 spaces). Future requirements for public parking were gauged from the average of two methods. The first method is based on the proportion of peak enplaned passengers according to ratios derived from historic data, while the second method derives from *Measuring Airport Landside Capacity* which suggests a ratio of one parking space per 500 annual passengers, which has been verified on numerous occasions. Ratios of higher than one parking space per 500 annual passengers are found at airports where there is considerable competition and low fare carriers that induce longer, leisure-oriented parking stays.

Typically parking lots are designed with a demand to capacity ratio of not more than 90 percent to help minimize the amount of time required to find a space and to accommodate unforeseen peaks in parking demand. Therefore, the requirements for public parking are calculated based on the average of the two methods being divided by 0.90. **Table 4-8** at the end of this section indicates that there are an adequate number of public parking spaces through about 2007. Since this is within the first planning time period, it would be prudent to conduct a parking study within the next year to determine need. It is advisable to also include a passenger survey to understand the composition of MFE's enplanements in terms of percentage who are Mexican nationals.

The extent to which McAllen serves Mexican nationals is an important, unique factor for MFE. Typical modeling techniques, regardless of sophistication, are not equipped to estimate the impact that this element of MFE's air service market has on forecasts. General knowledge would tend to say that the significantly lower per capita income of Mexican nationals would not be a factor. However, there are few "average" citizens in Mexico with a great difference between those at the higher and lower ends of the socioeconomic spectrum. It is those Mexican nationals with the higher levels of disposable income, levels of income higher than the average for the United States, who cross the border to fly from MFE; many of these people have land holdings in the Texas border counties. As a consequence, both the FAA Terminal Area Forecast and other

modeling techniques such as used by this Consultant cannot fully comprehend the impact. The high scenario forecast is empirical and based simply upon observation of the number of vehicles in the Airport parking area from Mexico during a non-peak period.

4.4.2 Rental Car parking

The existing parking lot, used by the major auto rental tenants for ready car and return, is located at the east end of the passenger terminal. There are 219 spaces available. These spaces are divided among five rental car agencies. A sixth rental tenant has vehicles located off-airport and uses a company car to shuttle patrons to their facility. Presently, due to the limited space on airport property, the only rental car parking provided on-airport are the ready/return stalls.

One rental car parking stall should be provided for every 750 originating enplanements, as stated in FAA Advisory Circular 150/5360-13, *Planning and Design Guidelines for Airport Terminal Facilities.* Fifteen to twenty-five percent of rental car parking should be ready/return stalls, and for MFE it was assumed 15 percent. Given these guidelines, the number of rental car spaces was calculated. This analysis shows that demand for ready/return stalls is near capacity currently.

4.4.3 Employee Parking

Employee parking is available in a reserved lot east of the terminal building. Based on field investigations, some employees are using the short-term public parking area instead of this designated lot. With this considered and accounting for the fact that some working parking demands overlap due to shift changes, it is assumed the current capacity of 84 spaces is appropriate for this size of terminal facility. This includes the 10 spaces designated for City personnel in the rental car parking lot.

The method used to forecast employee parking demand is based on the current ratio of employee parking capacity to the terminal building floor area plus ten spaces for City personnel. Since at least 37,000 square feet of additional terminal building area will be required to meet the 2024 demand, employee parking will need to be increased by approximately 30 spaces, for a total of 114 stalls.

Table 4-8
Parking Needs

Scenario	Public (1)	Public Adjusted (2)	Rental	Employee/ City	Total
Existing	1,363	1,363	219	84	1,666
Baseline Need	1,138	1,252	188	87	1,527
2009	1,408	1,602	240	93	1,935
2014	1,720	1,892	284	99	2,275
2019	2,012	2,213	332	105	2,650
2024	2,352	2,587	288	111	3,086

Notes: (1) There are 218 overflow parking positions and 255 very long-term parking positions for a total of 473.
(2) Includes ten percent perceived parking lot capacity factor. For the baseline condition, it is assumed that the remote and overflow parking satisfies the adjustment factor.

4.4.4 Access Roadways

McAllen-Miller International Airport is a major generator of vehicular traffic. Accordingly, it is important to consider volumes of traffic on the access roads and terminal circulation drive. The capacity of these roadways was determined based on the Highway Capacity Manual.

Wichita Avenue provides direct access to the airport. Assuming 12 percent of the daily traffic occurs during the design hours results in 980 vehicles per hour (vph) in both directions. Since a four-lane urban roadway has the capacity for a total of 2,800 to 3,200 vehicles per hour in both directions, Wichita will be adequate during the design period.

Recent construction of the Bicentennial Boulevard extension greatly improved U.S. Highway 83 motorists' access to and from the airport, particularly those accessing the airport from the east with a westbound ramp connecting westbound Highway 83 with a ramp connection to Bicentennial Boulevard. Westbound vehicles must exit Highway 83 to the Highway 83 frontage road and make a right turn onto an access ramp leading to Bicentennial Boulevard.

The recent Bicentennial Boulevard improvements included a four-lane roadway and providing direct access to the terminal circulation drive. This north-south route reduces driver delays compared to traveling Main Street or 10th Street, which have several intersecting side streets. Bicentennial Boulevard south of US Highway 83 has the capacity to accommodate airport vehicular traffic at an acceptable level of service to year 2015 and beyond.

A one-way terminal circulation drive provides access to the terminal complex from Wichita Avenue. The capacity of this drive, two lanes entering and three lanes exiting, is adequate throughout the planning period. Immediately in front of the terminal, this roadway widens to four lanes, with the two far lanes providing effective vehicular movement of up to 600 vehicles per hour per lane.

4.4.5 Terminal Curb Frontage

Curb length for vehicles loading and unloading passengers is a critical part of terminal capacity. The capacity of MFE's curb length exceeds the passenger forecast for the design hour in 2024. The actual curb length available for arrivals and departures is effectively 750 feet. In 2024, approximately 600 feet will be needed. These assumptions are in line with the results obtained when using FAA and International Air Transport Association (IATA) criteria. This requirement was determined based on the following assumptions: 85 percent of passengers loading/unloading at the curb, 1.2 passengers per vehicle, 25 feet of curb lengthy per vehicle, 2.5 minutes dwell time for departures and 3.5 minutes dwell time for arrivals.

4.5 AIR CARGO

For the purpose of cargo capacity analysis, it is conservatively assumed that all cargo will be processed at the air cargo warehouse and apron. Currently, this is not the case since two-thirds of the air cargo at MFE is transported in passenger aircraft as belly cargo. Generally, separate aircraft parking is not required for "belly" cargo and building needs are minimal since the airlines already have operating areas in the passenger terminal.

Ten years ago, the all-cargo aircraft operating at MFE were small turboprop aircraft. Due to the extreme competitiveness of the air cargo business, some all-cargo carriers do not rent warehouse space and process their cargo on the ramp or at facility locations off-airport. In addition, some cargo operators use facilities in the general aviation area rather than in the air cargo area. Fed Ex conducts no air operations at MFE but leases a 12,400 square foot hangar that is a distribution center for air cargo. Historically, approximately 75 percent of MFE's air cargo facility has been leased with some tenant operations not related to air cargo.

To determine potential facility space requirements needs for the potential emerging cargo operation at MFE, several different sources were consulted. The most useful was a research effort evaluating different roles of cargo operations conducted at 24 airports worldwide.[2] The study concluded that there were probably three types of cargo facilities. These are:

- Spoke terminal with no goods transfer;
- Hub terminal with transfers; and,
- Terminal that matched specific handling requirements, i.e., express or bulk materials.

For each type of terminal, there was a practical range for spatial allocation per ton handled with an average or *functional capacity* cited. **Table 4-9** provides those parameters.

Table 4-9
Average Standards for Space Requirements at Cargo Facilities

Measurement	Spoke Terminal	Hub Terminal	Special Terminal
Functional Capacity	1.33 tons/square foot (Range 0.75-2 tons/square foot)	2 tons/square foot (Range 1.33-2.67 tons/square foot)	1.2 tons/square foot (Range 0.67-1.33 tons/square foot)

[2]Peter Wolf & Christoph Zimmer, *Luftfrachtabfertigungsanlagen-Planungsgrundlagen*, Published by the German Airports Association, Stuttgart, 1993. Article appearing in *Airport Forum*, June, 1994, pp.25-27.

A study with similar results was conducted as part of the Virginia Air Cargo System Plan prepared in 1991 by SH&E. The average amount of air cargo warehousing at the top 50 cargo airports in the United States was 1.75 tons of annual air freight per square foot, ranging from 1 to 2.5 tons per square foot. Air mail processing areas averaged 0.67 tons per square foot.

If MFE were to develop as a spoke terminal facility and average 1.33 tons per square foot, MFE's 48,120 square foot air cargo facility would have capacity to process between 36,000-96,000 tons of cargo per year, with an average likely to be in the range of 64,000 tons.

More apt to be a potentially constraining factor than building space would be the space requirement for apron capacity. The Virginia Air Cargo System Plan found cargo apron area averaged 0.53 square yards per annual ton. Based on this average, MFE's 7.2 acre is air cargo apron is adequate for approximately 65,000 annual tons of cargo. These two studies provide a check to indicate that the size of the air cargo ramp and the air cargo facility are synchronized. However, in addition to apron usage for storage and loading of air cargo, there is also the need for active aircraft parking positions as well as the potential for remote overnight aircraft parking that is common to spoke terminal operations. Depending on air cargo growth and flight scheduling, demand may exceed the cargo apron's parking capacity, four B-727 aircraft, before the end of the planning period.

The forecasts indicate that the existing air cargo facility could be outgrown within ten years and that the air cargo apron capacity would be outgrown shortly thereafter.

4.6 GENERAL AVIATION

Based upon historical peak activity, the Airport's capacity for general aviation is approximately 200 based aircraft, 67 percent annual itinerant operations and 20,000 annual local operations. This capacity should be adequate through the 20-year time period. The 2024 forecast is for 136 based aircraft, 46,700 annual itinerant operations (of which 8,000 are military) and 16,800 annual local operations (of which 400 are military).

The general aviation apron east of Runway 18/36 is 560,000 square feet in area and has about 100 airplane tiedown positions. Based upon 5,600 square feet per aircraft, the 60,000 square foot apron west of Runway 18/36 could accommodate tiedowns for 10 aircraft. This unit area is more generous than the FAA guidance of 2,700 square feet per based aircraft and 3,240 square feet per itinerant aircraft. However, the area includes taxilanes and accounts for the large than average general aviation fleet at MFE.

Three T-Hangar buildings provide enclosed storage for 37 airplanes. Larger hangars provide enclosed storage for an estimated 55 airplanes, based upon the assumption that two-thirds of the remaining general aviation building area is available for airplane storage at 2,700 square feet per airplane.

The total capacity of existing tiedowns and hangars is 202 airplanes. On the average day of the peak month in 2024, 136 general aviation aircraft will be engaged in itinerant operations at MFE, excluding military. Some of that number will be based at MFE and some will not**.** As indicated by **Table 4-10**, adding an assumed 68 transient aircraft to the 136 based aircraft at MFE results in a demand for storing or parking 204 aircraft which is approximately at capacity. Yet it is significant to note that forecasts for both the average fleet in terms of based aircraft as well as the itinerant operational fleet at MFE will transition to become larger. Currently, jets and turboprops consist of 16 percent of the based aircraft and 30 percent of the itinerant operations. By 2024, jets and turboprops will consist of 30 percent of the based aircraft and 40 percent of the itinerant operations. Consequently, it is anticipated that general aviation will reach a capacity within the next ten years.

Table 4-10
Itinerant Parking and Hangar Needs

Scenario Year	Itinerant Parking Positions	Based Aircraft Storage	Total Aircraft Parking and Storage
Baseline	56	130	175
2009	68	140	193
2014	68	152	198
2024	68	163	204

4.7 AIRPORT SUPPORT

MFE's Aircraft Rescue and Firefighting Facility (ARFF) capacity exceeds expected demand. The ARFF has four vehicles with a total capacity of 2,550 pounds of dry chemicals, 575 gallons of aqueous film-forming foam, and 4,500 gallons of water. According to FAR Part 139, these quantities meet the qualifications of Fire Index D. Fire Index D is the category for an airport that has an average of at least five daily departures by air carrier (passenger) aircraft at least 159 feet but less than 200 feet long or less than five daily departures by an aircraft with a wing span greater than 200 feet long. Aircraft in this category are widebody jets such as the B-767, B-777, and MD-11 aircraft. Aircraft over 200 feet long include the B-747-400.

McAllen has a total of 76,000 gallons of aircraft fuel storage. Of the total, 55,000 gallons is dedicated to Jet A fuel and 21,000 gallons to Low Lead 100 gasoline. Jet fuel sales average 174 gallons per air carrier and air taxi operation. Over the planning period, the average size and haul length of aircraft using jet fuel will increase. Therefore, jet fuel sales are projected to increase such that the Airport's existing fuel storage will provide a three-day supply of jet fuel and a ten-day supply of aviation gasoline.

4.8 OTHER FACILITIES

With a land area of 473 usable acres, which are almost fully built out, MFE has very little capacity for aviation-related or non aviation-related industrial or commercial development. Such development at other airports generates revenue for the airport and contributes to the community's economy. On the other hand, such development exists and is growing near MFE. The City has zoned a large amount of land for industry

southwest of the Airport near the Foreign Trade Zone. Retail and hospitality development is immediately accessible to the Airport on the north and east.

Chapter Five
FACILITY REQUIREMENTS

5.0 INTRODUCTION

Facility requirements accrue not only from the capacity deficiencies identified in **Chapter 4**, but may also stem from operational, safety, and qualitative needs.

This chapter addresses facilities needs that are derived in response to accommodating current demand, any existing deficiencies in standards or changes in FAA requirements necessitating project redress, or needs required as a result of accommodation of future demand.

5.1 FACILITY IMPROVEMENTS REQUIRED TO MAINTAIN CURRENT AIRPORT STANDARDS

This section of Chapter Five discusses facility requirement needs that are required to maintain the Airport to current standards. These requirements do not add to the capacity of the Airport nor address any FAA standards deficiencies, which are addressed in subsequent sections.

5.1.1 Runway Pavement Conditions

Both runways require an overlay. A project to design an overlay for secondary Runway 18/36 is currently being designed. It is possible that the northern section of that runway may need to be reconstructed due to the difference in the pavement section versus the southern part.

A priority for the next several years will be the overlay of primary Runway 13/31. It had been anticipated that such overlay could be accomplished when Runway 31 is extended. However, before the runway can be extended a number of other projects would have to be accomplished, such as relocations of Tenth Street and the Mission Pilot Channel, not to mention the runway extension is not yet justifiable. Consequently, this project should be reintroduced to the CIP for accomplishment in the next five years.

It will be assumed that once the two runways are resurfaced, there will be no need to resurface them again during the 20-year master plan period, although it is anticipated that the Runway 31 extension will be justified within this time frame. However, there may be occasional crack sealing requirements.

5.1.2 Taxiway Pavement Conditions

In addition to the runway pavements, two key taxiways, Taxiway A and Taxiway C require overlays. Taxiway A is the parallel taxiway that serves Runway 13/31 and

Taxiway C serves as the southern connection between the two runways. Both projects are currently in MFE's CIP for completion within the next five years.

Once these taxiway projects are complete, there are no other major taxiway pavement projects anticipated other than occasional crack sealing during the remainder of the master plan time frame.

5.1.3 Apron Pavement Conditions

Similar to the runway and taxiway pavements, there are several apron projects that need to be completed in the next several years. These include:

- Air cargo apron rehabilitation;
- South GA Apron overlay;
- Air Traffic Control Tower apron overlay; and,
- U.S. Customs apron overlay.

Once these projects are complete, there are no other apron pavement projects anticipated during the remainder of the master plan time frame other than occasional crack sealing.

5.1.4 NAVAIDs and Approach Aids

The instrument landing system for Runway 13 needs replacement as will the visual approach path indicators in several years.

5.1.4.1 Instrument Landing System

MFE has one CAT I instrument land system which is located off Runway end 13. This system is an old unit that provides the airport not only with a precision approach but also with a non-precision approach associated with a backcourse. If this system is replaced, there will no longer be a backcourse as these have been phased out by the FAA. While this ILS provides valuable approach guidance to the airport, the system has already malfunctioned once, leaving the airport without precision guidance for more than one month. This occurred several years ago during an advanced period of instrument conditions when there was an extensive brush fire problem in Mexico which adversely impacted much of Texas and particularly the border region. The reason that the system was down so long was due to the lack of availability of replacement parts for the old unit.

This system should be replaced as soon as practicable.

5.1.4.2 Precision Approach Path Indicators (PAPI)

In a future lighting or airfield pavement project, PAPI should be installed for both ends of Runway 13/31. Currently Runway 31 has a four-box VASI that will need to be replaced in several years; Runway 13 does not have this type of approach aid.

5.1.5 Perimeter Road

A perimeter road should not be confused with an access road, as it is for secure vehicles only operating within the Airport Operations Area. It is an internal airport road and is sometimes referred to as an "inside the fence road." These roads loop the airfield and enable emergency or service vehicles to have access to any part of the airfield without having to cross an active runway or taxiway, reducing incursions. The perimeter road also has a security function which has become significant since 9/11/01.

MFE has a perimeter road that extends around the entire facility.

5.2 FACILITY IMPROVEMENTS REQUIRED TO MEET FAA STANDARDS

This section of Chapter Five discusses facility requirement needs that are based upon comparing FAA standards with existing facilities. The needs identified in this section are airport deficiencies based upon comparisons with standards. However, these deficiencies are caused by changing conditions in general or changing FAA standards over time and are in no way due to lack of attention by the City of McAllen.

5.2.1 Displaced Threshold

The primary deficiency at MFE is the 135-foot displaced threshold at the Runway 13 end. This displacement is due to lack of clearance over 23rd Street from the end of the runway. Yet when one applies the test of the entire runway protection zone, the critical point becomes the diagonal distance of the RPZ measured from the northwestern corner closest to the runway toward the northwest. While the roadway clearance on centerline may clear by 30 feet, the northwest corner of the RPZ is 350-feet from the edge of right-of-way for 23rd street, providing only a 7-foot clearance at 50:1.

Therefore, the runway threshold should be further displaced to provide a 15-foot clearance over this road at 50:1 measured from the edge of the RPZ to the closest point with the roadway right-of-way. This will further relocate the runway by another 195-feet to a displacement of 330-feet.

At such time, the runway is extended, this runway length can be regained.

5.2.2 Perimeter Fencing

With the exception of one area of fencing on the west side, MFE is up-to-date with perimeter fencing. On the west side of the airport essentially across the runway from Runway end 13, new fencing is scheduled to be installed in the immediate term. Its location is east of the existing fencing on the opposite bank of a drainage channel and its installation will eliminate potential points of access to airport property. In association with the fence installation, two drainage channels will be enclosed to permit uniform extension of the fence. An existing on airport road will be rerouted to follow the new fence line.

5.2.3 Airfield Signage

Based upon recent FAA criterion, it is necessary to update airfield signage at MFE.

5.2.4 Land Acquisition

The FAA highly advocates the ownership of runway protection zones in fee simple or, as a last resort, avigation easement. Typically, and particularly in urban areas, the cost of purchase of avigation easement is almost as great as fee simple purchase and it carries less control. Avigation easement provides an owner generally with the right to generate aircraft noise over a property without property owner recourse of inverse condemnation. MFE does not control in fee simple ownership all the land for Runway end 13 or Runway end 36. The master plan recommends purchase of additional land in fee simple for land in the RPZ for Runway 13 but not for Runway 36, as described below.

5.2.4.1 Runway 13/31

For the current airport condition, MFE does not control the entire runway protection zone for Runway 13; approximately 16.6 acres are held in avigation easement and approximately 6.1 acres are not controlled at all either in fee or in avigation easement.

Two of these parcels held in avigation easement also contain buildings. A 3.2 acre parcel east of 23rd Street at the corner of Uvalde Avenue has three buildings located on it, two auto-oriented businesses and a small medical-oriented facility. Diagonally across the street, there is a parcel of approximately one acre in size that contains two buildings associated with an auto-oriented business.

However, once Runway 13 is displaced further, the result is a shift of the RPZ toward the airport which changes the land requirements. With the future RPZ configuration, the same 16.6 acres currently held in avigation easement still will need to be acquired but there are fewer acres not yet controlled either in avigation easement or fee simple that will need to be purchased, i.e., 2.3 acres for the future RPZ configuration versus 6.3 acres in the current RPZ configuration (see the Airport Property Map for the Runway 13 RPZ configurations). The City owns the RPZ for Runway 31 in fee simple.

5.1.5.2 Runway 18/36

It is sufficient that there are avigation easements for both ends of Runway 18/36 due to the nature of the runway's operation.

For the RPZ off Runway 18, a portion of the La Plaza Shopping Mall is located within it. The FAA has approved avigation easements for this runway end due to the low usage of the runway and the unnecessary cost associated with purchase of the RPZ in fee simple. It will be noted that due to this encroachment of the recommended RPZ, limited runway use, and the lack of a need for a crosswind runway, the runway should be closed in the future.

For the RPZ off Runway 36, a portion of the RPZ is located over the flood boundary of the Mission Pilot Channel, which prohibits incompatible development at that location.

5.3 FACILITY IMPROVEMENTS REQUIRED TO ACCOMMODATE FUTURE DEMAND

The most critical need facing the McAllen-Miller International Airport for the long-term is its lack of land for future expansion and land needed for incremental growth. Without additional land, MFE will soon find that it is totally landlocked to future expansion. The most prominent future need is the extension of Runway 13/31 to accommodate larger and heavier aircraft associated with a potential air cargo facility.

Equally as critical is land needed for long-term future facility expansions. A future vehicular parking expansion eastward into the general aviation area will begin the rotating exercise of displacing facilities which will, after a short period, require additional airport land purchase. Short-term relocations for facilities should be avoided since this is a duplication of expense. If facilities are to be relocated, logically these should be relocated to the best location to serve the airport for the long-term. This is a major purpose of the airport master plan.

The specific amount of land required to accommodate future expansion will follow at the end of this section.

5.3.1 Airside Requirements

This section of the chapter will discuss the need for a runway extension to Runway 13/31, the need to begin planning for a future parallel runway, and the option to close crosswind Runway 18/36 should the future parallel runway be constructed.

5.3.1.1 Runways

5.3.1.1.1 Runway 13/31

The forecasts indicate that the design aircraft is the B-767 aircraft with a typical stage length of 1,600 miles. In addition, there will be limited, scheduled operations by ARC D-IV aircraft such as the MD-11. Without weight restrictions or unseasonably cool temperatures, Runway 13/31 has insufficient length to handle this aircraft. Therefore, an in depth investigation was conducted to determine the runway length that would be necessary to accommodate the fleet forecast to be operating at MFE in the future.

Determine Design Runway Length

Runway length depends on a wide variety of variables such as airport surface elevation, ambient mean summer temperature, runway gradient, runway surface condition, and the type and weight of the aircraft using the runway. Aircraft weight is affected by the flight

stage length that determines how much fuel must be carried as well as airline policies regarding the use of the equipment as part of their business plan. FAA guidance is that the runway length should be based on airplanes that are forecasted to use the runway on a frequent basis but they also publish general parameters than can be used as benchmarks. The definition of frequency is 500 annual itinerant operations or 250 departures per year. As indicated in Chapter 3, the design aircraft for MFE is the B-767-300F. In the past, the design aircraft has been a DC-8, which still operates in the U.S. fleet and does operate today at Valley airports. In previous years, the scheduled charter cargo operations have used this aircraft. However, while a workhorse air cargo aircraft, DC-8s are rapidly approaching the end of their useful lives. **Appendix A, Table B-1** provides a comprehensive list of non-stop destinations over the past several years from McAllen for air passenger and scheduled on-demand air cargo aircraft, including air cargo. **Table 5-1** below is a subset of that data which focuses on international destinations and includes ten countries, one beyond the Americas. Cities listed in capital letters are those destinations involving air cargo. Note that with the exception of Santa Rosa, Bolivia, all international air cargo operations connect with cities that are involved in some way with automobile or parts manufacturing.

Table 5-1
International Origin/Destinations for Air Passenger and Air Cargo Aircraft
McAllen-Miller International Airport (1990-2003)

Belize	**Costa Rica**	**Mexico (continued)**
Belize City	San Jose	Ixtapa/Zihuatanejo
Bolivia	**El Salvador**	LEON-GUANAJUATO
SANTA ROSA	San Salvador	Los Cabos
Canada	**France**	Manzanillo
Calgary	Paris	Mazatlan
HAMILTON	**Honduras**	MEXICO CITY
LONDON	San Pedro Sula	MONTERREY
TORONTO	**Mexico**	QUERETARO
Vancouver	Acapulco	SALTILLO
WINDSOR	Cancun	Veracruz
Colombia	Guadalajara	**Republic of Panama**
Bogota	HERMOSILLO	Panama City

The master plan recommends the B-767 as the design aircraft because of the number of aircraft available in the market today and anticipated to be around over the 20-year master plan time frame, the likelihood that it would be used in the Valley, and because of its efficiency. The design destination and stage length is Toronto, Ontario at 1,595 miles. Toronto was chosen because of the strong economic ties that exist between McAllen/Reynosa and Toronto as well as the historic, although non-scheduled, air cargo activity that has existed between them.

The maximum gross takeoff weight of the B-767 is 412,000 pounds, but the aircraft likely would not operate at maximum gross weights at McAllen, unless longer stage lengths than Toronto were part of its schedule in the long-term. As mentioned in the forecasts, this is not entirely without merit with several businesses in the Valley already contemplating the possibility of moving produce such as fruit to destinations as Germany.

Table 5-2 presents runway length requirements for McAllen for various aircraft that might operate non-stop to Toronto, which is 1,595 statute miles. This table is based upon a series of assumptions that would change if there were a different subject destination. Within the table, there are a series of assumptions regarding how an airline might use the aircraft, as will be described.

Table 5-2
McAllen-Miller International Airport
Runway Length Requirements
Stage Length - Toronto, 1595 Statute Miles

Representative Aircraft operating with full loads	General FAA Measures	Standard Day = 59˚	Standard Day + 15˚C (27˚F) = 84˚F	96˚F	100˚F
Adjusted for Elevation and Mean Maximum Temperature:	8,487				
Adjusted for MMT and Wet Pavement	9,760				
DC-9-32F, non-stop		7,541	7,827	8,113	8,165
B-737-200C, non-stop		9,007	9,307	9,418	9,462
B-737-700, non-stop		7,327	7,877	8,081	8,162
B-737-700, fuel reserves		9,108	9,940	10,248	10,371
B-727-100C, non-stop		5,735	6,482	6,841	6,960
B-727-200		6,947	7,247	7,391	7,439
B-757-200-PF, non-stop		6,044	6,204	6,268	6,294
B-757-200-PF, fuel reserves		7,019	7,479	7,663	7,736
B-767-300F, non-stop		6,582	6,782	6,982	7,062
B-767-300F, fuel reserves		7,987	8,187	8,387	8,467
B-767,300F, maximum gross takeoff weight		9,050	9,350	9,650	9,770
DC-8-73F, non-stop		7,891	8,132	8,460	8,527
DC-8-73F, fuel reserves		9,390	9,758	10,243	10,351
DC-10-30-F, non-stop		7,510	8,104	8,310	8,421
DC-10-30-F, fuel reserves		8,970	9,822	10,138	10,301
MD-11F. Non-stop		7,610	8,410	8,432	8,517
MD-11F, fuel reserves		8,650	9,680	9,709	9,823

Source: HNTB

Two series of assumptions were made regarding the potential future fleet mix that would operate at McAllen and their runway requirements. First is a series of assumptions with regard to the runway length in general and secondly, specific to the aircraft. Runway assumptions are:

- Airport elevation of 107 feet;
- A maximum mean daily temperature of 96˚F. Also considered is a slightly higher temperature of 100˚F that is common in the Valley, heat indices notwithstanding.
- A maximum difference in runway centerline elevations of 11 feet (which occurs at existing Runway 13/31); and,
- A design stage length of 1,595 miles, which is the statute mile distance between MFE and Toronto Pearson International Airport.

Wet pavement is not a great consideration for MFE since there is sunny weather a grand majority of time and is considered an incidental factor for purposes of these analyses. The general FAA criteria mentioned above were used in ascertaining the adjustments for elevation and temperature, as well as the longer runway length associated with an adjustment for wet pavement.

When determining runway length requirements for MFE for specific aircraft, another set of assumptions also were used relative to the amount of fuel that would be required for various aircraft to fly to Toronto and hence the needed runway length. Aircraft manufacturers' manuals were used for each of the aircraft mentioned above to ascertain specific characteristics. These sources provided general characteristics for each aircraft and their runway requirements in varying temperature conditions, runway elevations, flap settings, and weights. Not all the manuals provide information in the same way, so there was a need to extrapolate data. For example, the typical temperature ranges of Standard Day and Standard Day Plus 15˚ Centigrade (or 27˚ Fahrenheit) was common. The 96˚F and 100˚F columns are extrapolations of data.

There are virtually an infinite number of ways to calculate runway length requirements for aircraft, depending upon the weather conditions of a certain time of day as well as the owners' use of that aircraft. **Table 5-2** provides a couple of different options with regard to aircraft utilization. All runway lengths assume that the aircraft is carrying a full payload, which is 90 percent or greater use of the aircraft's full payload.

- Non-stop services between McAllen and Toronto. This assumes that an aircraft will be carrying enough fuel to move from McAllen to Toronto, plus mandatory reserves and contingencies. Fuel calculation considers taxiing, takeoff, climb, enroute, descent, reserves, and potential missed approach.[1]

- For some aircraft, there is noted a "fuel reserves" option for runway length calculation. This assumption takes into consideration the possible ways that an owner may choose to operate an aircraft, including taking into account the location of that operator's fuel concession. Often aircraft operators may have long-term fuel purchase agreements with a particular vendor. It may be more cost effective for that operator to purchase fuel at a particular location, not the arrival or departure destination. This option also considers that the potential need for a quick turnaround at the destination, whether McAllen or Toronto, to move essential JIT cargo and the fuel reserves for that eventuality. Certainly there are a myriad of options in between as well as many more not postulated here.

For several of the aircraft in **Table 5-2**, there is not the possibility for a "fuel reserves" option because that would require more fuel than the fuel capacity of the aircraft and would exceed that aircraft's maximum gross takeoff weight.

[1] Calculations were derived from several publications: "Section 7: Impact of Weight Changes on Aircraft Fuel Consumption", FAA, October 19, 1998, Tables 7-2 through 7-16, pp. 7-1 through 7-12; Fuel Burn Calculations, http://www.fltplan.com/FuelBurnCalc.htm; and, Flight Planning and Performance Introduction, General Electric CF6-80C2B1F engines, http://www.aerowinx.de/downloads/PlanPerf.pdf.

This analysis does directly address the issue of payload off-loading penalties associated with operating on a particular route due to a combination of factors such as runway length and temperature, as discussed in the forecast chapter. Again the assumption and goal is to operate with load factors of 90 percent or greater. However, one may infer from the table that for various aircraft operating at various runway temperatures, there would be payload penalties. For the aircraft listed in the table, few can operate at McAllen today with a full load even during Standard Day conditions, which for McAllen, only occur in winter. It is pointed out in the forecast chapter that discussions with McAllen tenants identified the need to lease more than one aircraft for certain deliveries due to runway constraints. One tenant noted in the interviews regarding on-demand air cargo usage that a Falcon 20, a large business jet, has offloading penalties on certain days if the haul length is greater than Little Rock, i.e, 690 statute miles.

Short term runway length

The recommended short-term runway length for McAllen today is 8,500 feet, requiring a 1,722 foot extension to Runway 13/31. This length will provide 8,500 usable length for both takeoff and landing and accounts for regaining usable runway length as a result of a 330 foot displaced threshold for Runway 13. The air cargo forecasts document a considerable air cargo demand that McAllen could accommodate if facilities were available. This is not a "build it and they will come" argument but an argument for construction of needed facilities to meet a pent-up demand. It is clear from the vast amount of information available regarding McAllen and Reynosa that the community has been growing by leaps and bound for the last decade and is forecast to continue to do so over the next twenty years. During this time, the population in the area will more than double. Including Reynosa, McAllen/Reynosa will become a metropolitan area of approximate 2.5 million, and this does not include the burgeoning growth of Brownsville, Harlingen, and Matamoros. It is evident, too, that the Brownsville/Harlingen/Matamoros area can be considered separately from McAllen with its own considerable air cargo demand.

But why 8,500 feet? It is noted that the FAA general runway requirement for McAllen using FAA software is approximately 8,500 feet. For the master plan, this length served as a general initial indicator as a way to evaluate the runway length requirement for the design aircraft's haul length to Toronto, as well as operating requirements for other aircraft in the fleet anticipated to operate at MFE. The 8,500 length would permit the:

- DC-8 aircraft to operate with a full load non-stop;
- DC-10 to operate non-stop;
- MD-11 to operate non-stop; and,
- B-767-300F, the design aircraft, to operate non-stop and with contingency for some fuel reserve, depending upon how the owner might operate the aircraft.

The 8,500 foot runway length would provide MFE with the flexibility to be able to handle the forecast air cargo demand, flexibility for operators to use a variety of aircraft profitably without concern for runway length as a result of increasing Valley temperatures over the course of the day, and significantly, provide the McAllen/Reynosa

community with the ability to be far more competitive than it is today. Today, MFE is not competitive within its own market due to runway length constraints.

Ultimate Runway Length

Table 5-2 is also useful in determining the ultimate runway length requirement. The FAA parameter regarding wet pavement is instructive when one considers that an ultimate runway length should consider the conditions that might need to be in place for the long-term. McAllen's future could include not only the potential for a substantial air cargo operation, as indicated by the forecasts, but also international activity beyond North America, both passenger and cargo. Already McAllen has international passenger service to Mexico City once more and there are the periodic, on-demand air cargo charter flights to Mexico and Canada and other places, as indicated in **Table 5-1.**

The recommended ultimate runway length requirement for McAllen is 10,000 feet. This length is in line with the FAA general parameter that would consider wet pavement as well as:

- B-737-700 aircraft to operate non-stop with fuel reserves;
- MD-11 to operate with fuel reserves; and,
- B-767-300 to operate at maximum gross takeoff weight, ostensibly an international operation beyond North America. **Table 5-2** includes the maximum gross takeoff weight example only for the B-767, as the design aircraft.

Consideration of Runway Length Studies in Other Airport Communities

Research for this section evaluated a number of instances of airport improvements for areas around the United States. One interesting parallel was noted regarding the runway length requirement analysis prepared for the environmental assessment of improvements at the St. Petersburg-Clearwater International Airport. This document gives some confirmation that analogous circumstances result in a similar recommendation but the reason for a needed runway extension was to accommodate air passenger demand. As part of the metropolitan area for Tampa, Florida, and similar in population size as McAllen/Reynosa metropolitan area in the future, the airport has similar elevation characteristics as MFE. With similar aircraft in their forecast fleet, i.e., B-767-300, the runway length that was analyzed to represent the "shortest takeoff distance available under 'existing' conditions" was 8,500 feet, a 9,700 foot runway length was developed "to examine the inherent aircraft operating performance characteristics and weight restriction penalties", and a 10,000 foot scenario "represented the requested and documented minimum runway takeoff length that would be required to conduct long-haul/non-stop international flights to (their) various proposed destinations." [2]

[2] Appendix B: Runway Length Justification, St. Petersburg-Clearwater International Airport, http://www.pinellascounty.org/airport/pdf/Environmental_Assessment/TOC.pdf.

5.3.1.1.2 Runway 13R/31L

Runway 13R/31L would be a parallel runway to the primary Runway 13/31 that would be renamed Runway 13L/31R. According to FAA Order 5300.3B, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)*, capacity development, such as additional runway, is recommended when the activity levels reaches 60 percent of annual capacity. The capacity analysis in **Chapter 4** indicated that the annual aircraft operations demand will reach 60 percent of airport capacity beyond the master plan forecast horizon. When that time comes, it will be prudent to begin planning for a future runway which would take approximately 10 years to develop, including environmental studies and the securing of funding.

When demand exceeds capacity, delay occurs. An additional parallel runway sized to accommodate air carrier aircraft is the only improvement that would substantially increase the Airport's capacity for aircraft operations. For example, capacity enhancements such as taxiway improvements, holding pads, and decreasing runway occupancy time provide only incremental gains.

Another supporting reason for capacity enhancement is planning for redundancy. Redundancy in this case is highly positive contingency planning to keep a facility operating as normally as possible. If primary Runway 13/31 is out of service for any reason, McAllen's capacity for air carrier operations is nil. Runway 18/36 offers an alternative runway only for general aviation aircraft under 12,500 pounds. A redundant air carrier runway would enhance safety and operational reliability. Most commercial airports serving demands equivalent to MFE's current and forecasted demand have more than one air carrier runway.

Table 5-3 lists 14 U.S. airports with annual passenger enplanements between 600,000 1,000,000 in the United States in 2002 having more than one runway of at least 5,000-feet. This represents all but two airports in that category.

Table 5-3
Comparison of Airports and Runways

Airport	Enplanement (000) in 2002	Runways (> 5,000 Feet)
Long Island MacArthur Airport	962	3
Grand Rapids Gerald R. Ford International Airport	960	4*
Syracuse Hancock International Airport	945	3*
Savannah International Airport	847	2
Des Moines International Airport	846	2
Charleston AFB International Airport (S.C.)	789	2
Madison/Dane County Regional Airport	760	3
Hilo International Airport	712	2
Long Beach/Daugherty Field	709	3
Knoxville-McGhee Tyson Airport	693	2
Pensacola Regional Airport	666	2
Orlando Sanford Airport	648	3*
Wichita Mid-Continent Airport	636	3
Portland International Airport	623	2
* denotes one planned runway		

If the forecasts are correct regarding the potential for air cargo expansion, a second runway is highly desirable to ensure that scheduled air cargo operations occur on time. It happens that air cargo operators pay particular attention to the capability of an airport to support ongoing operations during any contingency, including a closed runway. The customers of freight forwarders and air cargo airlines demand on-time delivery. Unlike air passenger carriers whose passengers experience the problems and the delay and are aware of the circumstances, customers awaiting air freight are paying for on-time delivery without fail.

A secondary benefit of a parallel air carrier runway would result in the identification of preferential runway use that would have the effect of reducing noise impact on adjacent residential areas from the dispersal of aircraft activity to more than one runway. In other words, departures, which are louder than arrivals, could be moved to the southern runway where flights would be over fewer residences.

The "field of dreams" approach to airport development ("if you build it, they will come") usually fails. A second air carrier runway at McAllen-Miller is needed to accommodate a reasonable expectation of future demand. Inducing aviation demand would not be a valid reason for building another runway. However, it should be noted that a second runway at MFE might induce some aviation demand. For example, a large national or international air cargo carrier, whose survival hinges on meeting schedules, would prefer to locate at an airport with redundancy.

5.3.1.1.3 Runway 18/36

Chapter 4 discussed the value of Runway 18/36 to the runway system at MFE in terms of wind coverage as well as its contribution to capacity. The runway provides an incremental benefit for the airport in terms of capacity but does not significantly contribute to the wind coverage at the airport. In fact, Runway 13/31 does provide sufficient wind coverage for both large and small aircraft in excess of the FAA required 95 percent coverage for both all weather and IFR conditions. Consequently, Runway 18/36 provides marginal benefit.

Based upon this analysis and the fact that Runway 18/36 does provide an incremental capacity benefit, the runway can be closed when a parallel runway is constructed. At that time, the runway would be downgraded to a taxiway serving general aviation.

5.3.1.1.4 Pavement Treatments

In general, most airfield pavements – runways, taxiways, and aprons -- will be rehabilitated or overlaid during the first phase of the master plan. Consequently, no additional overlays are anticipated to be required throughout the forecast time frame. However, it is assumed that all pavements will require periodic pavement rehabilitation to occur once during each five-year period of the master plan, beginning with the intermediate.

5.3.1.2 Taxiways

To meet future demand, several taxiway projects are identified for the future runway/taxiway system.

No new taxiways are needed until the new parallel runway is warranted. In addition, this master plan will not recommend the construction of High Speed Angular taxiways. While FAA design criteria will permit planning for these taxiways once design hour operations exceed 30, design hour operations are forecast to be 33 by the end of the forecast period. However, it is recommended that this design parameter be re-evaluated in the next master plan.

In addition, there are several taxiway projects that could be considered once demand justifies a second parallel runway. While this demand is not anticipated to occur during the forecast time frame, this list is provided for purposes of identification on the airport layout plan. These would include:

- Midfield/Parallel Taxiway. It would be prudent to construct a midfield taxiway between the two runways constructed 600-feet south of the primary runway and 400-feet north of the new runway to provide ultimate flexibility for aircraft that might operate at the airport. This separation would enable Group VI aircraft to operate on the primary runway and Group IV aircraft to operate on the new runway. The taxiway would also serve as a parallel taxiway to the new runway, measuring 8,000-feet by 75-feet.

- Taxiway Connection between Parallel Runways. Taxiways would be constructed between the new south side apron serving potential cargo and general aviation areas with the main terminal area. The north connecting taxiway between future Runway 13R and the new south apron edge would measure 350-feet by 75-feet and the south connecting taxiway between Taxiway A to the midfield taxiway across the threshold of future Runway 31L would measure 900-feet by 75-feet.

5.3.1.3 Aprons

In the first phase of the master plan, most of the aprons at MFE will be rehabilitated or upgraded. It is assumed that approximately once every five years for the remaining three five-year planning periods over 20-years that an some sealing or rehabilitation work will be required.

5.3.1.4 Instrumentation for Precision Approaches

Airport users, airlines and corporate general aviation pilots alike, express the need for an instrument landing system (ILS) for Runway 31. Runway 31 now has a non-precision approach. While Runway 31 use is 10 percent of the year, this occurs when the wind is from the north which is generally during the winter. During this period, instrument meteorological conditions occur when the wind is from the north, which is about 2

percent of the year. Based upon discussions with Airport Traffic Control personnel, the 2 percent that this occurs during the year represents about 12 percent of winter month operating hours.

In addition, precision approaches should be planned for both ends of the proposed new runway, when constructed. By that time, it is conceivable that precision GPS will be in widespread use throughout the United States with reduced need for land based navaids redundancies. Should that be the case, both ends of the new runway should have precision GPS approaches. Based upon design guidance for precision GPS, ground-based equipment such as a glide slope and localizer will not be required. However, each approach will require approach lights such as a medium intensity approach lighting system with runway alignment indicator lights (MALSR) and its 2,400-foot minimum light lane off runway ends.

5.3.2 Terminal

Based upon the demand capacity analysis, the following tables present an estimation of the potential impacts of new security requirements and the implications of implementing CUTE and CUSS for key MFE terminal building components.

5.3.2.1 Terminal Expansion Needs

Table 5-4 uses a recent space allocation study prepared for an airport comparing its current facilities with recent adjustments made necessary by new security procedures and electronic ticketing. The implications of that study is that terminal designs of the pre-911 and electronic ticketing era may require rearranging of space due to an increasing need for check bag screening, outbound and inbound baggage, as well as security screening. Depending upon the configuration of the building, some of the additional space not occupied by airport ticket counters and airline office space could be and has been converted to other uses, such as check bag screening, but not always in the most desirable locations for overall terminal building passenger flow. However, the most efficient layouts incorporate in-line check bag screening with outbound baggage, indicating that the outbound baggage area may require expansion.

Table 5-4
Terminal Space Evaluation
Square Foot Requirements Per Gate

Space Use	Ratio Current to New Requirement	New Short-Term Requirement	New Intermediate Term Requirement	New Long-Term Requirement
Ticketing	113%	1,011	1,005	1,090
Airline Office	155%	389	387	419
Outbound Bag	54%	949	947	947
Check Bag Screening	35%	667	600	60
Inbound Bag	50%	958	939	1,008
Security Screening	59%	533	480	480
Bag Claim	70%	1,568	1,557	1,688

Table 5-5 uses the parameters cited in **Table 5-4** to look at the key components of security screening, check bag screening, outbound and inbound baggage. At the present time based upon these parameters, MFE faces capacity constraints particularly in space for bag check screening and outbound baggage during peak periods, baggage claim handling areas are stretched as well as the passenger security screening areas. Within five years, the security screening lines could be backed up to the vicinity of the restrooms in the lobby area.

At this juncture, the values in **Table 5-5** are generic. For some facilities, the estimates do not present the full story. For example, sufficient space for a security screening area is about 1,800 square feet. Both magnetometers and security screen positions at MFE occupy space that ordinarily might be found serving one unit and its queue.

Table 5-5
Key Airport Components
Space Utilization Needs (Square Feet)

Space Use	Security Screening	Outbound Bag	Check Bag Screening	Inbound Bag	Bag Claim
Current Space Per Gate (S.F.)	450	650	300	875	1500
Space Requirement	875	950	600	1000	1600
Surplus (Deficiency) Per Gate	-425	-300	-300	-125	-100
Total Surplus (Deficiency) with 4 Gates, Baseline	-1700	-1200	-1200	-500	-400
Surplus (Deficiency) with 5 Gates, 2009	-2575	-2150	- 1800	-1500	-2000
Surplus (Deficiency) with 6 Gates, 2014	-3450	-3100	-2400	-2500	-3600
Surplus (Deficiency) with 7 Gates, 2019	-4325	-4050	-3000	-3500	-5200
Surplus (Deficiency) with 8 Gates, 2024	-5200	-5000	-3600	-4500	-6800

Consequently, this represents the most apparent deficiency of the terminal to the customer, although inbound/outbound baggage is as or more critical. Already, MFE plans an in-line screening equipment building (implementation in FY 2005) that will be constructed adjacent to the terminal's outbound baggage facility that will address part of this deficiency.

Table 5-6 provides an estimation of the terminal building's key component areas. As mentioned above, there may be opportunities to reorganize some spaces within the building to address future deficiencies that would result in less expansion than cited in that table. While outbound, inbound and bag claim need to be addressed, likely the most noticeable gridlock point will be the passenger security screen area.

Table 5-6
Gross Estimate of Terminal Expansion Needs
(Square Feet)

Baseline and Scenario Years	Surplus (Deficiency) for Security and Baggage Handling	Concourse Expansion	Terminal Expansion Requirements
Total Surplus (Deficiency) with 4 Gates, Baseline	-5,000	N/A	5,000
Surplus (Deficiency) with 5 Gates, 2009	-10,025	3,000	13,025
Surplus (Deficiency) with 6 Gates, 2014	-15,050	6,000	21,050
Surplus (Deficiency) with 7 Gates, 2019	-20,075	9,000	29,075
Surplus (Deficiency) with 8 Gates, 2024	-25,100	12,000	37,100

5.3.2.2 Terminal Expansion Location Options

There are essentially four areas of the terminal where expansion needs to occur: ticketing/outbound baggage area, passenger security screening, inbound baggage/bag claim area, and concourse gate expansion.

Ticketing/Outbound Baggage Area – Use of CUTE/CUSS will result in less space allocation for ticketing. However, security requirements and additional passenger loads requires that the outbound baggage area, with its in-line bag screen system, be much larger. There is sufficient space at the east end of the building for this to occur without displacing any other facilities.

Passenger Security Screening -- Currently this area is deficient in size. Over time with increasing passenger loads, this will increasingly become the constraining feature of the building. At the same time, this is the portion of the building that is the most difficult to expand. Adjacent the security screen area is the terminal building's curvilinear ramp and architectural feature that leads from the FIS to the ticketing level. Adjacent this area on the other side is Gate 1.

One option that a terminal expansion study might investigate is the extension of the terminal building at this point to the west, building out the area to accommodate additional passenger screening equipment and queues. Sufficient space could be provided to also relocate Gate 1 by pushing it out on the apron. Since there may be an issue of sufficient apron space for accommodating a "pushed out" Gate 1, the general aviation/parking area to the west of the air carrier apron associated with Gate 1 could be relocated to accommodate this essential use. While it may be possible to further extend the terminal building concourse to the south, it is prudent to retain as much flexibility as possible for aircraft maneuvering.

Inbound Baggage/Bag Claim – There is sufficient space west of the terminal building adjacent to the existing inbound bag facility (lower level) and bag claim facility (upper, ticketing level) to provide the space required for needed future expansion area.

Concourse Gate Expansion – Not counting Gate 1 that would be relocated further west at its current location, there will be need for four additional gates. At least two of these

gates likely would serve regional jet aircraft. In all, four additional loading bridges will be required. The current level of service expectation for regional jet aircraft is the same as for narrowbody and larger aircraft, i.e. service by loading bridges. While not yet pervasive throughout Texas, many locations throughout the United States have loading bridges for regional jet service.

5.3.3 Landside

Landside requirements include the passenger terminal building, automobile parking, airport access, cargo facilities, general aviation facilities, and airport support facilities.

5.3.3.1 Passenger Terminal

The existing terminal envelope is sufficient to handle future passenger activity at MFE throughout the forecast period and beyond. The terminal was constructed in a way that would enable expansion to the east and west as well as a south concourse extension of about six gates. Future forecast demand will not require modifications that will approach these limits.

As stated in Chapter 4, the passenger terminal will need to review its space needs within the next several years due to additional space requirements for security screening and baggage handling, both inbound and outbound. However, a gate expansion may not be necessary until after 10 years or more, although it remains to be seen if the passenger loading bridges will need to be configured for a changing fleet mix. So far, narrowbody jets have predominated at MFE with only Northwest limited service to the Airport in 2004 using regional jets. Sizing that expansion for future demand may result in the need for as many as four more air carrier gates (aircraft parking positions) but possibly as few as two, not including reconfiguration of Gate One.

According to FAA Advisory Circular 150/5360-13, Planning and Design Guidelines for airport terminals, origin/destination airports experience 0.9 to 1.1 hourly aircraft movements per gate. Forecast for 2024 indicate that there will be eight air carrier operations occurring during the design hour. With one aircraft movement per gate per hour, eight air carrier gates (aircraft parking positions) could be required. In accordance with commonly held customer service expectations nowadays, all aircraft operations are assumed to be served with loading bridges.

Currently, four jets are parked overnight at the Airport. It is not assumed that this will change over the forecast period. However, if demand for overnight aircraft parking positions increase, the future gate additions would be adequate to meet the increased overnight demand.

Approximately 37,000 square feet of additional terminal building area will be required to meet the 2024 demand as indicated in **Table 5-6**. Most of the additional building area is required to increase spatial demand associated with security modifications for screening areas for both passengers and baggage. It is also assumed that additional inbound

baggage space will be required with construction of new gates. A detailed analysis of the terminal building capacity and requirements should be conducted within the next couple of years to study terminal and parking needs.

5.3.3.2 Automobile parking

There are 1,666 vehicular parking positions at MFE including short-term, long-term, rental car, employee, overflow, and very long-term parking positions. With the exception of very-long term parking, all vehicular parking positions are generally within an acceptable walking distance of the terminal, which is usually considered to approximately 1,000 feet. The other 473 positions are remote parking positions located in the general aviation area east of the terminal and in the vicinity of the Airport Traffic Control Tower.

Demand for vehicular parking positions likely will exceed current capacity within the next 3-4 years (or sooner); there is both an increasing demand for passenger and rental car parking. If one includes the perceived capacity factor of 90 percent, the threshold for new passenger parking spaces will be approached by the end of 2006.

A total of 3,086 parking places are required in the master planning period to accommodate public, rental car and employee forecasted demands. This equates to an additional 947 stalls needed should one exclude the remote and very long-term parking positions or 1,420 if all parking were contiguous to the passenger terminal. **Chapter 6-Alternatives** will discuss options for future parking.

Rental car agencies have proposed building a car wash/maintenance facility on a demolished hangar site near Taxiway D in the short-term. A portion of the adjacent long-term public parking lot already is used by rental car agencies for additional parking. Yet in the medium- to long-term planning horizon, a significantly larger area will be required for their vehicles. Two possible solutions for this dilemma are to have the rental agencies operate off-airport or provide remote on-airport land for parking and car wash/maintenance facilities.

Continuing consideration will be given to the location of the employee parking lot. Currently, employees park in the general aviation area in overflow parking.

Due to the tight land constraints in the immediate terminal vicinity, a limited amount of land can be used to fulfill these vehicle parking demands. Possible alternatives that will be discussed in **Chapter 6: Alternatives** are a parking garage, removal of existing structures on the west side of the general aviation area for parking expansion, purchase a adjacent small parcels, or off-airport rental car parking.

5.3.3.3 Airport Access

Bicentennial Boulevard and Tenth Street are the primary airport accesses, as MFE lies south of U.S. Expressway 83 and most of the McAllen/Edinburgh/Mission area. A designated Airport Connector ramp exists for westbound traffic on U.S. 83 Expressway

to Bicentennial Boulevard and has become the preferred access. This link circulates traffic directly into the parking and curbside areas.

However, there is not a similar link for eastbound traffic on U.S. 83 Expressway. An eastbound link would better serve the west side of McAllen and Mission. Several times per day, it is difficult to exit at 26th Street onto the frontage road, merge across frontage road traffic, and turn right on the ramp to Bicentennial. It is becoming more common for travelers that use this route frequently to exit U.S. 83 at Ware Road so they can merge across lanes and not have to continue on the frontage road to Tenth Street. It is recommended that a direct ramp access from U.S. 83 be constructed to Bicentennial Boulevard.

5.3.4 Cargo Facilities

Existing air cargo facility capacity is projected to be adequate until around 2017. However, cargo demand could outpace the forecast which assumed the low range scenario and has very little space for expansion. Facilities to accommodate demand until the end of the planning period would require additional land. If land is acquired for future facility expansion, land near the new runway should be reserved for future air cargo site. This would enable at least one site for a large cargo operator to develop should demand materialize.

More than cargo building space, apron space is a constraint at the current facility. The current apron is able to accommodate 4 B-727 aircraft. With the potential for two ARC D-IV aircraft to be at gate simultaneously, the current ramp would not be able to accommodate both aircraft and there is no contingency for operating such aircraft with the potential for aircraft that may also be remote overnight.

5.3.5 General Aviation Facilities

General aviation capacity will begin to become constrained as the mix of aircraft continues to change from smaller to larger. In the past there has been sufficient capacity. Although the number of based aircraft to be accommodated is not greatly different than today, the space needed to accommodate the aircraft and the larger itinerant aircraft will place a constraint upon the general aviation facility requiring a need to look for other options.

However, there is little vacant land with airside accessibility that is undeveloped, consequently unforeseen demand should be considered, such as hangar facilities for the larger corporate jets. At the same time, the existing general aviation area is adjacent to the air carrier terminal with its need to consider expansion of parking facilities.

5.3.6 Airport Support Facilities

Aircraft Rescue and Firefighting Facility (ARFF) vehicle capacity is adequate for the planning period. However, the older ARFF vehicle was purchased in 1976 and should require replacement during the 20-year planning period.

If a second air carrier runway is constructed, the ARFF location may not allow the required three minute response to the new runway. A satellite or replacement ARFF might be required. Since the existing ARFF also provides structural firefighting response to off-airport areas, a site location would also need to take this issue into consideration.

McAllen has no airport maintenance building. City-owned equipment used for airport maintenance, mostly mowers, is stored off the airport property. If the Airport property expands considerably, creating a corresponding expansion of the grounds maintenance workload, an investment in dedicated airport equipment may be justified. Therefore, if additional land is acquired for a second air carrier runway, an airport maintenance building may be required.

The possibility of the City selling fuel directly and the possible need to consolidate all fuel storage in one area has been discussed. Current policy of fuel sales by private enterprise is expected to continue. Individual operators who wish to store and/or sell fuel bear the responsibility for handling and storing fuel in ways that meet fire safety and environmental protection laws and regulations. Thus, the consolidation of fuel storage has few advantages. Based on master plan projections, MFE will have a 3-day supply of jet fuel and a 10-day supply of aviation gasoline. Jet fuel storage may need to double to provide a 5- to 7-day supply; however, the choice of relying on more frequent delivery or expanding existing fuel storage will be made by the fixed based operator.

Any airfield changes, such as the addition of an air carrier runway, should be examined for visibility from the control tower. A new and/or taller tower may be required.

5.3.7 Helicopter Operating Area

Currently, the U.S. Customs & Border Patrol (CBP) helicopters takeoff and land along Taxiway C, and other helicopters use Runway 18/36. If Runway 18/36 is closed and converted to a taxiway, it still may be prudent to consider the former runway as a taxiway for this significant helicopter activity, as opposed to adding them to the fixed wing traffic using Runway 13/31.

5.3.8 Other Needs and Opportunities

McAllen has little available land for additional development. Additional land is acquired to provide both for future flexibility in locating facilities expansions that will not require further location again in the future as well as providing for a potential second parallel runway when demand justifies it.

The amount of land needed to accommodate future expansion is also a function of the best location for the relocation of Tenth Street and the Mission Pilot Channel. This will be discussed in detail in **Chapter 6: Alternatives.**

In addition to airport improvements, the Airport's 20-year capital investment program should include updating the Airport Master Plan. Considering the rapid pace of growth projected, an update will probably be needed every five years.

Chapter Six
ALTERNATIVES ANALYSIS

6.0 INTRODUCTION

This chapter considers various alternatives for facilities improvements in anticipation of developing a recommended plan and implementation through a Capital Improvements Program (CIP).

6.1 PUBLIC INVOLVEMENT

The master plan process included a detailed program of public involvement centered on a series of events described below.

6.1.1 Public Involvement Workshops

Over the course of 18 months, the Master Plan Update public involvement program provided a forum by which the public received information on the status of the project as well as offering the community an opportunity to input.

While many city-wide public involvement activities were utilized, some of the neighborhood focus was within a mile radius of the airport including the following communities: Ermosa, Balboa, Kennedy Circle, La Paloma, La Pompa and El Ranchio. Within this context, three bi-lingual public workshops were conducted.

The public workshops occurred on December 2, 2003 at the Airport Conference Room, April 22, 2004 at the McAllen Tourist Center, and January 13, 2005 at the City Hall Commission Chambers. Each of the workshops was held using theater-style seating with a Spanish-speaking interpreter. Each workshop utilized a power point and/or exhibit presentation boards and handouts highlighting specific information pertaining to each of the master plan update phases. An average of 75 to 100 people attended the workshops. Beverages and snacks were made available for the attendees. All three of the workshops were well covered by the local media. The subjects of the meetings were as follows:

- December 2, 2003 – Identification of program goals and what the public expectation might be for the planning process. An important purpose of this meeting was to identify to McAllen residents, particularly those in Colonia Hermosa, the neighborhood closest to the Airport, that the emphasis of the master plan was extension to the primary runway, if it would be justified, as opposed to an emphasis on construction of a parallel runway. Citizens of the colonia had been concerned about intentions to buy their homes for purposes of new runway construction.

- April 22, 2004 – Preliminary forecasts and development alternatives. This meeting focused upon identifying potential demand for facilities, supported the potential for a future runway extension but deferral of a future runway until demand warranted it. At this meeting, a potential airport envelope was discussed in general, showing four alternatives for possible airport expansion that would involve the relocation of the Mission Pilot Channel and Tenth Street.

- January 13, 2005 – Described the potential impacts associated with the four alternatives presented at the April 2004 meeting. Each alternative was evaluated in terms of five criteria, as described below in **Section 6.3.6.**

Each of the public workshops was advertised to McAllen residents and businesses using various marketing tactics to maximize input and attendance, utilizing the following:

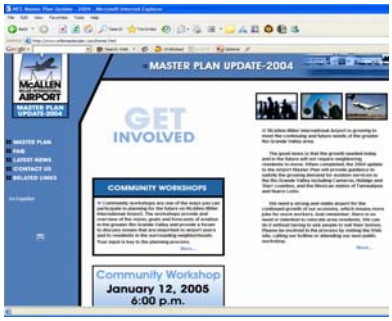
- Newspaper advertising
- Press releases and media calls
- Email announcements to specific communities
- Announcements inserted in the City monthly water billing statements
- Flyers or posters distributed to key neighborhoods and public places

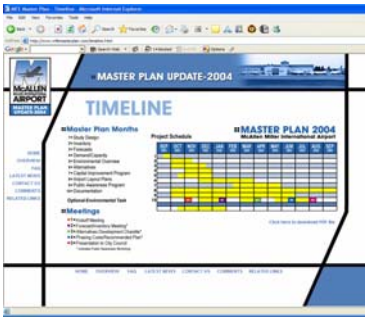
Water Bill Insert

6.1.2 Ongoing Public Awareness of Master Plan Update

As a way to keep the public aware of the progress of the master plan study during periods between public workshops, several tactics and tools were used:

Internet: Project Web site (www.mfemasterplan.com) was created to provide McAllen citizens with the latest information and frequently asked questions on the planning process. The site encouraged feedback through voice mail, e-mail or regular mail. The site provided workshop materials and power point presentations.





Telephone Hotline: Project telephone (213-PLAN) provided the latest information on the planning process and encouraged feedback through voice mail or a direct connection to the airport administration office. The recorded messages provided answers to questions about specific project or program news, updates and announcements. Other methods used to disseminate information were:

Direct Mail: Bi-lingual newsletter mailed city-wide to homes and businesses.

Literature Drop: Bi-lingual flyers were dropped door–to–door to announce launch of project Web site and telephone hotline.

Public Relations: distribution of press release to announce launch of project Web site and telephone hotline and other important news.

6.2 IMPETUS FOR AIRPORT EXPANSION

The primary impetus for MFE airport expansion is to enable Runway 13/31, the primary runway, to be extended. This extension will provide the runway length necessary for current and future tenants to make the best utilization of the runway. At this point, McAllen lacks the competitive advantage to handles its share of Border Texas air cargo. Users opt to go to communities with longer runways, including Harlingen and Laredo. The construction of a runway extension will provide the flexibility for users to move Just-In-Time goods and cargo to markets throughout North America without having to consider constraints of runway length, aircraft size, uplift capability, or local weather conditions.

The extension of Runway 13/31 requires two important facility relocations, Tenth Street and the Mission Pilot Channel. Each will require a significant environmental investigation. Since the implementation of the Runway 13/31 project is extensive with widespread implication, it is prudent to take into consideration the big picture view of what the ultimate airport envelope for McAllen. Since both facilities must be relocated for the runway extension, the logical question arises with regard to what would be needed to construct the facility relocations in such a way as to accommodate the ultimate airport expansion. This question presents the reasoning for identifying four alternatives for relocation of the Mission Pilot Channel.

In investigating alternatives for identifying a future envelope of expansion for McAllen, the issue of the need for a second runway arose. Given the phenomenal growth that McAllen has witnessed and is forecast to undergo in the future, it is prudent to consider future construction of a parallel runway.

However, additional land needs are not simply justified in terms of future runway development but also the need for potential expansion opportunities for other aspects of airport activities, such as space for future air cargo expansion or a relocated air cargo area as well as other ancillary buildings and uses. Practically, McAllen is built out today, warranting considering of future land acquisition to accommodate future facilities growth.

When factoring in possible tenant expansion needs as well as the potential for ultimate parallel runway construction, it is warranted to consider potential land acquisition needs beyond that needed to extend the runway.

Nevertheless, there are some identified constraints for potential development that have long been acknowledged. Future expansion for the airport did not consider areas west and north of the airport since those were debated and rejected in previous master plans. There is no apparent merit in revisiting those decisions. Twenty-Third Street is considered an immovable constraint as well as potentially expanding north of Wichita Avenue. No consideration will be given to impacting La Piedad Cemetery. Heretofore, the U.S. Customs & Border Patrol (CBP) Complex has also been considered untouchable. However, the CBP location is increasingly important as part of a long-term solution for

MFE parking and there are indications from the CBP that there could be discussion about their site in the long-term. More over, the previous master plan judged Colonia Hermosa as a significant constraint that might be overcome whereas, in this master plan, the McAllen City Council provided the consultant with direct guidance to seek alternatives that did not require relocation of the colonia.

In summary, other options considered to be viable will be discussed to accomplish the long term expansion needs of MFE and not require any redevelopment of existing built up areas west and north of the Airport. Albeit expensive, both the Mission Pilot Channel and State Highway 336 (Tenth Street) are considered to be movable constraints. County and State transportation plans have long acknowledged that there would be a need to relocate Tenth Street in a potential future airport expansion.

6.3 LOCATION FOR ULTIMATE PARALLEL RUNWAY

Certainly figuring into the amount of land needed for the airport envelope besides the land need for extension of the primary runway is the potential construction of an ultimate parallel runway. Based upon evaluating the results of master plans, this master plan does not consider locating the ultimate runway 3,500 feet south of the existing runway to enable future simultaneous IFR operations; see **Chapter 4: Demand Capacity** and **Chapter 5: Facility Requirements**. Rather, the master plan's focus is construction options associated with a closely spaced runway that would enable simultaneous dependent operations in VFR conditions only. **Chapter 4: Demand Capacity** discusses the reasoning for locating the ultimate runway no closer than 1,000 feet from the centerline of the current runway. This reduces the range of runway location options to separation distances from the primary runway of 1,000 feet, the minimum recommended location for simultaneous dependent VFR operations, and 3,400 feet, the separation needed for simultaneous independent IFR operations in all weather conditions.

The criteria developed for siting an ultimate runway are:

- Between 1,000 feet and 3,400 feet from the centerline of the primary runway, as described above;
- Runway and its associated precision instrument approach surfaces, including RPZ, that does not require acquisition of any land in Colonia Hermosa or relocation of any residents there;
- Consideration of future ancillary airport facilities expansion locations;
- Consideration of the relocation of Tenth Street; and,
- Minimizing land acquisition.

6.3.1 Runway Separation Distance

The minimum separation distance between runways enabling dual independent IFR approaches is 3,400 feet. This would essentially double the capacity of the airport while requiring purchase of several thousand acres of land. Based on the forecasts and the

ultimate growth projected for the airport, a doubling of airport capacity is not needed and the cost of land acquisition cannot be justified.

After reaching this decision point, the issue becomes identification of the appropriate separation distance from the primary runway that best accommodates simultaneous dependent VFR approaches, meaning that two aircraft could arrive in tandem but the second operation is dependent upon the conclusion of the first.

The minimum separation to accommodate dual simultaneous dependent arrivals during VFR conditions is 700 feet. While 700 feet is allowable, it is good planning to opt for a separation of 1,000 feet to provide maximum flexibility for future planning of a runway and taxiway system. This is also supported, in general, by the FAA, depending upon the particulars of an airport's situation.

In this case, the flexibility that a 1,000 foot separation provides is relative to the future taxiway system. As aircraft become more efficient, there are inevitable changes that airports will need to undergo in order to accommodate new generation aircraft. However, the one particular design criterion that still seems to be fairly constant is the one relative to wing span. By retaining the separation of 1,000 feet, it is possible to build a taxiway system that supports both the landing of the largest aircraft in the fleet, for example the A-380, an ARC D-VI aircraft (providing that future generation of the big jumbos are more runway efficient and could operate on an ultimate 10,000 foot runway). This separation distance would also enable taxiing the design aircraft (ARC D-IV) on a parallel taxiway between the two runways as a second aircraft of ARC D-IV or smaller approaches on the parallel runway. Any separation distance less than 1,000 feet would not enable such activity.

Accepting the minimum separation is 1,000 feet, the next decision point is the recommended distance from the primary runway that might be greater than 1,000 feet.

In addition to future runway and taxiway requirements at McAllen, there is consideration of future expansion of facilities. Based upon demand and the lack of available land for future facilities expansion, it is necessary to consider expansion locations. Because the future expansion of facilities might need to address any type of aircraft activity, including passenger terminal facilities, it is necessary to consider land accessible not only with the current runway and taxiway system but off-airport as well.

Since any important facility expansion other than runways requires additional land purchase and since planning for a runway extension (or future parallel runway construction) also requires land purchase, two points come to mind. It would be prudent to consider planning for new facilities on the "other" side of the runway, meaning south of the primary runway. If one considers the parallel runway, there are two options for future facilities' expansion areas, either between the runways or south of the parallel.

Constructing facilities between the two runways would need to take into consideration separation distances, taxiway locations, and geometry for building restrictions

(mandatory set backs from obstacle free areas, among others. In the particular case of McAllen, there are the relocations of Tenth Street and the Mission Pilot Channel to consider. Both are significant. In terms of access to facilities that would be located west of the primary runway, possibly the more important of the two relocations relative to the location of the ultimate parallel runway is the relocation of Tenth Street. If the decision is to construct the runway extension over Tenth Street, there are mandatory FAA criteria to consider (see **Chapter 4: Demand/Capacity Analysis, Table 4-2**) regarding the separation of Runway 13L/31R (current runway) and potential parallel runway (future Runway 13R/31L) regarding "midfield facilities". If this were the decision, the potential parallel runway would border the north levee wall of the relocation Mission Pilot Channel. The challenge associated with midfield airport access from Tenth Street would be whether or not to provide access could be provided. To provide access, the Tenth Street roadway would need to take into consideration the grades associated with being built around the end of the ultimate length of Runway 13L/31R and then being depressed under the future parallel runway yet bridging the Mission Pilot Channel to the immediate south of the future runway in a relative short distance. This is one of the issues that give impetus to the suggestion that the next planning project for MFE should be an engineering concept study to better understand these future relationships, particularly relative to the geometry of Tenth Street. This advance planning would define the elevation of the roadway such that it would be minimally impact with the construction of the future parallel runway when demand would justify the project in the long-term.

Significantly less complicated would be to build the potential parallel runway as close as reasonable to the primary runway, as additional separation is virtually meaningless unless it is at least 3,400 feet. This would enable flexibility of a taxiway system between the two runways, as well as provisions for building new facilities west of the ultimate runway, and at the same time, provide an opportunity to get Tenth Street back up to grade, if structured under the Runway 13L/31R so that Tenth Street could bridge the relocated Mission Pilot Channel. This is the recommended course of action.

6.3.2 No Relocation of Colonia Hermosa

Another important location criterion for the potential parallel runway is not impacting the residents in Colonia Hermosa in terms of relocation of land acquisition. The current master plan shows a configuration for the potential parallel runway that would require the relocation of Colonia Hermosa in order to establish the RPZ to accommodate runway approaches.

Construction of a potential parallel runway can avoid impacting Colonia Hermosa by staggering of the primary and potential parallel runways through land acquisition east and south of the current MFE property. A master plan concept was devised that indicates the location for the potential parallel runway at a separation of 1,000 feet south of the primary runway, approximately 200-feet further south that indicated in the current airport master plan. If the Mission Pilot Channel were relocated the 200-feet further south than presently shown on the master plan, it is possible to maintain the RPZ for the potential parallel runway south of Colonia Hermosa and north of the Banker Channel.

6.3.3 Land Considerations for Future Airport Facilities Expansion

Should the potential parallel runway be relocated at 1,000 feet separation from the primary runway, the next decision point derives from consideration of ultimate facilities location south of the potential runway to define the northernmost location of the relocated north levee wall of the Mission Pilot Channel. Criteria for adherence would include a Building Restriction Line of approximately 745 feet setback from the centerline of the future parallel runway and a width of 500 additional feet for provision of future facilities south of that line to accommodate aircraft aprons, buildings and landside access.

6.3.4 Tenth Street

The relocation of Tenth Street is a primary consideration. With the staggering of the potential parallel runway to the south of the primary runway, the potential runway will need to be constructed over relocated Tenth Street at some point. Structural considerations include:

- Relocate Tenth Street at Current Location:
  - A. Construct the runway extension for Runway 31 over Tenth Street at its present location;
    1) Construct the potential parallel runway 1,000 feet south of the primary runway and over Tenth Street as cut-and-cover;
    2) Provide a midfield break in the structures over Tenth Street and configure the geometry such that there could be midfield access via Tenth Street; or
    3) Ultimately place Tenth Street in a continuous structure under the current runway, the potential runway, as well under the relocated Mission Pilot Channel.
  - B. Relocate Tenth Street Around the Ultimate 10,000 Foot Length of the Primary Runway:
    1) After constructing Tenth Street beyond, i.e., south of the runway safety area of an ultimate 10,000 foot runway length, construct potential Runway 13R/31L over Tenth Street and configure the geometry such that Tenth Street would bridge over the relocated Mission Pilot Channel; or
    2) Same scenario but place Tenth Street in a structure that extends under both the potential parallel runway and the relocated Mission Pilot Channel.

While these are the options, there are several that are intuitively not cost effective. The most likely options are either A-1 or B-1. If the decision is made to place Tenth Street in a structure under the future extension of Runway 13L/31R, then Tenth Street should also be placed in a structure under the potential parallel runway. If Tenth Street is constructed around the end of the ultimate runway length for the primary runway, then the potential parallel runway will need to be constructed over Tenth Street when it is built. There is a significant cost differential between the two approaches with the least costly option, but still very expensive, being constructing Tenth Street around the end of the future ultimate length of the primary runway.

6.3.5 Relocation of the Mission Pilot Channel

Yet another highly significant variable in determining future land needs for MFE is the relocation of the Mission Pilot Channel. Any extension of the primary runway will require channel relocation. Consequently it is prudent to take into consideration not only current needs such as extending Runway 13/31 to 8,500 feet but also future considerations as well. As with Tenth Street, any channel relocation should be placed such that it would be relocated only once.

Practically, this is the defining issue associated with determining the ultimate airport envelope. In addition, identification of the relocation of the Mission Pilot Channel will determine the airport's long-term viability because the Mission Pilot Channel or the Banker Channel defines the extent of the airport. Given the extremely fast-paced growth that is forecast to occur in McAllen over the next 20 years, it is significant that there is today undeveloped land south of the airport that allows consideration of varying channel relocation options. For purposes of the master plan, four options are proposed. These are labeled Alternatives One-Four.

6.3.5.1 Alternative One

Exhibit 6-1 (Exhibit 1) on next page provides a graphic of the first concept considered for relocating the Mission Pilot Channel. This is the minimum land acquisition proposal associated with relocating the channel and constructing the ultimate runway length for the primary runway. This alternative does not allow future construction of a potential parallel runway without required a second relocation of the pilot channel. The reason for suggesting the study of this alternative originally was to investigate the least land acquisition option and whether or not any alternative provides an opportunity for a cost-effective interim solution that would significantly reduce the runway extension cost for the primary runway.

This option does not negate the need for seeking land for expansion of other airport facilities since MFE is almost completed built out. New land is created by the relocation of the channel southeast of the airport for potential development on land that is currently part of the channel. If the runway extension is constructed over Tenth Street, the new land would be south of the runway/taxiway system and not contiguous to other Airport land for purposes of constructing airport facilities. If Tenth Street relocation is built around the end of the extended primary runway, access to the new land from the Airport would still be precluded by physical separation from other parts of the airport by the relocated Tenth Street.

Preliminary costs were estimated in association with extending the primary runway to 8,500 usable feet with provisions for an ultimate 10,000 feet, constructing the runway extension over Tenth Street relocation and relocating the Mission Pilot Channel,

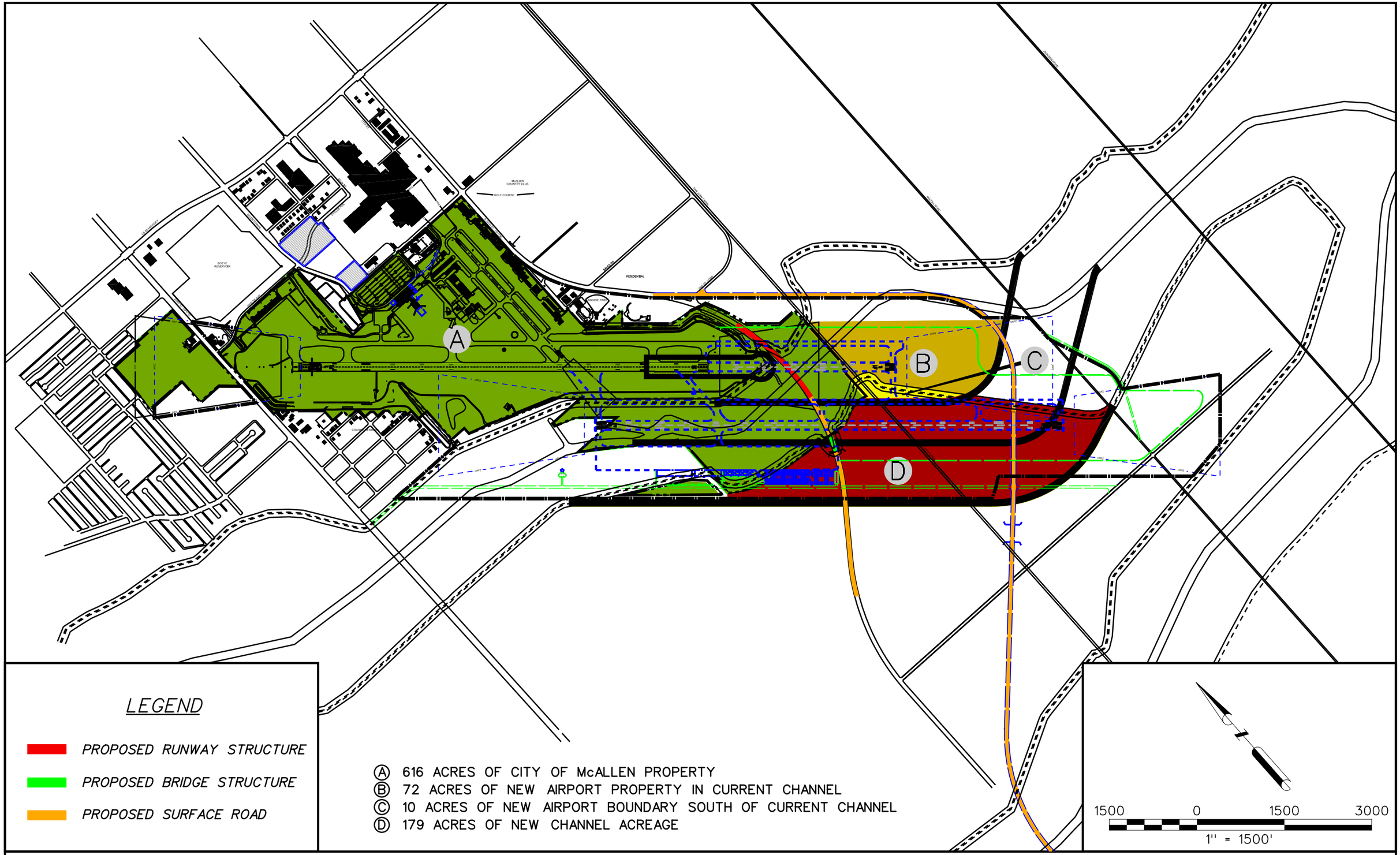


EXHIBIT 1

McAllen Miller International Airport

HNTB

Sheet: 01

including estimated land acquisition costs. At this point, land acquisition costs have not been determined but are considered to be conservative for the following reasons:

- Costs include land needs for the ultimate airport envelope as well as land for the relocation of the Mission Pilot Channel;
- The City of McAllen does not need to own the land in the Mission Pilot Channel. However, there does need to be a champion for construction of the channel relocation, land is required, and the runway cannot be extended until the channel is relocated.
- Similarly, land currently part of the channel is required for the runway extension, potential parallel runway, and facilities expansion. Since MFE needs land that is in the channel but does not need to own the land in the relocated channel, there may be opportunities for transferring land from the MFE to the Hidalgo Country Drainage District Number One that would reduce total land costs. These potential reductions are not accounted for in these estimates.

The estimated cost for Alternative One is approximately $87.7 million if the future runway extension is built over Tenth Street. If Tenth Street is relocated around the ultimate end of the Runway 13/31, the estimated cost is approximately $62.6 million.

See **Table 6-1** which follows this page provides estimated costs for combinations of land acquisition needs for the four Alternatives, given the assumptions identified above.

6.3.5.2 Alternative Two

Exhibit 6-2 (Exhibit 2) which follows Table 6-1 provides a graphic of the second concept considered for relocating the Mission Pilot Channel. The difference between the first and second concepts is that the second concept proposes construction of the south levee wall of the relocated channel at its ultimate location. Originally, the reason for considering this alternative was the potential for reduced cost in constructing a shorter northern levee wall but constructing the southern levee wall in its final location. In the event that a potential parallel runway would be required, this option enables runway construction at a separation distance of 1,000 feet from the primary runway. However, it requires an additional future cost for reconstruction of the north levee wall of the channel also requiring a second round of environmental documentation and second round of careful phasing of possible channel disruptions during construction.

The primary adverse consequence associated with this option is that it would not enable staggering of the proposed runway beyond what is shown by the 1997 airport master plan. The result of not staggering the runway would require the relocation of the residents in Colonia Hermosa since the neighborhood would fall within the potential runway's RPZ.

Similar to Alternative One, this option does not provide any relief for the short-term need for land for expansion of other airport facilities; this would only become possible if the potential parallel runway were constructed relocating the north levee wall further south.

Table 6-1: Runway Extension, Land Acquisition, and Relocations of Tenth Street and the Mission Pilot Channel				
McAllen Miller International Airport				
Category	**Channel Relocation Alternative 1**	**Channel Relocation Alternative 2**	**Channel Relocation Alternative 3**	**Channel Relocation Alternative 4**
A. Runway Extension	$15,600,000	$15,600,000	$15,600,000	$15,600,000
B. Mission Pilot Channel Relocation	$20,010,000	$28,947,000	$21,966,000	$23,578,000
C. Property Acquisition				
1. Proposed Airport Property in Mission Inlet Channel	72	72	187	245
Property Value = $11,000/Acre	$792,000	$792,000	$2,057,000	$2,695,000
2. Proposed Airport Property South of Inlet Channel	10	10	140	379
Property Value = $22,500/Acre	$225,000	$225,000	$3,150,000	$8,527,500
3. Relocated Mission Inlet Channel	179	370	231	295
Property Value = $22,500/Acre	$4,027,500	$8,325,000	$5,197,500	$6,637,500
4. Cost of Needed Airport Property (C1+C2+C3)	$5,044,500	$9,342,000	$10,404,500	$17,860,000
Land Acquisition for Airport	82	82	327	624
Land Acquisition for Mission Valley Channel Relocation	179	370	231	295
Net for Land Transfer of New Channel Land for Existing Channel Land	To Be Determined	To Be Determined	To Be Determined	To Be Determined
D. Tenth Street Relocation (Build Under Runway)	$47,079,000	$47,079,000	$47,079,000	$47,079,000
Structure Under Runway	$36,421,000	$36,421,000	$36,421,000	$36,421,000
Remainder of Roadway	$10,658,000	$10,658,000	$10,658,000	$10,658,000
E. Tenth Street Relocation (Build Around Runway)	$21,965,000	$21,965,000	$21,965,000	$21,965,000
Project Cost Combinations				
Runway, Channel, Property (A, B, C)	$40,654,500	$53,889,000	$47,970,500	$57,038,000
Runway, Channel, Property, Road Around Runway	$62,619,500	$75,854,000	$69,935,500	$79,003,000
Runway, Channel, Property, Build Under Runway	$87,733,500	$100,968,000	$95,049,500	$104,117,000
Runway, Channel, Road Around Runway, excludes land	$57,575,000	$66,512,000	$59,531,000	$61,143,000

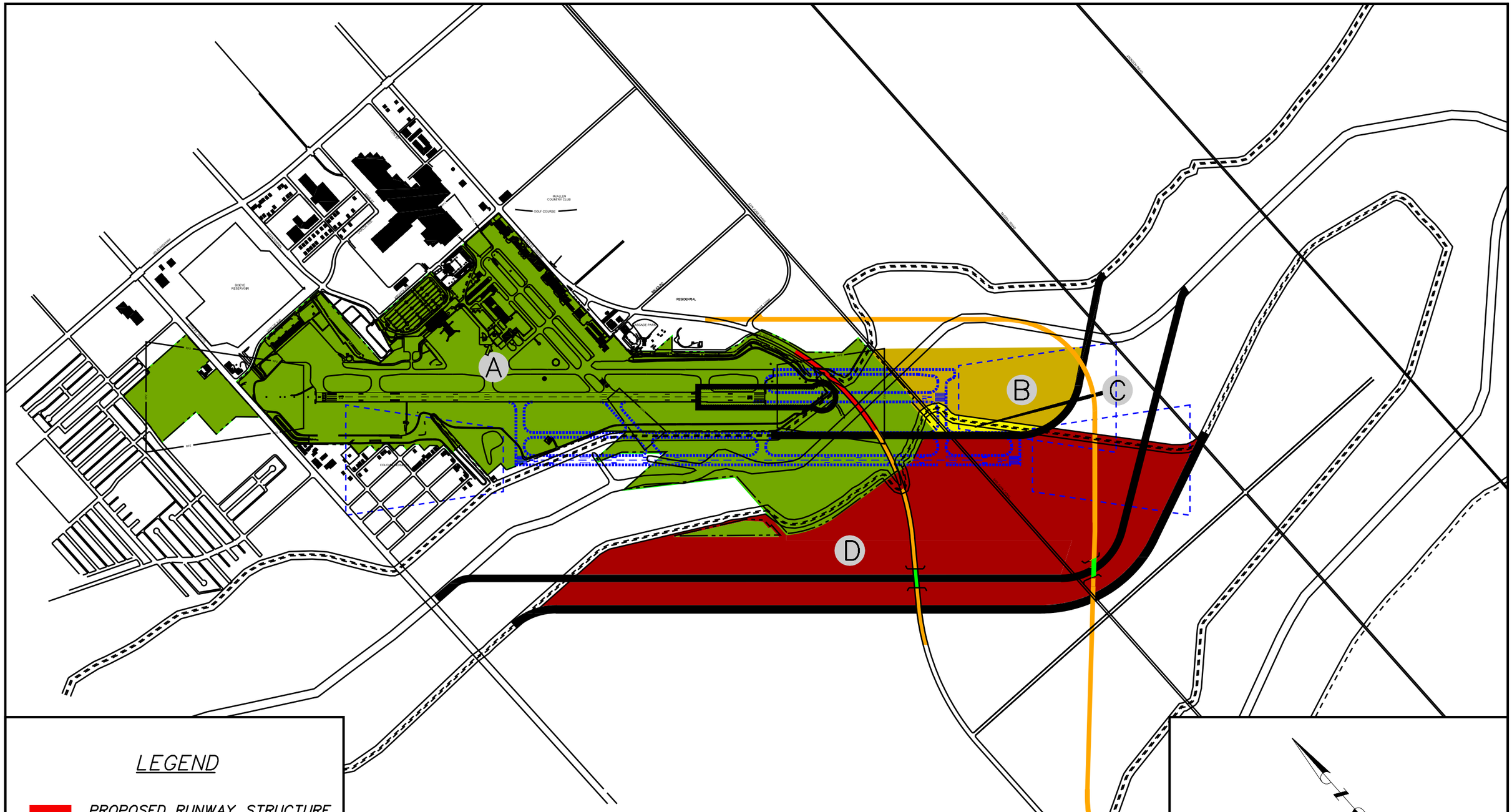


EXHIBIT 2

McAllen Miller International Airport

HNTB

Sheet: 02

In other words, the same issues exist in the short-term, i.e., the new land would be indirectly contiguous to the runway and taxiway system only if the runway extension is constructed over Tenth Street.

The estimated cost associated with Alternative Two, extending the primary runway to 8,500 usable feet with provisions for an ultimate 10,000 feet, constructing the Runway 13/31 extension over the runway, and relocating the pilot channel is approximately $101.0 million. If the roadway is built around the end of the runway, the cost is approximately $75.9 million.

See also **Table 6-1** for the combinations of land acquisition needs for this alternative.

6.3.5.3 Alternative Three

Exhibit 6-3 (Exhibit 3) provides a graphic of the third concept considered for relocating the Mission Pilot Channel, which is essentially the 1997 master plan concept. The difference between this concept and the old master plan concept is that it indicates the location of the potential parallel runway at 1,000 feet separation from the centerline of the primary runway as opposed to 800 feet.

Alternative Three would relocate the Mission Pilot Channel once and permit construction of the potential parallel runway as well as provide land south of the runway system for future expansion of ancillary airport facilities.

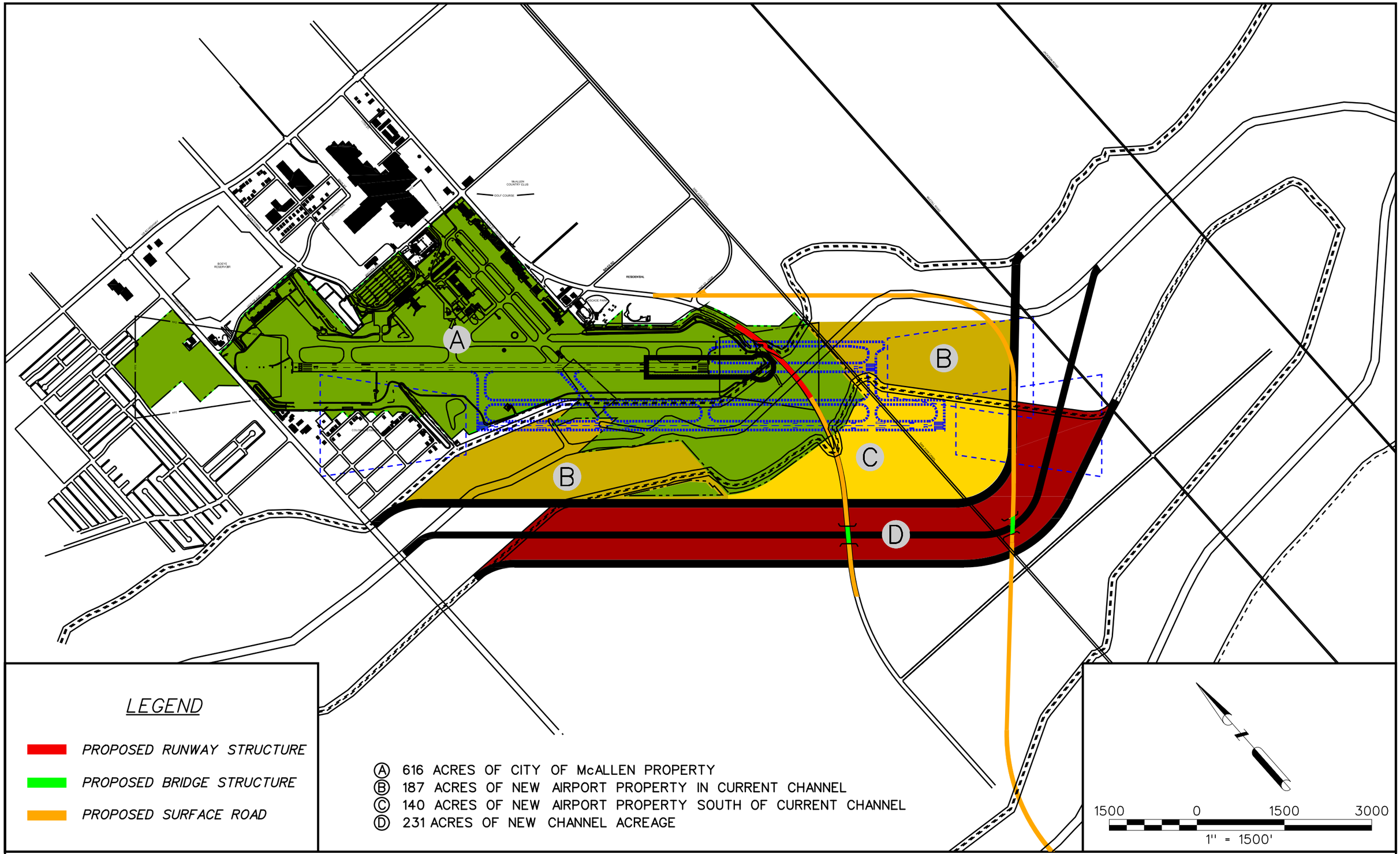
Like Alternative Two, Alternative Three does not permit construction of the potential parallel runway far enough south so that the residents of Colonia Hermosa would require relocation. To ensure that Colonia Hermosa does not require relocation, the runway stagger would need to be further south than indicated on Alternative Three.

The estimated cost associated with Alternative Three, extending the primary runway to 8,500 usable feet with provisions for an ultimate 10,000 feet, constructing the runway over relocated Tenth Street, and relocating the pilot channel is approximately $95.0 million. If the roadway is built around the end of the runway, the cost is approximately $69.9 million.

See also **Table 6-1** for the combinations of land acquisition needs for this alternative.

6.3.5.4 Alternative Four

It is not possible to relocate the Mission Pilot Channel around the potential parallel runway and reconnect channel due to the proximity of the Banker Channel. Attempting to provide the land needed for the potential parallel runway and reconnect the channel around the end of the potential runway results in intersecting with the Banker Channel east of the location shown on Alternative Three. This exercise generated Alternative Four.



LEGEND

- PROPOSED RUNWAY STRUCTURE
- PROPOSED BRIDGE STRUCTURE
- PROPOSED SURFACE ROAD

Ⓐ 616 ACRES OF CITY OF McALLEN PROPERTY
Ⓑ 187 ACRES OF NEW AIRPORT PROPERTY IN CURRENT CHANNEL
Ⓒ 140 ACRES OF NEW AIRPORT PROPERTY SOUTH OF CURRENT CHANNEL
Ⓓ 231 ACRES OF NEW CHANNEL ACREAGE

EXHIBIT 3

McAllen Miller International Airport

HNTB

Sheet: 03

Exhibit 6-4 (Exhibit 4) provides a graphic of the fourth concept considered for relocating the Mission Pilot Channel. This alternative provides for construction of a potential parallel runway and controls land for RPZs for both runway ends on airport property. It also enables sufficient land for future airport expansion south of the runway system. The relocated Mission Pilot Channel would intersect with the Banker Channel west of its present intersection which necessitates reconfiguring the current intersection. It is anticipated a portion of the current Mission Pilot Channel in the vicinity of the intersection with the Banker Channel will need to be maintained for purposes of flood control. In addition, there will need to be a connection constructed between the relocated Mission Pilot Channel and the remnant of the current channel in the vicinity of its intersection with the Banker Channel. This connection is also shown on Alternative Four. The actual extent to which a portion of the current channel in the vicinity of the intersection with the Banker needs to be retained for drainage purposes, the size and location of the connector and the geometry of the relocated Mission Pilot Channel is still subject to engineering investigation and definition. Significant environment studies will be required for this or any other of the Alternatives selected for implementation. Environmental studies will need to confirm that additional floodwater storage can be either provided upstream from the Airport or that the volume of the new floodway is approximately equal to the volume of the displaced existing floodway. Based upon preliminary estimates, excavation of the relocated Mission Pilot Channel roughly equals the volume of fill required for the runway extension and much of that required for the potential parallel runway.

The engineering concept study identified as a project in **Chapter Eight: Capital Improvements Program** is envisaged to define the future elevations of the runway extension, potential parallel runway, Tenth Street relocation both around the end of the primary runway and under the potential runway, Mission Pilot Channel relocation, channel connector, and relationship of this infrastructure with the San Juan Canal.

After Alternative Four is implemented, there would be additional developable land created south of the airport, not all of which needs to be owned by the Airport.

The estimated cost associated with Alternative Four, extending the primary runway to 8,500 usable feet with provisions for an ultimate 10,000 feet, constructing the runway extension over Tenth Street, relocating the Mission Pilot Channel is approximately $104.1 million. If the roadway is built around the end of the runway, the cost is approximately $79.0 million. Of the $9.1 million difference in estimated costs between Alternative Four and Alternative Three, approximately 82% or $7.5 million is due to estimated land costs associated with the purchase of 361 additional acres.

See also **Table 6-1** for the combinations of land acquisition needs for this alternative.

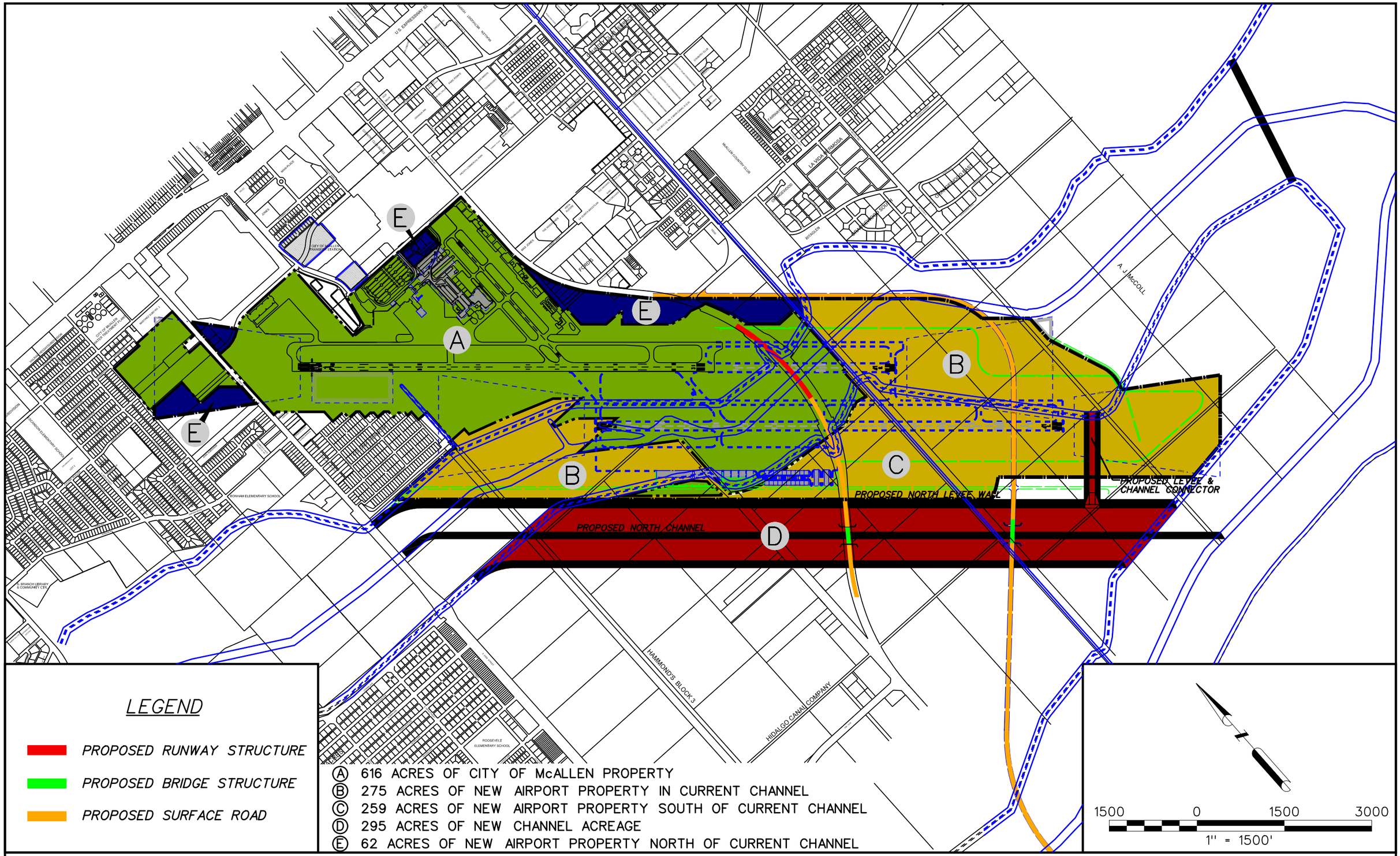


EXHIBIT 4

McAllen Miller International Airport

HNTB

6.3.6 Minimizing Land Acquisition and Evaluation of Land Acquisitions Alternatives

In summary, land needed for the future runway extension also necessitates consideration of the ultimate airport envelope. Extending the primary runway should consider not only the need for a runway length of 8,500 usable feet but also the ultimate runway length of 10,000 feet. Since any runway extension requires the relocation of Tenth Street and the Mission Pilot Channel, it is prudent not only to consider the ultimate needs for MFE which includes the provision of land for future facilities expansion but also construction of the potential parallel runway.

Based upon discussions above, the objectives that need to be met regarding land acquisition requirements to meet airport goals are:

- Enable future extension of the primary runway to 10,000 feet and control its RPZs in fee simple ownership;
- Enable construction of a potential parallel runway;
- Enable construction of a potential parallel runway without displacing any residents of Colonia Hermosa;
- Enable land sufficient to construct future airport buildings and facilities to accommodate demand; and,
- Enable relocation of the Mission Pilot Channel.

The five criteria used to evaluate each alternative are based upon the goals. The following is a statement of each criterion and the assessment of it relative to the four alternatives:

- Criterion - *Provides the land necessary for the airport to accommodate future facility requirements and expansion needs.* Alternatives Three and Four meet this objective; Alternatives One and Two do not.

- Criterion - *Enable the extension of Runway 13/31.* Alternatives Three and Four meet this objective initially. A further relocation of the north levee wall of the Mission Pilot Channel would be required in order to achieve this objective in the long-term.

- Criterion - *Enable the potential construction of a parallel runway.* Alternatives Three and Four meet this objective initially. A further relocation of the north levee wall of the Mission Pilot Channel would be required in order to achieve this objective in the long-term.

- Criterion - *Require no relocation of the residents of Colonia Hermosa or any land acquisition in that neighborhood.* Only Alternative 4 achieves this key objective.

- Criterion - *Consider construction phasing and construction costs*. In terms of total cost, Alternative Four is the most expensive. However, the primary cost differential between the alternatives is in land acquisition cost and not construction cost. In fact, if the additional cost of relocating the north level wall associated with Alternatives One and Two were factored in, Alternative Three would become the least expensive, followed by Alternative Four. In terms of phasing, all alternatives would be similar in the phasing of the relocation of Tenth Street. However, Alternative Four stands alone as the easiest one to phase the reconstruction of the Mission Pilot Channel relocation. Essentially, the entire channel project could be constructed without impacting the current channel until such time that the new channel would need to be connected with the existing channel or intersected with the Banker Channel.

6.4 FACILTIES EXPANSION ALTERNATIVES

The other primary reason to expand the ultimate envelope of MFE is for facilities expansion. Currently, any facility that would need to be expanded with the exception of the terminal building would require careful consideration. It is likely that expansion of facilities would displace the current adjacent use. Decisions need to be made regarding whether expanding adjacent to current facilities satisfies the long-term need for that use in addition to whether the relocation of the displaced facility is the best location for the long-term. Conceivably, a relocated facility could require further relocation in the future. While this sometimes happens even with the most careful planning, the lack of lack availability at MFE suggests that this could happen more than once.

The MFE terminal has sufficient space adjacent to the east, west, and south to expand to meet the needs of the forecast period and beyond. Terminal expansion needs for the foreseeable future include upgrading outbound baggage, security checkpoint, gate expansion, and inbound baggage/bag claim.

6.4.1 Terminal Parking Alternatives

On average, approximately 500 additional parking spaces will be required within each of the three planning periods over the forecast horizon to meet parking needs of short- and long-term passengers, rental car, and employees. This is akin to adding three new parking lots each larger than half the combined size of the existing short- and long-term parking lots.

The planning standard of approximately 800- to 1,000-feet is the maximum walking distance that provides a reasonable level of service. This standard is approximated by today's parking configuration walking from the northwest corner of the long-term lot at Wichita/Bicentennial to the terminal. For those who know the terminal configuration in advance, one can reduce this distance by walking due south and crossing to the east side of the terminal at the nearest crosswalk; ticketing/bag check is at this end of the building.

Today, there is a total of 1,666 parking spaces on the airport; 190 short-term; 692 long-term; 219 rental car; 84 employee; 218 overflow; and, 255 very long-term parking. Short- and long-term parking are in front of the terminal. Rental car ready positions are east of the terminal and north of the CBP Complex. Overflow parking is adjacent to the general aviation area, due east of the terminal. Very long-term parking is adjacent the air traffic control tower and south of several hangars on the west side general aviation area; it is essentially within the general aviation area. A parking expansion is an immediate concern for MFE. When taking into consideration a contingency factor for customer perceived capacity conditions (i.e., 90% of parking positions filled), MFE was at 92 percent capacity for the baseline year, i.e., 2003.

The most likely expansion opportunities for surface parking are east of the current lot. This is the location of the rental car ready lot and the CBP complex. This is also the best example of where relocation of one facility to another location could result in future relocation of the same facility.

Terminal passenger parking expansion alternatives include:

- Displace the rental car ready lot and expand with additional long-term parking. This is not a preferable option since it is essential for customers to be able to readily access rental cars. However, it is not likely that space for rental car parking can be expanded adjacent to the current terminal unless a parking garage is constructed.

- Expanding the long-term parking adjacent to the northwest section of long-term property at the corner of Wichita/Bicentennial. Currently, there is vacant property north of Wichita at the corner of Bicentennial/Wichita. The City currently owns property at Uvalde and Bicentennial on both sides of Uvalde. Perhaps a land deal could be made with current owners of the property at Wichita/Bicentennial or that property be sold and paid for with the proceeds from selling City owned property at Uvalde/Bicentennial. A special pedestrian crosswalk that is compliant with provision of the Americans with Disabilities Act (ADA) will be required; perhaps a pedestrian crossover ramp could be considered.

- Relocate overflow and very-long term parking as expansion for long-term parking. Should this need to occur, other locations for airport parking will need to be found. Since these options require distances in excess of normal customer level of service for walking, these become truly remote lots with the needs for shuttle bus service. Remote lots are an expensive proposition due to the need for capital costs associated with busses as well as ongoing costs of personnel and bus maintenance. Remote locations should consider:
  - Proximity to the terminal. Alternative remote parking sites should be located as close as possible to the terminal to reduce anxiety for the customer in traveling to and from the terminal.

- Location identity. Customers should easily locate alternative remote parking sites.
- Accessibility. Alternative remote parking should be highly accessible to the terminal to reduce travel time for the customer and keep Airport operating costs for transit vehicles as low as possible.
- Site reuse and cost. Site preparation costs for alternative remote parking sites should be cost that invests in the site for a designated future improvement at this location to minimize any unnecessary expenditure.
- Site expansion capability. Alternative remote parking sites should be considered as part of a site that could be expanded as temporary parking for short-term and long-term parking places that would be displaced should a future airport parking garage be constructed. This becomes a critical factor if the site chosen for the parking garage is one that the Airport would be using for parking at the time. During construction of the garage, the parking positions that had occupied those spaces would need to be located elsewhere.

Options for remote parking locations include the property discussed earlier at the corner of Uvalde/Bicentennial, Cascade Park, further east on land that would be south of the future relocation of Tenth Street, or land south of the runway configuration. All four of these areas are properties that MFE currently does not own. As mentioned above, this is one use that actually could be considered temporary. For example, a remote lot could be considered until such time that demand warrants construction of a parking garage. At that point, vehicular parking could be reconsolidated at the terminal area, leaving land available for other uses. This is the reason for using site reuse and cost as one criterion for location.

- Structured Parking garage. This is a very expensive option that would only be cost effective when the need for parking is as critical as the cost associated with personnel, shuttle bus operations, and ongoing maintenance of remote lots is greater than that associated with a parking garage. Undoubtedly, a parking garage would require additional financing such as institution of parking fees at MFE. In fact, the personnel, bus, and bus maintenance costs associated with a remote parking shuttle bus operation would require the City of McAllen to institute parking fees at MFE. A parking garage likely would not become feasible for consideration until the demand at the facility exceed 1.5 million passengers, which is beyond the forecast planning horizon.

  Nevertheless, it is prudent to consider the location of a future parking garage such that the property on which it might be located would not be developed in a way that would preclude its construction, when warranted. The most feasible location for a parking garage is the site now occupied by the CBP. Given that the feasibility for a parking garage is beyond the master plan forecast period, the possibility that the CBP may relocate during the next 20 years is a reasonable consideration. Under no scenario is it considered reasonable that this might

happen within 15 years but the parking garage would not be needed until after that time.

A multi-level structured parking garage at this location would provide excellent customer level of service, not obstruct the visibility of the terminal, and enable consolidation of vehicular parking within the vicinity of the passenger terminal.

The master plan considers as the most likely options for vehicular parking the following options, in this sequence. The actual years of implementation would depend upon demand requirements:

1. Expansion of long-term parking south of the terminal across Wichita Avenue from the current long-term parking lot. This would necessitate land acquisition.

2. Expansion of long-term parking east of the terminal in the current areas of overflow and very-long term parking as well as occupying vacated hangar space in the general aviation area. This would require relocation of this parking elsewhere and would like institute the need for a shuttle bus service. The most likely location for this facility would be on property south of the future relocated Tenth Street. This also requires land acquisition. At the same time, additional rental car storage would need to be considered which is the topic of the next section and also requires land acquisition.

3. Expansion of remote parking on land south of MFE that would be purchased to enable the runway extension of Runway 13/31 or the potential parallel runway. If this option is considered, the distance from this site to the terminal may advance consideration of construction of a parking garage.

4. Parking garage. Should the parking garage option be considered prior to the construction of the closure of Runway 18/36 (anticipated with the construction of the potential parallel runway), it would be necessary to consider the Part 77 surfaces of the parking garage. Several alternatives exist relative to this possibility:
   - The proximity to Runway 18/36 may require terracing of the parking garage on the side closest to the runway to ensure that the runway's transition slopes are not impacted.
   - Increase remote parking, relocate the airport access road in front of the terminal entirely around what is the currently the CBP complex, i.e., Hangar Road, while using a the eastern portion of the current long-term parking lot.
   - Close Runway 18/36 prior to the construction of the future parallel runway to avoid terracing the parking garage or relocating a portion of the terminal access road and eastern section of long-term parking.

6.4.2 Rental Car Facility Alternatives

This is another important issue facing MFE. According to forecast demand, the capacity of the rental car ready facility will be exceeded within five years. Due to the demand for passenger parking spaces, it is not possible to expand the rental car ready facility at its current location. On the other hand, it is an expected level of service that passenger have quick access to rental cars upon arrival at the terminal. In addition, there is the issue of the rental car wash facility. There has been discussion about locating such a facility in the general aviation area on the site of demolished hangars near Taxiway D. Again, the future demand for passenger parking will require that this space be used for passenger parking as well. The following are alternatives for rental car facilities.

- Uvalde and Bicentennial. This location is also one that could be used for remote parking. As it is closer to the terminal than Cascade Park or areas south of future relocated Tenth Street, the site may be better retained for consideration for a remote lot.

- Cascade Park and areas south of future relocated Tenth Street. These two sites are also sites that could be considered for remote parking. Collectively, the area represents more space than would be required for remote parking, therefore a portion of this area could be used for storage of a portion of the rental car ready fleet as well as wash rack, office, parking, and maintenance facilities.

  Because of the inability to store the full rental car ready fleet at the current terminal location, rental car operators will need to ensure that a sufficient number of cars are available at the terminal lot to meet demand. At some point, MFE will need to develop an acceptable policy toward allocating rental car ready positions to each rental car tenant at the terminal lot.

- Area south of the runway system. While sufficient land would be available at this location, the distance from the terminal would make it a hardship for rental car tenants.

- Have the rental car tenants operate aircraft storage, office, wash, and maintenance facilities off-airport and at locations not owned by MFE.

6.4.3 General Aviation

At the present location, there is little opportunity for expansion. Over the past ten years and in the future, there is expected slow growth in the number of based aircraft. Significantly however, there is anticipated to be a continuing trend toward larger corporate aircraft, particularly jets that frequent the facility. Earlier in this chapter, the potential for closure of Runway 18/36 prior to construction of the potential parallel runway was linked with options relative to parking garage construction. It may be that the need for additional tie down space that would be afforded by changing the classification of Runway 18/36 could also precipitate closure prior to construction of the

new runway. Again, the amount of tie-down space is sufficient for long-term demand unless one considers the additional space that may be needed for temporary storage of itinerant jet aircraft. As owners of smaller aircraft are considering nearby airports, the proximity of MFE to downtown McAllen, the Foreign Trade Zone, sports venues and the like increase the attractiveness of MFE to corporate aircraft owners.

As a consequence, alternatives for general aviation expansion areas are:

- Areas adjacent to the general aviation area, Cascade Park and areas south of future relocated Tenth Street. As alternative locations for facilities are described, some of the same sites are mentioned as possibilities for expansion locations. This is another indicator that land in relative proximity to the airport on the north side of the runway is highly valuable to MFE for purposes of expanding facilities. It is important to develop a rational plan for expansion since most airport functions will be facing expansion possibilities in the next few years and certainly over the course of the next 20-years.

- Conversion of the current air cargo facility to a general aviation expansion site. This would assume that the air cargo facility would be relocated elsewhere.

- Expansion at areas south of the runway system. This location would provide considerable opportunities for future expansion and have excellent access to Runway 13/31 as well as the potential parallel runway. In addition, the length of the potential parallel runway is sufficient for all general aviation activity and would be the preferred runway once constructed. This would also result in a natural separation of traffic between the two runways, providing incremental capacity benefits during peak hours.

6.4.4 Air Cargo

A discussion of options for air cargo expansion is very similar to general aviation. At the present location, there is little opportunity for expansion but the site will suffice for the next ten years, depending upon demand materializing as forecast. Should demand materialize as forecast, the issue for the air cargo area may be apron space more so than air cargo warehouse space due to the size of the aircraft that might operate at the facility. Options for expansion are:

- Cascade Park and areas south of future relocated Tenth Street. One of the benefits of this location to potential air cargo operators is its location both in terms of vehicular access as well as airfield access. In terms of vehicular access, the site is adjacent Tenth Street, one of the primary trucking routes to Mexico. As far as airfield access, the site is located at the south end of Runway 13/31. Since the predominant airfield operating condition is South Flow, this site is at the end of the runway for the majority of arrival traffic, hence a short taxi distance for arrival air cargo aircraft.

- Expansion at areas south of the runway system. This location would provide considerable opportunities for future expansion and also have excellent vehicular and airfield access. Construction of an internal airport road connecting Tenth Street and Twenty-Third Street would provide easy access to both important highway routes. In addition, an air cargo facility located on the west end of the area south of the runway system would have easy access to Runway 13. Again, the predominant departure flow occurs during South Flow operating conditions, thereby facilitating departure operations.

6.4.5 Aircraft Rescue and Fire Fighting (ARFF) Facility

A relocation site ought to be considered if a second air carrier runway is constructed, as the ARFF location may not enable the required three minute response to the new runway. A satellite or replacement ARFF might be required. Since the existing ARFF also provides structural firefighting response to off-airport areas, a site location would also need to consider vehicular access. A site at Cascade Park represents the best location to meet both City fire fighting and Airport rescue and fire fighting needs.

6.4.6 Maintenance Building

Currently, there is no maintenance building located at the airport to house airport vehicles and equipment. All heavy equipment needed for property maintenance comes from the Public Works complex a block north of the Airport at Uvalde Avenue and Main Street. However, there may be a need in the future to house equipment at the airport. Options for a maintenance building site include occupying a portion of the current air cargo facility if it is relocated or a site south of the airport runway system.

6.4.7 Air Traffic Control Tower

The ATCT is located on the west side of the general aviation area, southeast of the main terminal building and on extended centerline of Taxiway A3.

Beyond the planning period of this master plan, the FAA should give consideration to relocation of the ATCT should a parallel runway be constructed. While the FAA would identify the site and construct the facility, a location on the south side of the runway system essentially on centerline with the terminal concourse may provide the best visibility to the entire airport, including the aircraft movement and parking areas both east and west of the terminal concourse finger. This could not be accomplished unless additional land was available south of the runway system.

6.4.8 U.S. Customs and Border Patrol (CBP)

Presently, the CBP building is located at the southwest corner of Wichita Avenue and Main Street, across from the La Plaza Mall. A hangar south of it is used for storage of the CBP's nine based helicopters which patrol the international border on an hourly basis.

Given the consolidation of the CBP function with the Department of Homeland Security, it is possible that the CBP function may be relocated off-airport sometime during the master plan period. However, it is not anticipated that the helicopters would be moved from MFE since MFE is so close to the border.

The aspect of CBP operations that does require some consideration in terms of alternatives is the helicopter operating area as most of the helicopter activity at MFE is CBP activity. Currently, Taxiway C is used as the helicopter operating area. When Runway 18/36 is closed, Taxiway C no longer will not be needed, as it likely would be redeveloped either as buildings or the pavement become incorporated as part of a widened general aviation apron.

Options for helicopter activity at MFE are:

- Continued use of Taxiway C as the helicopter operating area until Runway 18/36 is closed.
- Continued use of Taxiway C as the helicopter operating area until the apron is revamped to incorporate Taxiway C.
- Use of Runway 18/36 or use of Runway 18/36 when it is redesignated as a taxiway;
- Future use of the parallel taxiway that would be constructed between Runway 13/31 and the potential parallel runway.

Given the location of the CBP helicopter hangar and the space required for rotorcraft arrivals and departures, continued use of Taxiway C is anticipated for the foreseeable future. Thereafter and with the closure of Runway 18/36, helicopter use of the redesignated runway as a taxiway is prudent since it maintains separation of this type of activity from aircraft activity on the primary runway.

6.4.9 Perimeter Road

The MFE has a complete perimeter roadway system. Should additional property be purchased to enable an ultimate extension of Runway 13/31 to 10,000 feet and the construction of a potential parallel runway, a portion of the perimeter road around the end of the current runway as well as south of that runway will need to be relocated.

While there are many potential general alignments that ultimately could be chosen for the perimeter road, there is only one recommended alternative for its location, i.e., the least costly corridor that completes the loop around the airport. Consequently, the perimeter roadway system would be constructed in two phases:

- Construction of a portion of the perimeter roadway system that would extend beyond the end of the ultimate extension of Runway 13/31 south to intersect with southern end of ultimate apron pavement for cargo and general aviation on the south side of the airfield. If the demand for air cargo and general aviation apron does not materialize as provided on the Airport Layout Plan (ALP), this

road would need to be extended to the point of intersecting apron that is constructed.

- Construction of the ultimate perimeter roadway system that would be constructed when the potential parallel runway is constructed. There are several issues that require consideration at that time:
  - Interface with Tenth Street. The perimeter road will need to cross it twice to complete the loop around the potential parallel runway.
  - Interface with McColl Road. Similar to Tenth Street, the perimeter road will need to cross it twice to complete the loop around the potential parallel runway.
  - Interface with the San Juan Canal. Same as Tenth Street and McColl Road, the perimeter road will cross it twice.

6.5 PREFERRED ALTERNATIVES

The following bullets identify the preferred alternative of the major elements of the master plan based upon evaluation of alternatives.

- Runway Extension, Potential Parallel Runway, Land Acquisition, Tenth Street Relocation, and Mission Pilot Channel Relocation. Based upon assessing the evaluation criteria identified in **Section 6.3.6**, the preferred alternative is Alternative Four because it achieves the greatest number of objectives. The only objective that it does not at least equal or better the others is relative to total cost. Yet when it is realized that Alternatives One and Two would require a Phase II relocation of the Mission Pilot Channel, Alternative Four would be less. Aside from land cost, the primary difference between Alternative Three and Four is approximately $1.5 million in cost associated with relocation of the Mission Pilot Channel. When considering intricacy of phasing construction of Alternative Three versus Alternative Four, Alternative Three would be much more complicated. It is possible that this factor if calculated in more detailed cost estimates in the future could result in increasing the cost of Alternative Three and potentially cost more than Alternative Four. However, the primary reason for choosing Alternative Four over Alternative Three is that Alternative Four does not require relocating residents or land acquisition in Colonia Hermosa, the primary tenet set forth in this master plan process.

- Terminal Parking Expansion. Demand will dictate which of the combination of alternatives identified is most suitable. At this juncture, building out surface parking in the vicinity of the terminal building, including construction of an expansion site at Wichita Avenue/Bicentennial Boulevard, fully developing the overflow and very long term parking areas as well as considering expansion into the west side of the general aviation area is preferred. Relocation of general aviation facilities would facilitate not having to consider remote lots served by shuttle busses which are a very expensive proposition. Ultimately, structured

parking will be required, likely beyond this master plan's timeframe, and the best location for such a structure is the CPB property.

- Rental Car Facilities. Given the demand for space and taking into consideration the need to have rental car ready positions close to the terminal, the current rental car ready lot should be retained in its present location, although it cannot be expanded. Consequently, additional rental car ready storage must be located elsewhere along with office space, car washing and maintenance facilities. The best location for such activity is either at Uvalde/Bicentennial, Cascade Park, or south of relocated Tenth Street.

- Air Cargo. The preferred location for air cargo is across the airfield south of the runway system.

- General Aviation. In general, the preferred location ultimately would be across the airfield south of the runway system. This would enable maximum utilization of space east of the terminal for passenger activities and provide maximum flexibility for growth of general aviation and service of corporate aircraft. Yet, general aviation is not an entity as it is composed of many services, full-service fixed base operators, large hangars for storage of corporate aircraft, T-hangars for storage of smaller aircraft, and a variety of special businesses such as maintenance, aircraft refurbishing and painting, avionics shops and the like. Some of these business types may continue to operate at the present location, or some could opt to occupy space in the current air cargo facility if air cargo relocates.

- Aircraft Rescue and Fire Fighting (ARFF). If a relocated or ancillary facility is required, Cascade Park would provide a central location to the runway and taxiway system as well as ready access to Tenth Street to serve off-airport areas.

- Maintenance Building. To keep costs as low as possible and locate the building with both airside and landside access, a portion of vacated space in the current air cargo building could be occupied. There is no apparent urgency for such building, so the timing would depend upon relocation of the air cargo function.

- CBP Helicopter Operations. Given the location of the CBP helicopter hangar and the space required for rotorcraft arrivals and departures, continued use of Taxiway C or use of Runway 18/36 redesignated as a taxiway is preferred.

- Airport Traffic Control Tower. The FAA would make the decision regarding location. Tentatively, the Airport Layout Plan (ALP) identifies a site on the south side of the airport directly in line with terminal building concourse finger.

Chapter Seven
ENVIRONMENTAL OVERVIEW

7.0 INTRODUCTION

During the master plan, preliminary environmental information was obtained pertaining to the extension of Runway 13/31 and relocations of Tenth Street and the Mission Pilot Channel through a limited series of agency meetings as well as letters of agency coordination. In addition, new noise contours were developed for McAllen based upon the demand forecasts.

7.1 ENVIRONMENTAL MEETINGS

Three meetings were held as part of preliminary environmental investigations. Since any runway extension requires the relocation of Tenth Street and a portion of the Mission Pilot Channel, these two major projects in their own right were considered to comprise the most significant environmental impacts. Therefore, in addition to agency coordination letters, it was decided to have separate meetings with the Pharr District of the Texas Department of Transportation pertaining to Tenth Street relocation and the U.S. Army Corps of Engineers as well as the Hidalgo County Drainage District Number One pertaining to the Mission Pilot Channel relocation.

7.1.1 Pharr District, Texas Department of Transportation (TxDOT)

During the course of master plan preparation, members of the Consultant Team and Airport Staff met with TxDOT on two occasions.

The first meeting discussed the proposed runway extension project and its geometry, citing the need to consider placing Tenth Street under the runway and realigning the Mission Pilot Channel. To minimize disturbance to the existing facility, it was suggested that Tenth Street could essentially remain in its existing location but reconstructing a portion of the roadway slightly to the east. It was estimated that the timeframe for initiating preliminary engineering would be at least five years. Prior to preliminary engineering, several milestones would need to be achieved: likely identification of need for the runway extension in the master plan, preparation of a cost-benefit analysis required by the FAA, and environmental studies conducted. The master plan also needed to determine locations of proposed right-of-way, so the City of McAllen could begin land acquisition.

District Engineer, Mario Jorge identified the need for a substantial structure for the runway over Tenth Street and stated the importance of identifying the beginning and endpoints. TxDOT would also need to look at sight distance issues toward the Second Street intersection, prepare a cost analysis, evaluate drainage requirements, and consider

pump stations. TxDOT expressed concerns regarding ongoing maintenance costs for pump systems with drainage issues being the key to the project. Mr. Jorge asked if there was any preliminary engineering being done under the Master Plan (and there is not). Airport Staff noted that the Master Plan was more of a general feasibility report. Mr. Jorge stated that preliminary engineering is needed to identify any fatal flaws along with rough cost estimates.

A second meeting was conducted between TxDOT personnel and the master plan consultant after preliminary findings were produced, including order-of-magnitude cost estimates comparing the construction of the runway extension over Tenth Street at its present location versus reconstruction of a portion around the ultimate end of the extended runway. The master plan consultant identified that the cost of structuring Tenth Street under the runway was approximately twice the cost of building the roadway around the end of the future extended runway. Other important issues were associated with building the roadway around the end of the runway, including the distance of the extension, interface with San Juan Canal, bridging the relocated Mission Pilot Channel, southside access to the airport, and roadway elevations necessary for the potential parallel runway to be constructed over Tenth Street, if demand warranted beyond the master plan timeframe of 20 years. It was discussed that a concept plan identified the geometry of all these element would be necessary to identify fatal flaws.

7.1.2 U.S. Army Corps of Engineers/ Hidalgo County Drainage District Number One

One meeting was held with the U.S. Army Corps of Engineers (USACE) and one with the Hidalgo County Drainage District Number One (HCDD).

The USACE meeting began with discussion of the previous master plan and proposals to extend the primary runway and construct a potential parallel runway. Planning for the runway extension requires relocation of the Mission Pilot Channel and eventual construction of a potential parallel runway suggests that the channel relocation be far enough south to permit required FAA geometry for the new runway.

The USACE discussed that they have taken jurisdiction on the Mission Pilot Channel further down toward Harlingen in the past. It would be necessary for the USACE to evaluate pre-existing conditions in the area prior to the levee system and then consider the area to be impacted.

The USACE recommended that the Airport formally request a jurisdictional determination referencing this meeting, identifying the following elements:

- Square footage of channel to be affected;
- Existing conditions, including whether the channel is man made or natural. It is man made.
- Cite two options. One should identify limited improvements to levee system and the other more extensive levee system improvements. Alternative Three and Alternative Four address these two issues in detail in **Chapter 6: Alternatives**.

- Question whether the work can be completed under National Wetland Permit (NWP) 23, 39, 41. An NWP permit would be good for five years.

While this letter was prepared and forwarded to the USACE with no response, it is a moot issue since the project will not be pursued within the five year time period for which the NWP would be issued.

The USACE indicated that an Individual Permit may be required and stated that since there were natural areas on either end of the channel in this area that they would consider the waterway jurisdictional through the area.

The HCDD actually has jurisdiction over the channel. The meeting with the HCDD occurred after identification of preliminary alternatives (Alternatives One through Four). There were two primary points for discussion in this meeting:

- Pending selection of the preferred alternative, the HCDD reserved the right to support the project if it deviated from the Mission Inlet Master Plan prepared for the HCDD by Turner Collie & Braden, Inc. The Mission Inlet Master Plan identifies an alternative very similar to Alternative Four as the potential design solution for realigning the Mission Pilot Channel. The only deviation in the preferred alternative in the Mission Inlet Master Plan and the preferred alternative in this master plan is the one in this master plan is located 200-feet further south as a result of the recommended increased separation distance between the primary runway and the potential parallel runway.

- The need for drainage and hydrology studies conducted by or in close concert with the HCDD to verify the Mission Pilot Master Plan findings as slightly modified by the MFE Master Plan.

7.2 ENVIRONMENTAL COORDINATION LETTERS

Fourteen letters of coordination were sent to local and federal agencies; a list follows this paragraph. Three exhibits accompanied each letter; a portion of a topographic map showing the general location of the Airport and the Mission Pilot Channel as well as the two most likely alternatives for potentially realigning the channel. These letters and exhibits are provided in **Appendix B**. Letters of coordination were sent to:

- Bureau of Economic Geology
- Federal Emergency Management Agency
- Hidalgo County Metropolitan Planning Organization
- Texas Commission on Environmental Quality
- Texas Department of Transportation
- Texas Historical Commission
- Texas Parks and Wildlife Department
- Texas Water Development Board
- U.S. Army Corps of Engineers

- U.S. Department of Agriculture, Agricultural Research Center
- U.S. Department of Agriculture, Natural Resources Conservation Service
- U.S. Department of Interior
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service

Including the meetings with the USACE and TxDOT-Pharr District described in **Section 7.1** above, nine responses were received. The following subsections summarize letter responses.

7.2.1 Federal Emergency Management Agency (FEMA)

FEMA recommended that the local floodplain administrator be contacted for review and possible permit requirements.

7.2.2 Texas Council on Environmental Quality (TCEQ)

The TCEQ identified that the proposed project is located in an area that is unclassified or in attainment with all six criteria of air pollutants indicating that the project would not be judged against general conformity for air quality. The letter further recommended that the project be constructed in accordance with state, local, and federal status and regulations using best management practices to minimize any potential environmental impacts.

7.2.3 Texas Historical Commission (THC)

The response from the THC requested additional information to include:

- A 7.5 minute USGS Quadrangle map with the proposed project boundaries plotted;
- Construction dates of any buildings/structures on the property;
- Photographs of buildings on the property (at least two sides and one streetscape);
- A brief history of properties, and name of the architect/builder, if known;
- Proposed construction impacts (surface area to be impacted, depth of excavation);
- Existing disturbances of land use (plowing, other ground disturbances);
- Description of construction process—photographs of buildings affected
- Whether or not the projects involves any of the following—
  - Proposed access roads, utility lines, and construction easements;
  - Visual effects that could damage or detract from a historic property's integrity;
  - Vibration effects during construction, or as a result of project design; and,
  - Additional phases of development that are planned for the future.

7.2.4 Texas Parks and Wildlife Department (TPWD)

The TPWD expressed concerns with the potential impacts associated with the realignment of Tenth Street and the Mission Pilot Channel and disturbances of vegetation and soils at canal crossings; "the most significant aquatic feature in the project area likely to be impacted by the airport expansion is the Pharr San Juan Main Canal". Other comments included "project plans should include measures to avoid or minimize impacts to vegetation along canals." Surveys of potential affected vegetation and habitat are also requested, and it is suggested that removal of any vegetation should be performed outside of the migratory bird nesting season (April 1-July 15).

The TPWD provided a list of State Status Threatened or Endangered Species, a separate listing from the Federal threatened or endangered species list. In addition to the federal list of species, the state list included 31 species (five species of amphibians; 14 species of birds; three species of fish; two species of mammals; and, seven species of reptiles. The state list included one species of mollusks that likely is eligible for federal status that was not listed on the federal list as well as a number of species of many varieties that could become state threatened.

7.2.5 Texas Water Development Board (TWDB)

The TWDB does not have any regulatory authority related to the project.

7.2.6 U.S. Department of Agriculture (USDA)

The USDA identified that both alternatives being considered would impact their land use category of "Important Farmland", requiring further consideration and completion of the USDA's Farmland Conversion Impact Rating form.

7.2.7 U.S. Fish and Wildlife Service (USF&WS)

The USF&WS requires a determination of the effects of the proposed actions on listed species or critical habitat. The determination should be made by the "federal agency action", i.e., the Federal Aviation Administration or a non-federal representative of the FAA (e.g., consultants, state agencies, county or local officials), as may be designed by the FAA.

The response letter provided a list of federally listed or proposed and threatened species that have been documented or known to occur in Hidalgo County. The list provided was current on April 7, 2004; lists are subject to change without notice and should not be used as the sole source for identifying species that may be impacted by a project. On the list are six species of birds common to many counties. There are 29 species documented or known to occur in Hidalgo County, including: 11 species of birds; nine species of plants; two species of amphibians; two species of reptiles; two species of cats; two species of insects, and one species of mammals.

7.3 NATURAL RESOURCES

The focus of habitat preservation in the Lower Rio Grande Valley is a corridor along the Rio Grande River. While not mentioned in their letter, the USF&WS is slowly acquiring land along the river for a new national refuge. It would encompass 130,000 acres and preserve 11 habitat areas that support at least 100 vertebrate species that are listed as endangered, threatened or which occur at the periphery of their range. The Rio Grande River comes within three miles of the Airport.

The Lower Rio Grande Valley is a popular destination for bird-watches because it sits at the confluence of the two main migratory flyways between North and South America. Seasonally, bird-aircraft strike hazard exists at MFE. Prior to Airport land expansion, a review of fish and wildlife impacts should be requested from the Texas Parks and Wildlife Department, Habitat Assessment Branch of the Resource Protection Program.

Wetlands identified by the National Wetlands Inventory are located along the Mission pilot channel. Development that alters wetlands will require permitting by the U.S. Army Corps of Engineers under Section 404 of the Clean water Act.

Much of the land south of the Airport, including the Mission Pilot Channel, is located within the 100-year floodplain. National and local policies discourage development within floodplains.

7.4 MISSION INLET PILOT CHANNEL[1]

This drainage channel is approximately 10 miles long, extending from near Conway Road (FM 1016) on the west to the Banker Floodway on the east. The drainage channel flows in a southeasterly direction, draining into the Banker Floodway of the International Boundary and Water Commission (IBWC) floodway system about 2,000 feet west of U.S. Highway 281. The Banker Floodway drains into the Main Floodway, and from there, into the Arroyo Colorado and the North Floodway.

7.4.1 International Boundary and Water Commission (IBWC) Floodway System

The Hidalgo County watershed drains naturally northeast away from the Rio Grande. Flooding and overflows along the Rio Grande have resulted in major flooding of communities throughout the Lower Rio Grande Valley. During the early development of the Lower Rio Grande Basin in the 1900s, major floods frequency occurred. Floods in 1904, 1909, 1919, and 1922 caused considerable flooding and economic losses in the delta region east of Mission in Hidalgo, Cameron, and Willacy counties.

In 1925 and 1926, Hidalgo County, in cooperation with Cameron County, undertook construction of the first flood protection system in the Valley to protect its communities

[1] Mission Inlet Master Plan: Preliminary Engineering Report, Volume I, Final Draft, Turner Collie & Braden, Inc., prepared for the Hidalgo County Drainage District No. 1, pp. I-2 through I-5.

against river floods. The flood protection system was comprised of a river levee and interior floodways. The interior floodways consisted of the Mission and Hackney inlets and the Main Floodway, and were formed by locating levees along natural overflow channels. To carry the floodwaters from the Main Floodway at Mercedes to the Laguna Madre, the two counties constructed levees to form the North Floodway, and added levees along the Arroyo Colorado for protection of Mercedes. The September 1933 hurricane seriously damaged the Valley's economy to such an extent that the counties could no longer afford the flood protection. Under authority of the Emergency Act of 1933, the federal government took over the operation and maintenance of the floodway system. The subsequent Treaty of 1944 between the United States and Mexico delegated the responsibility of operation to the IBWC.

7.4.2 Hidalgo County Master Drainage System

The Hidalgo County Master Drainage System (HCMDS) consists of the Main Floodwater Channel with its laterals, the IBWC Floodway System with its laterals, and certain ditches in the irrigation districts. The HCMDS considers drainage for all watersheds within the jurisdiction of Hidalgo County Drainage District Number One. The Main Floodwater Channel serves those Hidalgo County areas mainly north of Loop 374 (BUS 73) and Willacy County. The IBWC Floodway system services Hidalgo County areas south of Loop 374 and north of the Rio Grande River. Some areas north of Loop 374 are also served by the IBWC because of extension of cities' storm sewers. Drainage channels that serve Hidalgo County are man-made. Because of the lack of topographic relief and limited right-of-ways, the drainage channels tend to have relatively low conveyance capacity. The Mission Inlet floodway is an important part of the entire Hidalgo County Master Drainage system (HCMDS).

7.4.3 Hidalgo County Drainage District Number One (HCDD No. 1)

The HCDD No. 1 is responsible for developing and maintaining the Hidalgo County Master Drainage System, providing operation and maintenance of all channels, laterals, ditches, structures, and pumping stations as well as providing the planning and engineering functions required for the growth and development of the drainage system. All HCMDS rights-of-way are maintained by the HCDD No. 1. The District has the authority to levy taxes to provide income for operational costs, and to issue bond certificates to finance new construction.

7.4.4 Mission Pilot Channel

The Mission Inlet watershed comprises an area of 76 square miles and includes areas presently drained by the Old Rado Drain and the Rado Drain Alternative; areas of Mission and McAllen that presently flow southward to Mission Inlet; and areas lying between Mission Inlet and Banker Floodway, including the Foreign Trade Zone. Runoff originates at the City of Penitas, just west of the intersection of U.S. Highway 83 and Business Route 374.

The Mission Inlet watershed is generally smooth and flat. The mild surface slopes are featured with Mission Ridge and a natural levee that extends along the north bank of the Rio Grande River. Mission Ridge is a minor rise that forms a drainage divide generally along Loop 374, from a short distance west of Mission to a point midway between Weslaco and Mercedes. The southern portion of Mission Ridge slopes from the highway southeastward to Main Floodway. The delta lands between the Main Floodway and the Rio Grande have a northeastern slope toward the floodway system and away from the river.

Therefore, southward expansion of the airport may require extensive cut and fill to place airport development above the floodplain and to replace the flood volume carried by the floodplain. The County has jurisdiction over the Mission Inlet, and the U.S. International Boundary and Water Commission (IBWC) has jurisdiction over the Banker Floodway into which the Mission Inlet flows.

Any airport development that increases impervious surface area will require measure for handling the resulting increase in stormwater runoff volume.

7.4.5 Mission Pilot Channel Connector

At the mouth of the current Mission Pilot Channel with the Banker Channel, there is a large floodway storage area that is very important to the flood control system. It enables water to backup from the Banker Channel, if necessary. While the proposed airport expansion project would relocate a portion of the Mission Pilot Channel, this large storage area would not be required for the expansion project. The storage area would not only continue to be a storage area for potential use in flood conditions by backwater from the Banker but also provides a natural buffer between the Airport and residential development which is underway immediately north of the levee wall at this location.

Alternative Four of this master plan incorporates the channel connector from the Mission Pilot Channel Master Plan. This connector would enable water to flow between the relocated Mission Pilot Channel and the remaining portion of the existing channel forming the storage area described above. One of the items of the envisaged concept study is to determine in more detail the potential location of the connector. Without the connector, the proposed drainage area will not be able to function. On the graphic for Alternative Four as well as airport plans, the connector appears as a north/south line located near the east end of the relocated channel. Should the potential parallel runway be constructed, this connector would lie within the runway safety area of that runway. Exactly what the structural relationship needs to be between the runway safety area and the connector will require engineering and hydrological study.

7.5 AIRCRAFT NOISE

Likely the most commonly discussed environmental issue associated with airports is airport generated noise. Airport noise exposure is shown in the form of DNL noise

contours, described below. This task was completed in support of the MFE Master Plan for forecast scenarios years.

7.5.1 Integrated Noise Model

Analysis of subsonic aircraft noise exposure around airports is accomplished using a computer program called the Integrated Noise Model (INM), which is distributed by the FAA. Version 6.1 was used for this task.

The INM uses annual average daily operations to compute existing and forecast noise. Annual average daily operations are representative of all aircraft operations that occur over the course of a year. The total annual operations are divided by 365 days to determine the annual average daily operations. Runway and flight track use is also averaged over one year.

Annual average daily operations consist of departures and arrivals, by daytime and nighttime. For the purposes of INM and DNL, daytime is defined as 7:00 a.m. to 9:59 p.m., and nighttime is defined as 10:00 p.m. to 6:59 a.m. Runway use, flight track location and use, and aircraft profiles define the paths that aircraft use as they fly to and from the Airport.

INM computes the overall annual average daily noise exposure (e.g., DNL) at points on the ground around the Airport. From the grid of points, contours of equal daily sound level are drawn by INM for overlay onto land use maps.

The use of INM and computer-based noise modeling allow for the projection of future, forecast noise exposure. When the calculations are made in a consistent manner, INM is most accurate for comparing "before-and-after" noise effects resulting from forecast changes or potential noise abatement alternatives. INM allows noise predictions for such forecast change actions without the actual implementation and noise monitoring of those actions.

7.5.2 INM Input Variables

There are a number of input variables for the INM Model. These variables and their primary assumptions are identified below.

- **Airport Location and Layout.** MFE is a municipally-owned airport located approximately three miles south of downtown McAllen. It is centrally located along the City's southern boundary within six miles of Mexico. The MFE has two runways: Runway 13/31 is a 7,108 foot paved runway; and, Runway 18/36 is a 2,648 foot paved runway. The elevation of MFE is 107 feet above Mean Sea Level (MSL). The current magnetic declination (the difference between magnetic north and true geographic north) is 7-degrees east as of 1985. Air Traffic Control (ATC) and pilots use magnetic headings to direct and fly aircraft.

- **Weather and Climate.** Weather has a significant impact on noise exposure and propagation. Runway use and the operational characteristics of aircraft are heavily influenced by weather. The following subsections detail modeled weather conditions and their impacts on aircraft operations.

- **Temperature.** Temperature is an important factor in aircraft performance. High temperatures increase takeoff distance and reduce climb performance, and generally result in increased noise exposure. An annual average daily temperature of 74 °F was used in INM; this value is standard atmospheric temperature, adjusted for airport elevation.

- **Humidity.** Humidity does not have a significant impact on aircraft performance. In conjunction with temperature, however, it does impact the propagation of noise through the air. In general, sound travels farther in more humid conditions. Humidity is highest at night, and gradually drops during the day. It is generally at its lowest point in the afternoon. An annual average daily humidity of 77-percent was used in INM.

- **Wind.** Wind speed and direction primarily determine runway selection and operational flow. Aircraft generally takeoff and land into the wind (known as a headwind) whenever possible. Headwinds reduce an aircraft's takeoff and landing distance, and increase climb rate. Due to weight, the aircraft most affected by wind are general aviation aircraft (GA). Aircraft can operate with considerable crosswinds (a wind blowing at the side of the aircraft)—up to about 16 knots for most GA aircraft. Aircraft can operate with limited tailwinds (a wind blowing on the rear of the aircraft)—up to five knots for a typical GA aircraft. Tailwinds increase takeoff and landing distance. Winds in excess of crosswind and tailwind limits generally force aircraft to use a different runway. The winds at MFE are generally out of the northwest, and favor operations on the existing runways, which are aligned accordingly. Wind data indicates that south flow operations occurs approximately 90-percent of the time, and north flow operations occur 10-percent of the time; these occur mostly during winter. Calm winds were assigned to south flow.

- **Forecast Flight Operations and Fleet Mix.** Average daily operations were developed for baseline 2003 and 2024 scenarios. Airport Traffic Control Tower counts, interviews with Airport Traffic Control Tower and Airport Staff were performed to derive the Master Plan forecast fleet, as provided in **Chapter 3: Forecasts.** For purposes of master planning, the long-term contour was developed for scenario year 2024.

  Table 7-1 lists the fleet mix used to develop noise contours for the three scenario years; however not all the aircraft are included in all scenario years. For example, the Convair currently operates at MFE today carrying air freight. It is assumed that it will be phased out of fleet usage in several years as the DC-10-10F. On the other hand, the B-767 and larger which operate infrequently at the Airport today are included increasingly in all scenario years.

Table 7-1 Aircraft Used to Develop MFE Noise Contours		
MD11-F	A-300-600	DC-10-10F
B-767-300F	DC-8-73F	B-757-200
B-727-200	B-737-800	B-737-300
MD-80	DC-9-32F	Canadair RJ
Fokker 27	Convair	DC-6
Gulfstream V	Falcon 20	Lear 60
Citation II	King Air 200	Baron
Cessna 172	Cessna 172 Touch-and-Go	T-1A Jayhawk Touch-and-Go
T-38 Touch-and-Go	UH-60	

For each aircraft and scenario year, aircraft operations were estimated for arrivals and departures during both the day and night. Touch-and-go GA and military training activities are reported as separate aircraft events and the noise estimated for them is calculated differently.

- **INM Aircraft Database.** The INM contains reference noise and performance data on nearly all aircraft types that operate at MFE. Aircraft manufacturers, such as Boeing and Airbus, provide the data to the FAA. The data is used to model an aircraft's departure, arrival flight profiles, and resultant noise exposure. Aircraft that are not specifically included in the database are modeled using appropriate substitution aircraft, per the FAA's pre-approved substitution list.

- **Flight Profiles.** Flight profiles model the vertical paths of aircraft during departure and arrival to determine the altitude, speed, and engine thrust of an aircraft at any point along a flight track. INM uses this information to calculate noise exposure on the ground. Profiles are unique to each aircraft type, and are based on airline operating procedures, temperature, and aircraft operating weight. Detailed information on aircraft flight profiles, under varying conditions, is stored in the INM aircraft database.

  The climb rate, and flight profile, of departing aircraft varies considerably. Modern aircraft have higher thrust engines and improved wing designs over older aircraft, which results in a superior climb rate. Modern jet engines are also much quieter than their predecessors, even though they can produce more thrust. Temperature, takeoff weight, and airline operating procedures are also important factors that affect climb rate. As temperature increases, air density decreases. This reduces engine thrust, which results in increased takeoff distance and a lower climb rate. Because departing aircraft are at a lower altitude, noise exposure generally increases. Conversely, noise exposure is decreased on cold days when aircraft have improved performance capabilities.

  Standard INM departure profiles were used in this study. Arriving aircraft were modeled using a standard 3-degree approach path. Due to the aircraft type

analyzed, only one stage length was considered during this study, per INM profile requirements.

- **Runway Use.** Runway use is determined by several factors, including safety, wind, weather, traffic demand, runway capacity, direction of flight, runway length requirements, and prescribed runway use procedures. ATC assigns runway use with consideration to all of these factors. As with aircraft flight operations, the INM runway use input is average daily runway use based on an entire year of operations. Runway use is the proportion of aircraft that use a runway for departure or arrival, expressed as a percent. Operations are grouped into operational categories, by operator and aircraft type, to incorporate unique operational trends into INM. Average runway use of jet aircraft differs from GA training operators. As discussed above, runway use and the operational characteristics of aircraft are heavily influenced by weather. Typical wind conditions, operational characteristics, and discussions with MFE ATC personnel were used to determine runway use.

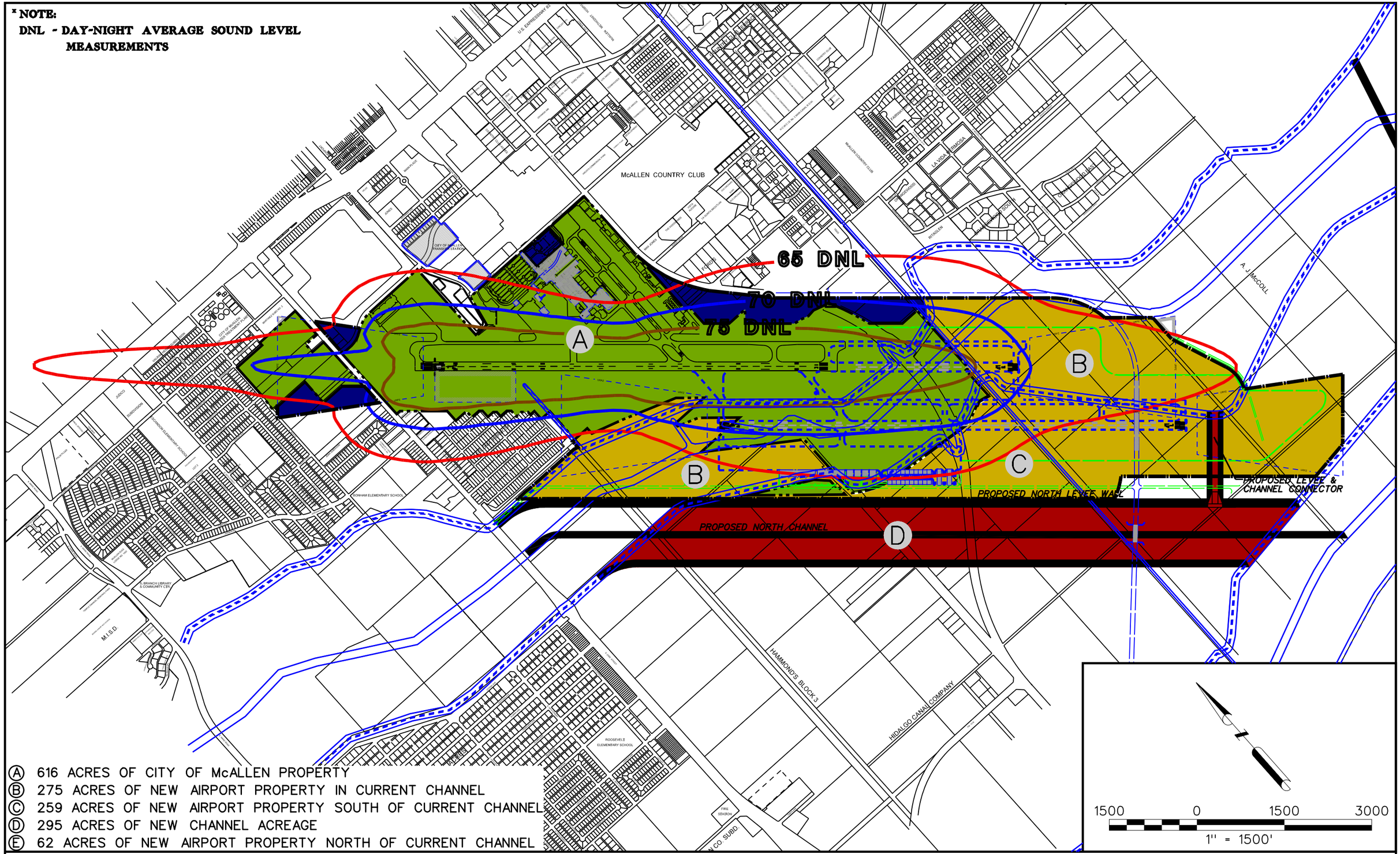
- **Flight Track Layout and Use.** Flight tracks depict the paths, or ground tracks, that aircraft use as they travel to and from the Airport. INM uses flight tracks to model actual flight tracks. Since aircraft fly through a moving air mass, a given heading will result in different paths over the ground under different wind conditions. Weather, traffic levels, pilot technique, and differing aircraft performance capabilities make an infinite number of ground tracks possible. ATC does not currently have the ability, for example, to direct aircraft along a highway corridor or other specific points on the ground. The modeled flight track is the mean, or average, track for a specific heading.

  Flight track locations were derived from discussions with MFE ATC personnel as well as the FAA's specified procedures for operating the airport as indicated in its tower order. Arrivals and departures at MFE were assigned to straight-in and straight-out tracks. This concentrates the noise into a single corridor in order to provide a more conservative (larger contour) noise estimate. As with flight operations and runway use, modeled flight track use is on an average annual basis. Nighttime flight track use is equal to daytime flight track use. The annual average daily number of aircraft modeled on any given flight track can be derived by multiplying the average daily flight operations by the runway use percentages, as there is only a single track per runway end. Note that this is representative of an average annual day only; in reality, the actual number of operations that use a specific flight track can vary significantly due to wind, runway configuration, and other operational factors.

7.5.3 MFE Noise Contour

Based upon the identified process, the following illustration, **Exhibit 7-1,** provides the results of the INM model for the long-term planning condition. The long-term planning contour indicates that there will be significant noise that extends beyond the airport

* NOTE:
DNL - DAY-NIGHT AVERAGE SOUND LEVEL MEASUREMENTS



Ⓐ 616 ACRES OF CITY OF McALLEN PROPERTY
Ⓑ 275 ACRES OF NEW AIRPORT PROPERTY IN CURRENT CHANNEL
Ⓒ 259 ACRES OF NEW AIRPORT PROPERTY SOUTH OF CURRENT CHANNEL
Ⓓ 295 ACRES OF NEW CHANNEL ACREAGE
Ⓔ 62 ACRES OF NEW AIRPORT PROPERTY NORTH OF CURRENT CHANNEL

2024 NOISE EXPOSURE MAP

McAllen Miller International Airport

HNTB

EXHIBIT 7-1

boundary. As part of the recommendations of the master plan, an airport noise compatibility study is suggested to deal proactively with this issue.

7.6 SUMMARY OF ENVIRONMENTAL OVERVIEW

The extension of Runway 13/31 requires the relocation of Tenth Street and a portion of the Mission Pilot Channel. Each of these three projects has implications for the drainage system of the area. While it is anticipated that these projects can be implemented without significant or adverse environmental consequences, it will require careful coordination at some cost. One of the recommendations of the master plan is to conduct an early concept study that will identify the geometry associated with the runway extension, roadway relocation, Mission Pilot Channel relocation and connector, and the San Juan Canal.

The following is a summary of environmental meetings and agency coordination listing environmental issues that were identified requiring further investigation:

- **Texas Department of Transportation (TxDOT-Pharr District).** After a series of meetings, a consensus developed between TxDOT-Pharr District and the Consultant that the better option for the relocation of Tenth Street is to construct it around the end of the ultimate length of Runway 13/31. This option is far less costly than constructing the runway over Tenth Street and would not require considerable ongoing maintenance costs associated with likely continuous pumping of ground water. Nevertheless, the roadway geometry is awkward with regard to McColl Street. TxDOT recommended a concept study to further investigate design elements and determine if there were any engineering or environmental fatal flaws.

- **U.S. Army Corps of Engineers (USACE).** There are important environmental issues remaining to be resolved. The USACE took jurisdiction on the Mission Pilot Channel further down toward Harlingen in the past, therefore it would be necessary to evaluate pre-existing conditions in the area prior to the levee system and then consider the area to be impacted. The Airport should formally request a jurisdictional determination when the project is more imminent and provide the information required (**See Section 7.1.2**). Also, the USACE indicated that an Individual Permit may be required since there were natural areas on either end of the channel in the Airport vicinity indicating that the USACE would consider the waterway jurisdictional through the area.

- **Hidalgo County Drainage District Number One (HCDD).** The HCDD actually has jurisdiction over the channel and will reserve the right to withdraw support from the project if it deviates from the Mission Inlet Master Plan. The HCDD should be integrally involved or lead additional drainage investigations relative to relocation of the Mission Pilot Channel or any study of alternatives with particular attention given to the channel connector. Another issue regarding to drainage that will need to be investigated is the potential for this project to fall within the

jurisdiction of the International Boundary and Waterway Commission (IBWC), as the channel is part of the IBWC floodway system.

- **Texas Council on Environmental Quality (TCEQ).** The TCEQ noted that the proposed project is not located in an area that is nonattainment for air pollutants and that the project should follow best management practices during construction to minimize any potential environmental impacts. It will be necessary to contact the TCEQ again when the project undergoes formal environmental study during the pre-design period in case conditions have changed.

- **Texas Historical Commission (THC).** The THC requested additional information during the formal environmental study. A list of requested information is provided in **Section 7.2.3**.

- **Texas Parks and Wildlife Department (TPWD).** The TPWD cited concerns regarding potential environmental impacts relative to disturbances of vegetation and soils at canal crossings, potential impacts to the Pharr San Juan Main Canal, and suggested that removal of any vegetation should be performed outside of the migratory bird nesting season (April 1-July 15). Issues relative to potential impacts to the Pharr San Juan Main Canal could be investigated in the recommended concept study and formal environmental investigation during the pre-design process will require field investigation of potential species impacts. The TPWD provided a list of State Status Threatened or Endangered Species that will need to be considered in addition to those that are federally threatened or endangered.

- **U.S. Department of Agriculture (USDA).** There are Important Farmlands impacted with the implementation of either Alternative Three or Alternative Four, requiring further consideration and completion of the USDA's Farmland Conversion Impact Rating form during formal environmental investigations.

- **U.S. Fish and Wildlife Service (USF&WS).** The USF&WS will require a determination of the effects of the proposed actions on listed species or critical habitat and provided a list of federally listed or proposed and threatened species that have been documented or known to occur in Hidalgo County. Similar to the list provided by the TPWD, these lists are subject to change without notice and should not be used as the sole source for identifying species that may be impacted by a project.

- **Airport Noise.** The long-term planning noise contour for 2024 indicates that there will be noise considered to be significant by FAA standards that extends beyond the airport boundary. As part of the recommendations of the master plan, an airport noise compatibility study will be added to the Capital Improvements Program for the near-term planning phase to deal proactively with this issue.

Chapter Eight
20-Year Capital Improvement Program

Preceding chapters identified and described the process leading to the recommended major development needs of the MFE if it is to accommodate projected activity levels.

The purpose of this section is to provide a summary of the overall capital costs over the next 20 years and their estimated staging. Staged capital costs are presented for three development periods.

- Phase I (2004-2008)
- Phase II (2009-2013)
- Phase III (2014-2024)

Prior to summarizing these staged capital costs, two key points should be emphasized. First, the staging of Master Plan development projects in this chapter is based upon the projected Airport activity levels. For the reasons presented in the development of the activity projects, however, actual Airport activity could vary from the projected levels. As a result, the staging of development projects in this chapter should be viewed as estimates. In the event that Airport activity does vary from projected levels, implementation of these projects should occur when demand occurs, necessitating changes in the scheduling of improvements.

Secondly, the cost analyses presented in the report are for planning purposes only; implementation of recommended capital projects will involve refinement of designs and costs through architectural and engineering analyses. As a result, the capital costs presented in this chapter must be viewed as "best estimates".

The following pages present a brief description of each project as identified in **Table 8-1**, the 20-Year Capital Improvement Program for MFE (**See Section 8-2**). Cost estimates for each development project are presented in 2004 dollars.

Most of the projects presented in **Table 8-1** focus upon improvements and developments required to accommodate predicted future airport activity levels and characteristics. The balance of the items address other capital costs associated with the on-going operation of the Airport. Included in this category are renewal and replacement expenditures to maintain and/or rehabilitate airside and landside facilities.

There is not a 1:1 relationship between the CIP Program and the Airport CIP (ACIP) that the City prepares for the FAA. The ACIP considers only those projects for which the FAA will participate for a given year and an estimated program for 5-years. This list is constrained based upon anticipated revenues from the FAA. On the other hand, this CIP is based upon a comprehensive, unconstrained program and demand projections. It is quite possible that there could be demand for a particular project but not the funds to

implement it in the first year it is needed. Another example are projects that are needed for MFE that are deemed of significant priority for the community to pursue in advance of FAA funding, e.g., the land acquisition needed to ensure the airport's ongoing viability.

In addition, the actual construction costs of projects identified in the CIP will differ from estimates because the they will be based upon more detailed design information, vary due to changing labor, materials costs, and conditions within the market place at the time.

8.1 PROJECTS IN THE CAPITAL IMPROVEMENT PROGRAM

Capsule descriptions for projects identified in the CIP program will be presented below in six categories: airfield, terminal, landside, other projects, projects to be constructed and funded by other, and projects beyond the 20-year master plan.

8.1.1 Airside

- Runway 13/31 Overlay, Phase I. This project was originally thought to be accomplished with the extension of Runway 31. However, the justification for the runway extension likely will lag behind the need to overlay the runway. At the same time of the runway overlay, it would be prudent to consider runway lighting rehabilitation needs as well as new signage requirements of the FAA; this could become a separate project.

- Runway 13/31 lighting rehabilitation, Phase I. It was anticipated that lighting rehabilitation needs might be addressed at the same time as the runway overlay. Given the cost, it may be that the runway overlay might have to be phased; however, the lighting rehabilitation needs likely are more critical. In addition, at some point it would be prudent to purchase a replacement for the emergency airfield lighting generator; this may be a Phase II project item.

- Runway 13/31 rejuvenation/seal cracking, Phases II and III. There will be a number of these projects identified throughout the CIP. For planning purposes in the CIP, it is assumes that some form of minor-to-moderate pavement work will be required during each 5-year time frame. All pavements are addressed in the CIP currently. Consequently, there are pavement projects anticipated for each pavement on the airport during Phase II. One will note that the estimated cost during Phase III is double that for Phase II since Phase III covers a period of ten years. Subsequent pavement projects will not be discussed in detailed, as this one.

- Runway 13 ILS, Phase I. The ILS for Runway 13 is antiquated and needs to be replaced. There are very few opportunities to find replacement parts for this facility and there is the danger that if it needs to go down for any period of time that it might not be able to resume operation.

- Runway 31 ILS, Phase I. While less of a priority than the ILS for the other runway end, it is essential to consider a second ILS for two main reasons. One is redundancy. As mentioned above, if for any reason the other ILS is down, there are no other options. Secondly, the limited percentage of the year that this facility would be used is actually a magnified need since almost all IFR weather occurs during the winter and favors this runway end.

- Runway 13/31 Extension, Phase II. Demand is anticipated to be justified for an extension of Runway 13/31 to 8,500-feet by 2014. This runway extension would be 1,710-feet long to regains the 330-feet required to clear 23rd Street by 15-feet at the roadway's closest point to the runway, which is along the northwest side of the RPZ trapezoid.

- With the extension of Runway 13/31, it will be necessary to relocate the instrument landing systems (ILS).

- Runway 18/36 rehabilitation and lighting rehabilitation, construction, Phase I. This project addresses a major upgrade to the pavement and lighting of secondary Runway 18/36. Runway 18/36 is composed of an asphalt wearing surface course with bituminous base. The maximum gross weight the pavement can currently support is 12,500 pounds for single wheel aircraft, but airport plans include utilizing the runway as a taxiway for aircraft taxiing to and from the adjacent general aviation apron. Traffic in the apron area includes aircraft weighing up to 72,000 pounds single wheel load.

- Design of Runway 18/36 rehabilitation and lighting improvements, Phase I. This project addresses the cost for preparation of design and bid documents of Phase I of the previous project.

- Runway 18/36 rejuvenation/crack sealing, Phases II and III.

- Irrigation Pipe rehabilitation construction, Phase I. This project addresses the rehabilitation of the irrigation pipeline running under the north end of Runway 13/31.

- Taxiway A rehabilitation, Phase I. Similar to Runway 13/31, portions of the primary taxi route on the airfield requires attention.

- Taxiway A rejuvenation/track sealing, Phases II and III.

- Taxiway C overlay. Similar to Runway 18/36, Taxiway C, the parallel taxiway to Runway 18/36, has portions of the pavement that need to be replaced.

- Taxiway C rejuvenation/crack sealing, Phases II and III.

- Taxiway connector between terminal and new south airport air cargo/general aviation apron, Phase III. A new taxiway would be constructed from the new south cargo and general aviation apron across the airfield and link with the terminal area. This taxiway would also serve as the link between the west end of future Runway 13L and the terminal. The new taxiway would be approximately 1,550-feet long and 75-feet wide, capable of handling ARC Group IV-D aircraft.

- Taxiway D rejuvenation/crack sealing, Phases II and III.

- South general aviation apron 2-inch overlay, Phase I.

- South general aviation apron rejuvenation/seal cracking, Phases II and III.

- Tower apron 2-inch overlay, Phase I.

- Tower apron rejuvenation/track sealing, Phases II and III.

- Customs apron rehabilitation, Phase I.

- Customs apron rejuvenation/track sealing, Phases II and III.

- Air cargo apron rehabilitation, current location, Phase I. The comment "current location" differentiates the current air cargo area from the potential air cargo area on the south side of the airfield, should land be purchased for it. The air cargo apron is an asphalt surface course pavement built in 1988. The area contains three concrete hardstand areas for parking aircraft. The asphalt pavement requires rehabilitation to extend the life of the pavement and preclude the need for reconstruction.

- Air cargo apron rejuvenation/crack sealing, current location, Phases II and III.

- Air cargo apron joint reseal and spall repair, Phase I. This project is part of the air cargo apron rehabilitation.

- New south airport air cargo apron/general aviation apron, Phase III. This project consists of 1,200-feet by 450-feet.

- Blast pads for Runway 13/31, Phase I. Runway 13/31 does not have blast pads which are recommended per FAA Advisory Circular 150/5300-13. The addition of blast pads will mitigate the effects of jet blast on unprotected soil and the end of the runways.

- South perimeter fencing and access road improvements, Phase I. The existing Airport Operations Area (AOA) security fence on the Airport's west side adjoins private and public property, presenting the opportunity for security breaches of the airfield. The new AOA security fence will be installed to the east of the

existing fence on the opposite bank of an existing drainage channel to eliminate the potential points of access. In association with the fence installation, two drainage channels will be enclosed to permit uniform extension of the fence. An existing perimeter road will be rerouted to follow the new fence line.

- New perimeter roads, Phase II and III. These roads loop the airfield and enable emergency or service vehicles to have access to any part of the airfield without having to cross an active runway or taxiway, reducing incursions. Should MFE expand to purchase property that would enable the construction of a potential parallel runway, it will be necessary to adjust the Airport's existing perimeter road system. This could be accomplished by the construction of a section approximately 8,000-feet long during Phase II and another section approximately 7,000-feet long during Phase III after construction of the potential parallel runway.

- Taxiway signage, Phase I. Also, the federal requirements regarding taxiway signs have been modified. An airfield signage plan/signage upgrades project could be included with as part of any airfield project, as moneys are available.

8.1.2 Terminal

- In-line baggage screening equipment building, Phase I. This is a construction project for In-Line baggage screening building for the Transportation Service Administration (TSA) equipment and personnel.

- Terminal building expansion study, Phase I (2007). With the completion of the in-line baggage screening equipment building, the next bottleneck within the terminal will be the passenger screening area. Resolution of this issue requires careful consideration due to the intensity of use of the space as well as the implications for expansion. Expansion could have implications for the curvilinear building feature associated with the FIS and the ramp to ticketing level, the restaurant, as well as the seating area for Gate One. It is advised that a terminal building expansion study be contracted to determine timing and cost of facilities needs for passenger screening, inbound bags/bag claim, etc. This study would take advantage of the parking lot and enplaning passengers study whose purpose is to obtain an accurate understanding of the percentage of Airport customers who are Mexican nationals. For several projects that involve planning, a specific year is provided. This is to assist Airport Management differentiate between the priority of the planning projects as recommended by the Master Plan Consultant.

- Inbound baggage/bag claim expansion area, Phases I, II, and III. Of the terminal spatial elements that need to be addressed over the master plan period, this one is the most severe. It is estimated that approximately 11,300 square feet will need to be added to the terminal to satisfy these requirements over the forecast period. The CIP indicates a project in each master plan phase, although it may be more

cost effective to subdivide requirements into two projects than three. The proposed terminal building expansion study would address this issue.

- Outbound baggage expansion area, Phases II and III. As mentioned above, the in-line screening equipment building in Phase I is a major first step in satisfying these spatial requirements. Remaining requirements over the master plan period are separated into two projects but could be combined, depending upon the results of the terminal building expansion study.

- Security screening expansion area, Phases I and III. The terminal building expansion study discusses this issue.

- Concourse expansion, Phases II and III. As many as four gates may be needed over the next 20 years. However, there are a number of ways that this need can be accommodated, depending upon how the airlines ultimately serve the airport with additional frequencies that may reduce the peak hour need for gates. It is possible to accommodate four additional gates by extending the terminal concept south without adversely impacting aircraft maneuvering, tower vision, or creating a Part 77 obstruction.

8.1.3 Landside

- Park lot expansion/enplaning passenger study, Phase I (2005). One of the criticisms of any forecast prepared in the United States for a border community, whether Mexico or Canada, is the extent that airport customers who are native to another country enplane at a border airport in the United States. This is especially true when comparing FAA forecasts to local forecasts. In addition, the inability to understand the full impact of Mexican nationals to MFE activity levels has important implications for the timing of expanding airport parking facilities. It is recommended that this study be conducted in calendar year 2005.

- Parking lot expansion, Phases I, II, and III. Parking spaces are perceptively at capacity when 90 percent of the parking lot is full. Within the next couple of years, i.e., 2006-2007, MFE will approach a capacity situation for its short- and long-term parking facilities, as well as rental car ready positions. Over the course of the next 20-years, the airport will need approximately 1,500 additional parking spaces for passengers, rental car patrons, and employees or about 500 new parking positions every five years. In addition, land likely will need to be purchased for addition parking facilities adjacent to the airport as well as potentially relocating existing facilities on airport to accommodate addition parking, such as in the general aviation area.

8.1.4 Other Projects

- Fee simple purchase, Runway 13, RPZ Land Acquisition, 16.6 acres held in avigation easement, including structures, Phase II. There are several parcels that

MFE controls avigation easement along 23rd Street off Runway 13. These parcels have five buildings located on them; two auto-related businesses and a medical building east of 23rd Street and two other auto-related structures west of 23rd Street. While it is important for the airport to control its RPZ in fee simple, the fact that this situation occurs and has occurred for some time reduces the need for it to be addressed immediately with regard to incompatible land use. Nevertheless, these buildings are within 1,400-feet and 2,000-feet from the runway end's displaced threshold and approximately 300-feet off centerline to the north and represent a safety concerns that needs to be addressed.

- Fee simple purchase, Runway 13, RPZ Land Acquisition, 2.3 acres, Phase II. MFE does not control any interest over this land. The purchase of this elongated sliver of land has to do with the reconfiguration of the RPZ as a result of shifting the RPZ toward the airport to gain additional height over 23rd Street for that part of the street that is closest to Runway 13. It is recommended that these acres be purchased at the same time as the other acres are purchased.

- Land for airport expansion, including land for a potential parallel runway and Mission Pilot Channel relocation, Phase I, 2005. Of all projects in the CIP, this is the most important. MFE is rapidly approaching a time when a simple expansion of a facility will start the domino effect of impacting another facility whose relocation will have a similar impact; e.g., parking lot expansion. At the same time, it is essential that the long-term be taken into consideration now. Fortuitously, land does exist east and south of the airport that is not developed, although expensive. Indeed, the existence of the Mission Pilot Channel has made this land not a priority for development in the community in the past but there are increasing signs that this land, too, will be developed in the next few years. Consequently, time is of the essence. Without purchasing land east and south of the airport as soon as possible, the next time the master plan is updated will find that there will be large portions of this property that has been purchased for other uses, and potentially for uses that are incompatible with the airport. As airport demand increases in the next ten years, it will not be possible to expand facilities without consideration of which facilities or what portion of an operation can be located off airport. This not only reduces the desirability of the airport to potential airport-oriented customers but causes second thoughts on the part of current tenants. The long-term implications of land purchase are even more profound. Not only does this preclude the possibility of future expansion of airport facilities but, due to inevitable build up around the airport, operation of the airport will become constrained. Slowly and surely over time, the in-fill of land uses in the airport vicinity could become incompatible with the Airport. Having incompatible land uses near airport boundaries on land that could be purchased today presents a direct challenge to the ongoing viability of the airport in the future. As discussed in the **Chapter 2: Inventory**, the prospects of building a new airport is controversial, costly, and likely a 30-year or more exercise even if it could happen. In short, this is MFE's last chance to guarantee its future. Fortunately with land purchase, MFE has an opportunity to be take

advantage of its central location in the Lower Valley and position itself to become an international destination around the midpoint of the Century.

- Concept study for extension of Runway 13/31, Tenth Street Relocation and Mission Pilot Channel Relocation, Phase I (2005). This is the most important next step in the planning process. As the master plan proceeded, it became apparent that there are logistical issues that need to be worked out in the area east and south of the existing runway to remove the potential for a "fatal flaw" to exist in the plan. This requires that more detailed engineering-oriented information be developed pertaining to the relocation of Tenth Street, the Mission Pilot Channel, the channel connector between the proposed channel and the existing channel, the relationship with San Juan Canal, the elevation of the future parallel runway, as well as other local streets which are part of the City Planning Department's thoroughfare planning. This concept study would also research in more detail environmental issues associated with relocation of the Mission Pilot Channel with the assistance of Hidalgo Country Drainage District Number One as well as with the TxDOT Pharr District regarding the environmental implications of the relocation of Tenth Street.

- Based upon the long-term planning noise contour for 2024, there is an indication that MFE will need to address levels of aircraft noise that will be considered to be significant by FAA standards, i.e., DNL 65 or greater, that extends beyond the airport boundary. It is important to be as proactive as possible with regard to dealing with airport noise, as it typically is the most noticeable environmental impact associated with an airport. Therefore, as part of the recommendations of the master plan, an airport noise compatibility study will be added to the Capital Improvements Program for the near-term planning phase to deal proactively with this issue (2006).

- Runway Extension cost-benefit analysis (2008). It is anticipated that efforts underway by the City of McAllen and the Airport to increase use of the facility, that demand for the extension of Runway 13/31 will exist by the middle of the planning period. In about 2008, it will be important to look at the costs associated with runway extension and its merit in terms of an FAA cost-benefit analysis.

- Environmental assessment for runway extension/Mission Pilot Channel relocation (2009). Contingent upon the results of the cost-benefit analysis, an environmental assessment of the runway extension and Mission Pilot Channel relocation would be conducted. In the event that the runway extension is delayed, it would still behoove the City to conduct the environmental assessment of relocating the Mission Pilot Channel since both the Channel and Tenth Street must be relocated prior to the extension of Runway 31.

- Master Plan Updates, Phases II and III. About once every 5-7 years, it is prudent to update the Airport Master Plan.

- A new federal requirement for approach and obstruction surveys is sufficient enough to consider this as a separation project.

8.1.5 Projects to be Constructed and Funded by Others

- East bound ramp from U.S. 83 to Bicentennial Boulevard, Phase II (TxDOT?). With the fast growth in population on the west side of McAllen, in Mission, and in Starr County, it is recommended that the City of McAllen pursue a study of the benefits of constructing an eastbound exit ramp from U.S. 83 to Bicentennial Boulevard. At certain times of day, it is not possible to exit at 26th Street and merge across traffic to run onto the ramp to Bicentennial. A significantly enhanced level of service would be achieved by the construction of this direct connection.

- Mission Pilot Channel relocation, Phase II (Hidalgo County Drainage District Number One and others to be identified). Runway 31 cannot be extended until the Mission Pilot Channel is relocated.

- Tenth Street Relocation (TxDOT), Phase II. Runway 31 cannot be extended until Tenth Street is relocated.

- Cargo Buildings. Based upon a demand for significant expansion of air cargo facilities, a new cargo building complex would be constructed on the south side of the airport, should property be acquired and the Mission Pilot Channel relocated. This would be a private development.

- General Aviation Corporate Hangars. The general aviation fleet mix at MFE is becoming increasingly larger, which has been a long-term trend witnessed over the last 20-years. At this point, there are few locations available on the airfield that a prospective tenant with a corporate jet could construct a hangar or occupy a singular hangar. The CIP identifies the opportunity for private development of hangars for larger corporate aircraft.

- Environmental Assessment of the Relocation of Tenth Street (TxDOT, 2009). At approximately the same times as the environmental assessment of the relocation of the Mission Pilot Channel, an environmental assessment of the relocation of Tenth Street should be conducted.

8.1.6 Projects Beyond the 20-Year Master Plan

There are two important projects for which costs are not estimated in the master plan as they would occur beyond the 20-year time frame. These are:

- Construction of parallel Runway 13R/31L/closure of Runway 18/36. Demand does not indicate a new runway will be justified until airport activity reaches 80

percent of airport capacity. Planning would not occur until activity levels reach 60 percent of airport capacity, which is not forecast to happen within the master plan time frame.

- Tenth Street Structure under 13R/31L. The construction of potential runway 13R/31L will require the building of the runway over relocated Tenth Street. This is one of the issues that need to be addressed in the feasibility study for extension of Runway 31 (future Runway 31R).

8.2 CAPITAL IMPROVEMENT PROGRAM

Total project costs by development phase are provided in **Table 8-1.** As shown, project costs to implement the entire Master Plan total approximately $184 million by 2024, including $79 million of projects that would be funded by others. In terms of the $105 million Airport CIP, the largest proportion of the costs ($43.8 million) would be incurred in the next five years. Almost half that cost, approximately $18 million, is associated with land acquisition for airport expansion.

In terms of the overall program that includes projects funded by others, the largest proportion of funds is required in Phase II, almost half the entire program. During this period, Runway 13/31 would be extended after relocation of Tenth Street and the Mission Pilot Channel.

8.3 AIRPORT LAYOUT PLANS

The major improvements recommended in the Master Plan are incorporated into the updated Airport Layout Plan (ALP). The ALP set consists of the following drawings:

1. Cover Sheet
2. Airport Layout Plan
3. Airport Airspace Drawing
4. Airport Airspace Drawing Runway 13L and 13R
5. Airport Airspace Drawing Runway 31L and 31R
6. Inner Portion of the Approach Surface Drawing Runway 13L
7. Inner Portion of the Approach Surface Drawing Runway 31R
8. Inner Portion of the Approach Surface Drawing Runway 13R
9. Inner Portion of the Approach Surface Drawing Runway 31L
10. Inner Portion of the Approach Surface Drawing Runway 18 & 36
11. Terminal Area Drawing
12. Airport Land Use Plan
13. Airport Property Map

Each of these drawings is produced in a 36” by 24” format. The City of McAllen and the FAA maintain sets of the full size drawings. Half-size sheets of the ALP set, in 11x17 format, follow the text of this chapter.

Table 8-1: CAPITAL IMPROVEMENTS PROGRAM

Project Description	Short Term (2004-2008)	Intermediate Term (2009-2013)	Long Term (2014-2024)	Total, All Phases
All costs are planning estimates that include escalation of estimated costs due to assumptions made and lack of field verification.				
Airfield				
Runway 13/31 Overlay	$4,200,000			$4,200,000
Runway 13/31 lighting rehabilitation	$525,000			
Runway 13/31 rejuvenation/crack sealing		$900,000	$1,800,000	$2,700,000
Runway 13 ILS	$1,050,000			$1,050,000
Runway 31 ILS	$1,932,000			$1,932,000
Runway 13-31 Extension, 1,710-feet (regains 330-foot displaced threshold)		$15,600,000		$15,600,000
Relocate ILS with extension of Runway 31, including LOC for Rwy 13		$500,000		$500,000
Design of Runway 18-36 rehabilitation and lighting improvements	$126,000			$126,000
Runway 18-36 rehabilitation & lighting rehab - construction	$2,416,000			$2,416,000
Runway 18-36 rejuvenation/crack sealing		$275,000	$550,000	$825,000
Taxiway A rehabilitation	$2,550,000			$2,550,000
Taxiway A rejuvenation/crack sealing		$880,000	$1,760,000	$2,640,000
Taxiway C overlay	$360,000			$360,000
Taxiway C rejuvenation/crack sealing		$264,000	$528,000	$792,000
Taxiway Connector Between Terminal and New South Airport Air Cargo/General Aviation Ramp			$1,940,000	$1,940,000
Taxiway D rejuvenation/crack sealing	$368,000	$110,000	$220,000	$698,000
South GA apron 2 inch overlay	$830,000			$830,000
South GA apron rejuvenation/crack sealing		$885,000	$1,770,000	$2,655,000
General Aviation apron (CBP) rehabilitation	$420,000			$420,000
General Aviation apron rehabilitation	$1,575,000			$1,575,000
General Aviation apron joint reseal and spall repair	$495,000	$495,000	$990,000	$1,980,000
Tower apron 2 inch overlay	$355,000			$355,000
Tower apron rejuvenation/crack sealing		$550,000	$1,100,000	$1,650,000
Customs apron rehabilitation	$530,000			$530,000
Customs apron rejuvenation/crack sealing		$125,000	$250,000	$375,000
Air cargo apron rejuvenation/crack sealing; current location		$605,000	$1,210,000	$1,815,000
Air carrier ramp joint reseal & spall repair	$238,000			$238,000
New South Airport Air Cargo Ramp/General Aviation Ramp			$9,000,000	$9,000,000
Blast pads for 13-31	$305,000			$305,000
South perimeter fencing & access road improvements	$420,000			$420,000
Airport Lighting Emergency Generator replacement		$300,000		$300,000
Survey and Update Obstruction Chart	$500,000			$500,000
Perimeter Road improvements	$1,070,000			$1,070,000
New perimeter road, phased		$912,000	$750,000	$1,662,000
Subtotal	**$20,265,000**	**$22,401,000**	**$21,868,000**	**$64,534,000**
Terminal				
In- line baggage screening equip bldg [2]	$1,250,000			$1,250,000
Inbound baggage/bag claim expansion area	$800,000	$600,000	$1,200,000	$2,600,000
Outbound baggage expansion area		$425,000	$425,000	$850,000
Security Screening expansion area	$600,000		$600,000	$1,200,000
Concourse Expansion		$1,050,000	$1,050,000	$2,100,000
Subtotal	**$2,650,000**	**$2,075,000**	**$3,275,000**	**$8,000,000**
Landside				
Land Acquisition for Terminal Parking Facility		$1,300,000		$1,300,000
Land Acquisition for Off-Airport Long-Term Parking		$1,000,000		$1,000,000

Parking Lot Expansion in lieu of parking garage construction	$1,250,000	$1,250,000	$1,250,000	$3,750,000
Subtotal	**$1,250,000**	**$3,550,000**	**$1,250,000**	**$6,050,000**
Other				
Acquire ARFF Vehicle	$550,000			$550,000
New ARFF Building		$1,103,000		$1,103,000
Aircraft Maintenance Building		$750,000		$750,000
Fee Simple Purchase, Runway 13 RPZ Land Acquisition (16.6 acres held in avigation easement, including structures)		$2,400,000		$2,400,000
Fee Simple Purchase, Runway 13 RPZ Land Acquisition (2.3 acres not owned either in fee or avigation easement)		$50,000		$50,000
Land for Airport Expansion, including Future Runway and Mission Pilot Channel Relocation. This is total cost and does not relect any allowance that could be made in transferring ownership in the current channel needed for Airport expansion with land acquisition	$18,000,000			$18,000,000
Parking Lot/Enplaning Passengers Study	$26,000			$26,000
Terminal Building Expansion Study	$83,000			$83,000
Concept Study for Runway Extension, Tenth Street Relocation and Mission Pilot Channel Relocation	$475,000			$475,000
Runway Extension Cost Benefit Analysis	$83,000			$83,000
Airport Noise Compatibility Study	$500,000			$500,000
Environmental Assessment for Runway Extension/Mission Pilot Channel Relocation		$495,000		$495,000
Terminal Expansion Planning and Design		$600,000		$600,000
Master Plan Updates		$500,000	$600,000	$1,100,000
Subtotal	**$19,717,000**	**$5,898,000**	**$600,000**	**$26,215,000**
Projects to Be Constructed and Funded By Others				
East Bound Ramp from U.S. 83 to Bicentennial Boulevard		$1,134,000		$1,134,000
Mission Pilot Channel Relocation		$23,600,000		$23,600,000
Tenth Street Relocation		$22,000,000		$22,000,000
Cargo Buildings			$10,525,000	$10,525,000
General Aviation Corporate Hangars		$10,750,000	$10,750,000	$21,500,000
Environmental Assessment of the Relocation of Tenth Street		$600,000		$600,000
Subtotal	**$0**	**$58,084,000**	**$21,275,000**	**$79,359,000**
Projects Beyond the 20-Year Forecast Horizon				
Construction of Runway 13R/31L/closure of Runway 18/36				
Tenth Street Structure under Runway 13R/31L				
Total, Airport CIP	**$43,882,000**	**$33,924,000**	**$26,993,000**	**$104,799,000**
Total, Including Projects to be Constructed and Funded by Others	**$43,882,000**	**$92,008,000**	**$48,268,000**	**$184,158,000**

The primary drawings that describe the recommended development program are described in the subsequent subsections of this chapter.

8.3.1 Airport Layout Plan

The master planning process culminates with FAA approval of the ALP. The ALP (Sheet 2) serves as a blueprint for future development at the Airport and shows both the Airport as it exists today and the facilities recommended to accommodate projected demand through the planning period.

There are three types of Master Plan development projects. The first type reflects predictable requirements for the next 20 years. Airport parking lots expansions are examples of this type of project. The second type of project is one that would be needed when demand exceeds the 20-year forecast. Developing new airfield locations for rental car or general aviation facilities to accommodate a higher-than-expected need are examples of this type of project. Finally, the third type of project are those that are not justified within the master plan forecast period but for which contingency planning must be considered today if the potential for development is to occur. The potential development of a future parallel runway is an example of this type of project.

Consistent with FAA guidelines, only those Master Plan Projects based on a predictable facility need that is eligible for Federal funding or would be funded directly by the City are depicted on the ALP. Projects typically funded through a third-party source are not depicted on the ALP, except for corporate hangar facilities. However, the strategic plan does not preclude the City from developing any improvement projects identified in the Master Plan. Master Plan development projects are identified in the **Section 8.1** above; the primary ones are listed below:

Airfield
- Instrument Landing Systems for Runways 13 and Runway 31;
- Extension of Runway 13/31 to 8,500-feet (first phase) – ultimate runway length is 10,000 feet;
- Construction of new South Airport air cargo and general aviation apron with a taxiway connector to the air carrier terminal; and,
- With new land acquisition, extension of perimeter roads around the Airport.

Terminal
- Expansion of inbound bag/bag claim, outbound bag, passenger security screening, and concourse areas.

Landside
- Parking lot expansions; and,
- Eastbound ramp connector from U.S. 83 to Bicentennial Boulevard.

Land Acquisition
- Land Acquisition to double the size of the Airport.

Major Allied Projects
- Relocation of Tenth Street around ultimate runway end;
- Relocation of the Mission Pilot Channel;

Future Projects (Beyond 20-Years)
- Construction of Potential Parallel Runway

8.3.2 Airspace and Obstruction Plans

The purpose of airspace and obstruction plans is to depict physical objects that exist in the navigable airspace surrounding the airport. The criteria used to define an obstruction to the safety of approaching and departing aircraft is contained in Federal Aviation Regulations (F.A.R.) Part 77, Objects Affecting Navigable Airspace. Existing airspace obstructions at MFE are described on several sheets (Sheets 3-5) due to the size of the area that needs to be shown. As depicted on these sheets, Part 77 surfaces provide information on the maximum heights of structures that can be sited at specific locations in the airport vicinity without interfering with navigable airspace. The Airspace Plans also provide a list of obstructions which penetrate the Part 77 surfaces (excluding NAVAIDS), the extent of the penetrations, and a recommendation on the actions required to eliminate each penetration.

In addition, five separate sheets of the ALP set depict runway profiles for each of the four runway ends for existing runways (Sheets 6, 7, and 10) as well as profiles for the potential runway 13R/31L (Sheets 8 and 9). These sheets present detailed information about the runway profiles and elements to verify that runway line-of-sight requirements are met.

8.3.3 Terminal Area Plan

The objective of the terminal area plan is to provide a more detailed representation of the development illustrated on the ALP. The terminal area drawing is Sheet 11 of the ALP set.

8.3.4 Land Use Plan

The Land Use Drawing, Sheet 12, is no longer required by the FAA. However, this sheet is maintained within this set as it is important at this time when land acquisition is so critical to the future of the airport that land adjacent to the airport to the east and south is undeveloped.

8.3.5 Airport Property Map

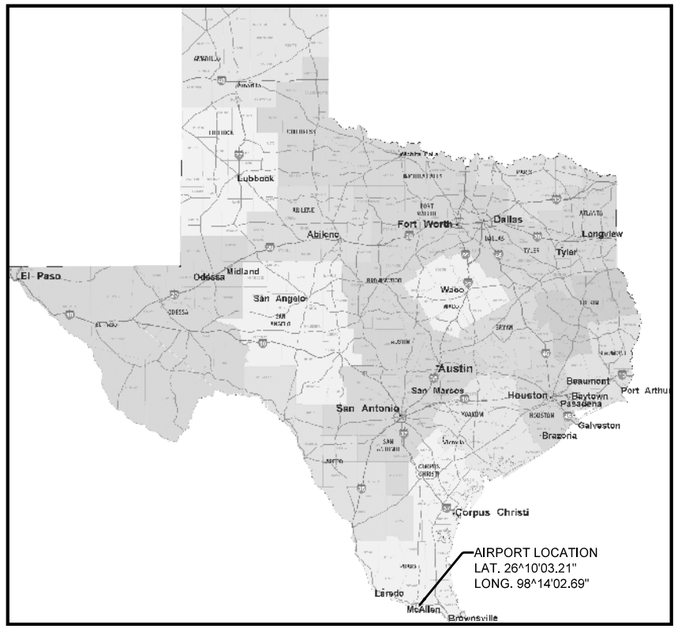
The Airport Property Map, Sheet 13, shows the ownership or interest in each tract of land within the existing and future Airport boundaries. The property map also indicates the funding source and when each tract was obtained.

McALLEN - MILLER
International Airport

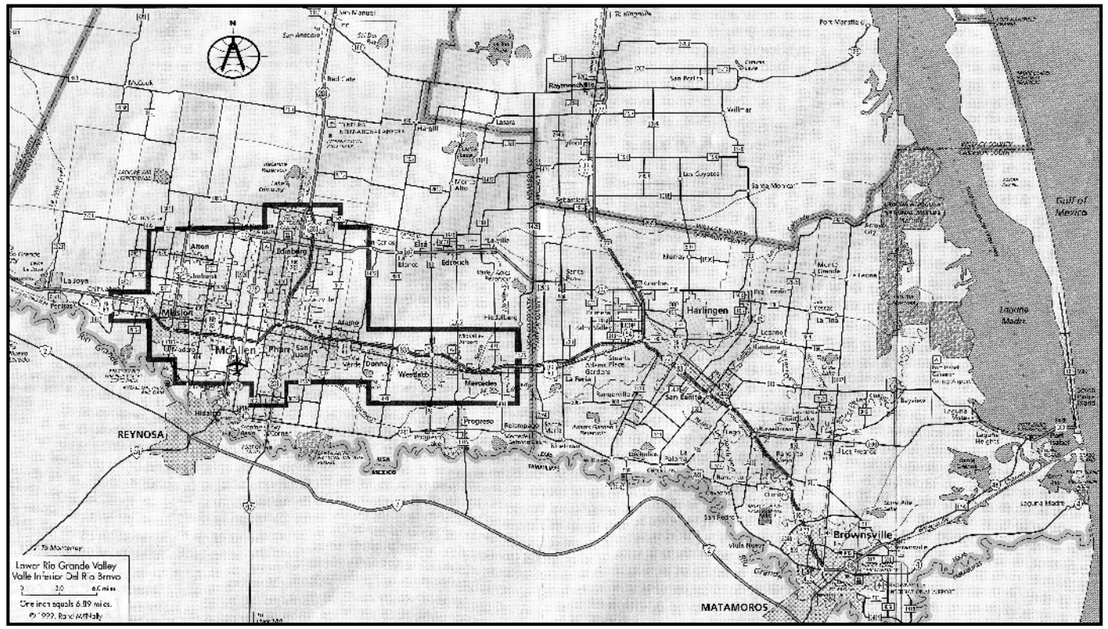
AIRPORT LAYOUT PLAN

AUGUST 2005

LOCATION MAP



VICINITY MAP



CONSTRUCTION NOTICE REQUIREMENT

TO PROTECT OPERATIONAL SAFETY AND FUTURE DEVELOPMENT, ALL PROPOSED CONSTRUCTION ON THE AIRPORT MUST BE COORDINATED BY THE AIRPORT OWNER WITH THE FAA AIRPORTS DISTRICT OFFICE PRIOR TO CONSTRUCTION. FAA'S REVIEW TAKES APPROXIMATELY 60 DAYS.

FAA A.I.P. PROJECT NUMBER:

DEPARTMENT OF AVIATION PERSONNEL

LT. GEN., USAF (RET.) DERALD LARY - DIRECTOR OF AVIATION
FRED SEGUNDO - ASSISTANT DIRECTOR

CITY OF McALLEN

LEO MONTALVO - MAYOR
MIKE R. PEREZ - CITY MANAGER
JIM DARLING - CITY ATTORNEY

HNTB
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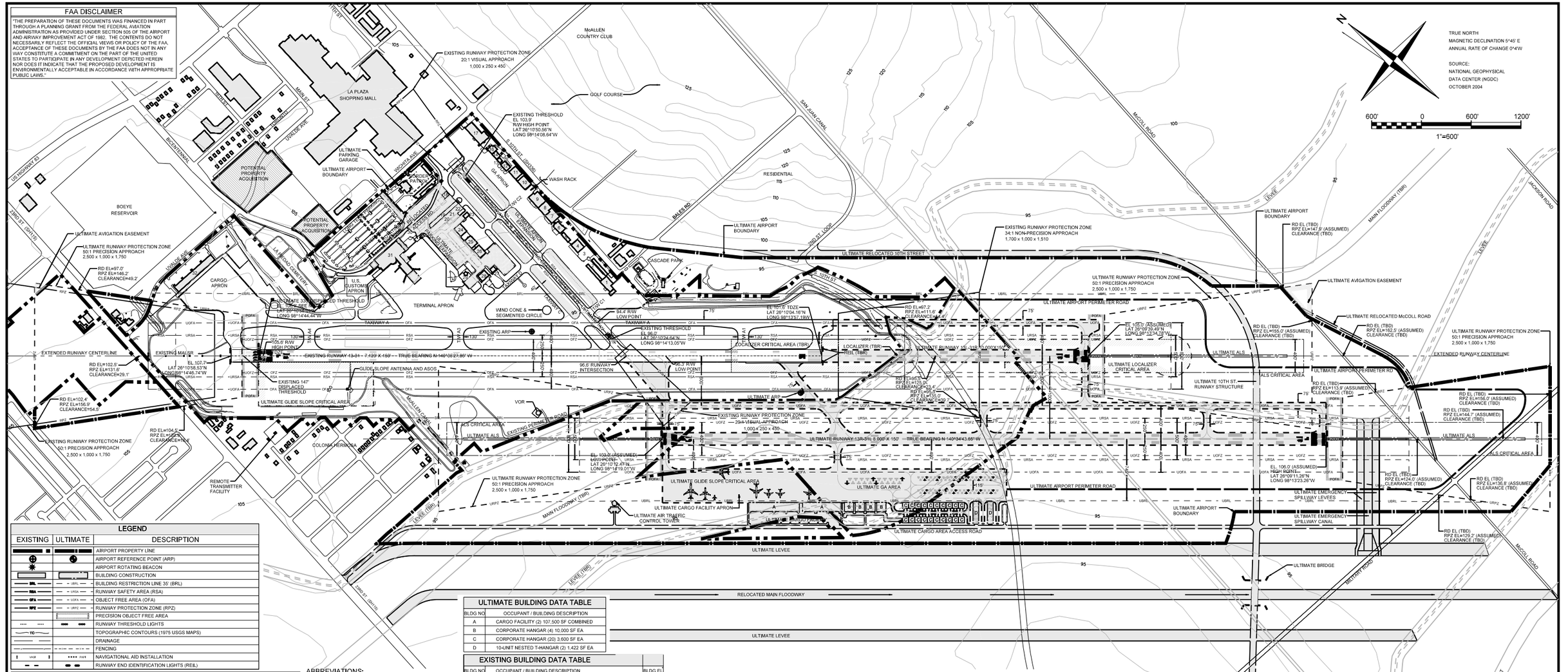
DRAWING INDEX

FAA DISCLAIMER

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."



LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING CONSTRUCTION
BRL	BRL	BUILDING RESTRICTION LINE 35' (BRL)
RSA	RSA	RUNWAY SAFETY AREA (RSA)
OFA	OFA	OBJECT FREE AREA (OFA)
RPZ	RPZ	RUNWAY PROTECTION ZONE (RPZ)
		PRECISION OBJECT FREE AREA
		RUNWAY THRESHOLD LIGHTS
110	110	TOPOGRAPHIC CONTOURS (1975 USGS MAPS)
		DRAINAGE
		FENCING
VASI	PAPI	NAVIGATIONAL AID INSTALLATION
		RUNWAY END IDENTIFICATION LIGHTS (REIL)

AIRPORT DATA TABLE

CITY: McALLEN	COUNTY: HIDALGO		
ITEM		EXISTING	ULTIMATE
NPIAS ROLE		PRIMARY	SAME
DESIGN AIRCRAFT		BOEING 767	SAME
AIRPORT ELEVATION FEET		107.7' MSL	106.9'
AIRPORT REFERENCE POINT (ARP) (NAD 83)	LATITUDE	26°10'32.65"N	26°10'03.21"N
	LONGITUDE	98°14'19.03"W	98°14'02.69"W
MEAN MAXIMUM DAILY TEMPERATURE		96° F (AUG)	SAME

RUNWAY DATA TABLE

ITEM	RUNWAY 13 - 31		RUNWAY 13R - 31L		RUNWAY 18 - 36	
	EXISTING(13/31)	ULTIMATE(13L/31R)	EXISTING	ULTIMATE(13R/31L)	EXISTING	ULTIMATE
APPROACH CATEGORY / DESIGN GROUP	D-IV	SAME	–	D-IV	A-I	CLOSED
RUNWAY LENGTH X WIDTH	7,120' x 150'	10,000' x 150'	–	8,000' x 150'	2,638' x 60'	–
EFFECTIVE GRADIENT	0.09%	0.02%	–	0.04%	0.3%	–
PAVEMENT: TYPE	ASPHALT	SAME	–	ASPHALT	ASPHALT	–
STRENGTH SW (TONS)	90	SAME	–	90	12.5	–
STRENGTH DW (TONS)	190	SAME	–	210	N/A	–
STRENGTH DTW (TONS)	280	SAME	–	325	N/A	–
RUNWAY BEARING	N 140°35'27.86" W	SAME	–	N 140°34'43.65" W	N 188°43'40.89" W	–
RUNWAY LIGHTING	HIRL	SAME	–	HIRL	MIRL	–
RUNWAY MARKINGS	PRECISION	SAME	–	PRECISION	VISUAL	–
OFA WIDTH	800'	SAME	–	800'	400'	–
OFA LENGTH BEYOND STOP END OF RUNWAY	1,000'	SAME	–	1,000'	240'	–
RSA WIDTH	500'	SAME	–	500'	120'	–
RSA LENGTH BEYOND STOP END OF RUNWAY	1,000' *	SAME	–	1,000'	240'	–
TAKEOFF RUN AVAILABLE (TORA)	7,120'	10,000'	–	8,000'	2,638'	–
TAKEOFF DISTANCE AVAILABLE (TODA)	7,120'	10,000'	–	8,000'	2,638'	–
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	7,120'	10,000'	–	8,000'	2,638'	–
LANDING DISTANCE AVAILABLE (LDA)	6,983'	10,000'	–	8,000'	2,638'	–

	RUNWAY 13		RUNWAY 31		RUNWAY 13R		RUNWAY 31L		RUNWAY 18		RUNWAY 36	
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE
APPROACH VISIBILITY MINIMUMS	<3/4 MI.	SAME	>3/4	<3/4 MI.	N/A	<3/4 MI.	N/A	<3/4 MI.	>1 MI.	CLOSED	>1 MI.	CLOSED
APPROACH TYPE	PRECISION	SAME	NON-PRE	PRECISION	–	PRECISION	–	PRECISION	VISUAL	–	VISUAL	–
APPROACH SLOPE	50:1	SAME	34:1	50:1	–	50:1	–	50:1	20:1	–	20:1	–
NAVIGATIONAL AIDS	ILS, MALSR GPS, VOR, SS	SAME WITH PAPI	REIL,LOC VOR,VASI GPS	ILS,ALS,GS LOC,VOR,GPS PAPI,REIL	–	LS, PAPI, ALS,GS,LOC VOR,GPS	–	ILS, PAPI, ALS,GS,LOC VOR,GPS	VASI-2	–	VASI-2	–
TOUCHDOWN ZONE ELEVATION*	107.6	106.9	101.8	105.0	–	103.0	–	106.0	–	–	–	–

* SEE NOTES

ABBREVIATIONS:

ALS - APPROACH LIGHTING SYSTEM
ASOS - AUTOMATED SURFACE OBSERVING SYSTEM
GPS - GLOBAL POSITIONING SYSTEM
GS - GLIDE SLOPE
ILS - INSTRUMENT LANDING SYSTEM
LOC - LOCALIZER
MALSR - MEDIUM INTENSITY APPROACH LIGHTING SYSTEM
MSL - MEAN SEA LEVEL
NPIAS - NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS
R/W - RUNWAY
TBR - TO BE RELOCATED
TDZE - TOUCHDOWN ZONE ELEVATION
VOR - VERY HIGH FREQUENCY (VHF) OMNIRANGE

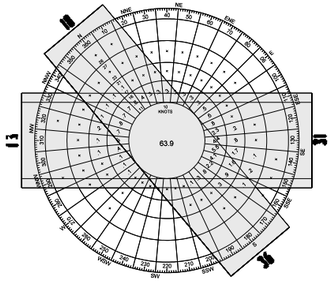
ULTIMATE BUILDING DATA TABLE

BLDG NO	OCCUPANT / BUILDING DESCRIPTION
A	CARGO FACILITY (2) 107,500 SF COMBINED
B	CORPORATE HANGAR (4) 10,000 SF EA
C	CORPORATE HANGAR (20) 3,600 SF EA
D	10-UNIT NESTED T-HANGAR (2) 1,422 SF EA

EXISTING BUILDING DATA TABLE

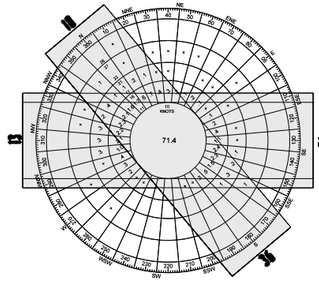
BLDG NO	OCCUPANT / BUILDING DESCRIPTION	BLDG EL
1	McCREERY AVIATION (ABC AVIATION) / HANGAR	112'
2	McCREERY AVIATION CO./ SOUTH T-HANGAR	110'
3	McCREERY AVIATION CO./ EMPTY LOT	N/A
4	McCREERY AVIATION CO./ HANGAR	118'
5	McCREERY AVIATION CO./ OFFICE	118'
6	AIRCRAFT RESCUE FIRE FIGHTING (ARFF)	119'
7	FIRST NATIONAL BANK /HANGAR	120'
8	FIRST NATIONAL BANK /HANGAR	120'
9	McCREERY AVIATION CO./ HANGAR	121'
10	McCREERY AVIATION CO./ HANGAR C	125'
11	McCREERY AVIATION CO. / HANGAR B	125'
12	PASCUCCI AVIATION CO. / HANGAR	119'
13	McCREERY AVIATION CO. / GARAGE	114'
14	McCREERY AVIATION CO. HANGAR F	118'
15	McCREERY AVIATION CO. / FBO FUEL FARM	N/A
16	McCREERY AVIATION CO. / HANGAR E	114'
17	McCREERY AVIATION CO./ HANGAR A-D	125'
18	RIO GRANDE CHEMICAL / HANGAR	120'
19	CRAFTECH ENTERPRISES / NORTH T-HANGAR	120'
20	RIO GRANDE CHEMICAL / JOINT HANGAR	121'
21	SVT AVIATION / JOINT HANGAR	123'
22	WALTER PASSMORE / JOINT HANGAR	124'
23	MFE AVIATION (BOB WALLACE) / HANGAR	126'
24	MIKE STANTON dba WESTERN FLYERS / HANGAR	123'
25	MIKE STANTON dba WESTERN FLYERS (BORDER PATROL) / HANGAR	122'
26	MIKE STANTON dba WESTERN FLYERS (BORDER PATROL) / HANGAR	121'
27	TEXAS STATE BANK / HANGAR	117'
28	MAYFAIR MINERALS / HANGAR	117'
29	AIR TRAFFIC CONTROL TOWER	146'
30	UTILITY YARD	113'
31	TERMINAL BUILDING	144'
32	CARGO FACILITY	134'

*BUILDING ELEVATIONS NOT SURVEYED



ALL WEATHER CONDITION
WIND COVERAGE

RUNWAY	10.5 KNOTS 12 MPH	13 KNOTS 15 MPH	16 KNOTS 18 MPH	20 KNOTS 23 MPH
13-31	96.1%	98.5%	99.7%	99.9%
18-36	87.9%	N/A	N/A	N/A
COMBINED	99.0%	98.5%	99.7%	99.9%



IFR CONDITION
WIND COVERAGE

RUNWAY	10.5 KNOTS 12 MPH	13 KNOTS 15 MPH	16 KNOTS 18 MPH	20 KNOTS 23 MPH
13-31	95.4%	98.0%	99.4%	99.8%
18-36	93.7%	N/A	N/A	N/A
COMBINED	99.3%	98.0%	99.4%	99.8%

WINDROSE DATA
SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
PERIOD OF COVERAGE: 1986-1995 (79,882 OBSERVATIONS)
STATION NUMBER: 72250

NOTES:

1. A SMALL CORNER OF THE RSA OF EXISTING R/W 13-31 FALLS WITHIN THE LIMITS OF 23RD STREET. IT WAS APPROVED BY THE FAA ON THE PRIOR ALP AND THE THRESHOLD WILL BE RELOCATED IN CONJUNCTION WITH THE ULTIMATE R/W 13-31 EXTENSION PROJECT SO THAT THE RSA WILL MEET FAA CRITERIA.
2. A PORTION OF THE LA PLAZA SHOPPING MALL IS LOCATED WITHIN THE RPZ AT THE NORTH END OF EXISTING R/W 18-36, BUT THIS VARIANCE HAS BEEN APPROVED BY THE FAA ON THE PRIOR ALP.
3. R/W 18-36 MIRL IS OUT OF SERVICE. ALSO R/W 18 PAPI IS OF OUT SERVICE. (DECEMBER 2004)
4. EXISTING DECLARED DISTANCES WERE OBTAINED FROM THE CURRENT FAA FORM 5010 DATED MAY 14, 2004.
5. ALL ELEVATIONS ARE IN FEET ABOVE THE NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929. THE BASIS FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM (NAD) OF 1983. ELEVATIONS ARE CONSISTENT WITH NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
6. GEOMETRY OF ULTIMATE RUNWAY, TENTH STREET RELOCATION, MISSION PILOT CHANNEL LOCATION, AND SAN JUAN CANAL SUBJECT TO FUTURE STUDY.
7. AN ILS IS PLANNED IN THE SHORT-TERM FOR R/W 31. IT WILL BE RELOCATED FOR AN INTERIM RUNWAY EXTENSION OF 8,500 USEABLE FEET AND RELOCATED FOR THE ULTIMATE 10,000 FOOT LENGTH.
8. TENTH STREET RELOCATION AND McCOLL ROAD (SEGMENT) RELOCATION ARE NOT PART OF THE APPROVED THOROUGHFARE PLAN.

APPROVED BY: DATE:

FEDERAL AVIATION ADMINISTRATION (FAA)

SUBMITTED BY: DATE:

HNTB

FOR APPROVAL BY:

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

APPROVED BY: DATE:

DIRECTOR OF AVIATION
LT. GEN., USAF (RET.)
DERALD LARY

Scale: 1"=600'

NO.	Description	REVISIONS	DATE	BY

Designer:	G. LOGSTON
Technician:	C. HAYES
Checked by:	G. LOGSTON
Project Number:	34970
FAA A.I.P. PROJECT NUMBER:	
Date:	AUGUST 2005

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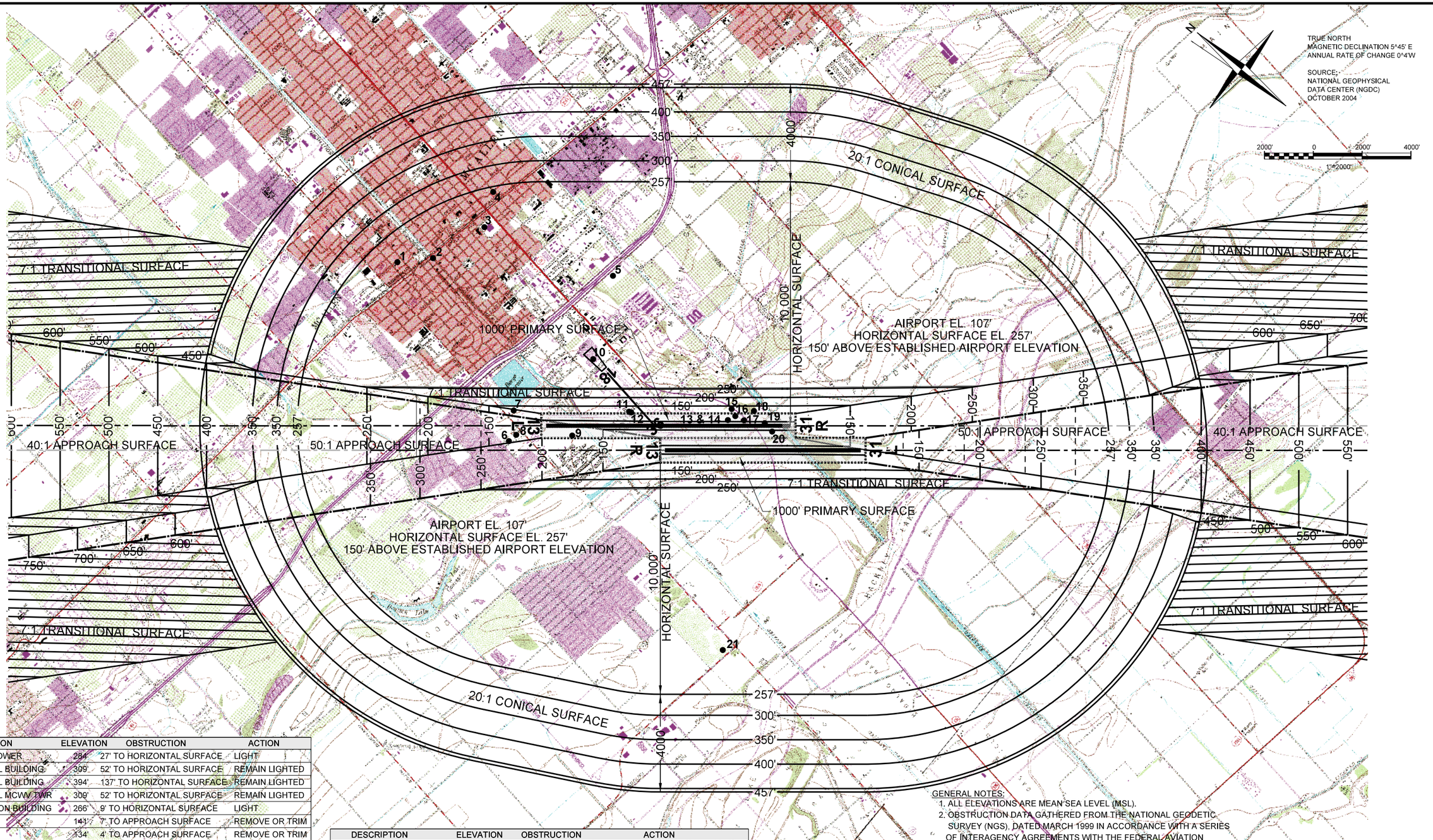
McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN

AIRPORT LAYOUT PLAN

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
2 of 13



	DESCRIPTION	ELEVATION	OBSTRUCTION	ACTION
1	ROD ON TOWER	284'	27' TO HORIZONTAL SURFACE	LIGHT
2	ROD ON OL BUILDING	309'	52' TO HORIZONTAL SURFACE	REMAIN LIGHTED
3	ROD ON OL BUILDING	394'	137' TO HORIZONTAL SURFACE	REMAIN LIGHTED
4	ROD ON OL MCWV TWR	309'	52' TO HORIZONTAL SURFACE	REMAIN LIGHTED
5	ANTENNA ON BUILDING	266'	9' TO HORIZONTAL SURFACE	LIGHT
6	TREE	141'	7' TO APPROACH SURFACE	REMOVE OR TRIM
7	TREE	134'	4' TO APPROACH SURFACE	REMOVE OR TRIM
8	TREE	130'	2' TO APPROACH SURFACE	REMOVE OR TRIM
9	OL ON GLIDE SLOPE	136'	29' TO PRIMARY SURFACE	REMAIN LIGHTED
10	TREE	143'	9' TO APPROACH SURFACE	REMOVE OR TRIM
11	ROD ON OL ANEMOMETER	123'	5' TO TRANSITIONAL SURFACE	REMAIN LIGHTED
12	OL ELECTRIC EQUIPMENT	120'	4' TO TRANSITIONAL SURFACE	REMAIN LIGHTED
13	OL DME	115'	10' TO PRIMARY SURFACE	REMAIN LIGHTED
14	DME	111'	5' TO PRIMARY SURFACE	REMAIN LIGHTED

	DESCRIPTION	ELEVATION	OBSTRUCTION	ACTION
15	TREE	139'	3' TO TRANSITIONAL SURFACE	REMOVE OR TRIM
16	10TH STREET	117'	6' TO PRIMARY SURFACE	RELOCATE R/W THRESHOLD
17	BUSH	121'	16' TO PRIMARY SURFACE	REMOVE OR TRIM
18	POLE	133'	6' TO TRANSITIONAL SURFACE	LIGHT
19	POLE	133'	28' TO PRIMARY SURFACE	LIGHT
20	POLE	143'	38' TO PRIMARY SURFACE	LIGHT
21	LIGHT POLE	269'	12' TO HORIZONTAL SURFACE	REMAIN LIGHTED

GENERAL NOTES:

1. ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL).
2. OBSTRUCTION DATA GATHERED FROM THE NATIONAL GEODETIC SURVEY (NGS), DATED MARCH 1999 IN ACCORDANCE WITH A SERIES OF INTERAGENCY AGREEMENTS WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), PROVIDES RUNWAY, NAVIGATIONAL AID, OBSTRUCTION, AND OTHER AERONAUTICAL DATA THAT IS CRITICAL TO THE OPERATION OF THE NATIONAL AIRSPACE SYSTEM. MOST OF THIS DATA IS SOURCE INFORMATION OBTAINED USING FIELD SURVEY AND PHOTOGRAMMETRIC METHODS.
3. OBSTRUCTIONS, CLEARANCES, AND LOCATIONS ARE CALCULATED FROM EXISTING AND ULTIMATE RUNWAY END ELEVATIONS UNLESS OTHERWISE NOTED.

ABBREVIATIONS:

DME - DISTANCE MEASURING EQUIPMENT
MCWV TWR - MICROWAVE TOWER
OL - OBSTRUCTION LIGHT

Scale:
VERTICAL: 1"=200'
HORIZONTAL: 1"= 2000'

NO.	Description	REVISIONS	DATE	BY

Designer:	G. LOGSTON
Technician:	C. HAYES
Checked by:	G. LOGSTON
Project Number:	34970
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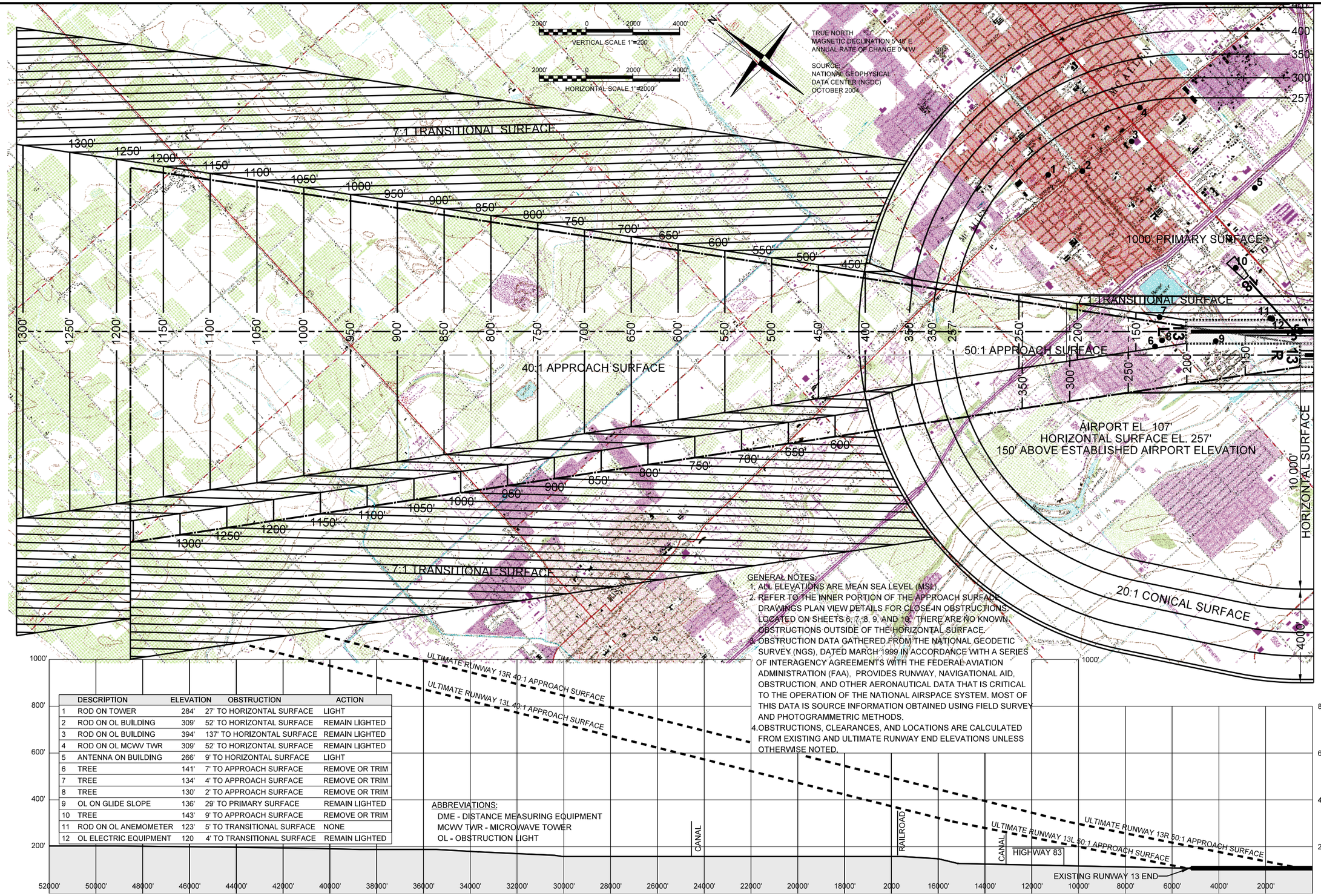
McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN

AIRPORT AIRSPACE DRAWING

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
3 of 13



	DESCRIPTION	ELEVATION	OBSTRUCTION	ACTION
1	ROD ON TOWER	284'	27' TO HORIZONTAL SURFACE	LIGHT
2	ROD ON OL BUILDING	309'	52' TO HORIZONTAL SURFACE	REMAIN LIGHTED
3	ROD ON OL BUILDING	394'	137' TO HORIZONTAL SURFACE	REMAIN LIGHTED
4	ROD ON OL MCWV TWR	309'	52' TO HORIZONTAL SURFACE	REMAIN LIGHTED
5	ANTENNA ON BUILDING	266'	9' TO HORIZONTAL SURFACE	LIGHT
6	TREE	141'	7' TO APPROACH SURFACE	REMOVE OR TRIM
7	TREE	134'	4' TO APPROACH SURFACE	REMOVE OR TRIM
8	TREE	130'	2' TO APPROACH SURFACE	REMOVE OR TRIM
9	OL ON GLIDE SLOPE	136'	29' TO PRIMARY SURFACE	REMAIN LIGHTED
10	TREE	143'	9' TO APPROACH SURFACE	REMOVE OR TRIM
11	ROD ON OL ANEMOMETER	123'	5' TO TRANSITIONAL SURFACE	NONE
12	OL ELECTRIC EQUIPMENT	120	4' TO TRANSITIONAL SURFACE	REMAIN LIGHTED

ABBREVIATIONS:
DME - DISTANCE MEASURING EQUIPMENT
MCWV TWR - MICROWAVE TOWER
OL - OBSTRUCTION LIGHT

GENERAL NOTES:
1. ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL).
2. REFER TO THE INNER PORTION OF THE APPROACH SURFACE DRAWINGS PLAN VIEW DETAILS FOR CLOSE-IN OBSTRUCTIONS LOCATED ON SHEETS 6, 7, 8, 9, AND 10. THERE ARE NO KNOWN OBSTRUCTIONS OUTSIDE OF THE HORIZONTAL SURFACE.
3. OBSTRUCTION DATA GATHERED FROM THE NATIONAL GEODETIC SURVEY (NGS), DATED MARCH 1999 IN ACCORDANCE WITH A SERIES OF INTERAGENCY AGREEMENTS WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), PROVIDES RUNWAY, NAVIGATIONAL AID, OBSTRUCTION, AND OTHER AERONAUTICAL DATA THAT IS CRITICAL TO THE OPERATION OF THE NATIONAL AIRSPACE SYSTEM. MOST OF THIS DATA IS SOURCE INFORMATION OBTAINED USING FIELD SURVEY AND PHOTOGRAMMETRIC METHODS.
4. OBSTRUCTIONS, CLEARANCES, AND LOCATIONS ARE CALCULATED FROM EXISTING AND ULTIMATE RUNWAY END ELEVATIONS UNLESS OTHERWISE NOTED.

Scale:
VERTICAL: 1"=200'
HORIZONTAL: 1"= 2000'

NO.	Description	REVISIONS	DATE	BY

Designer:	G. LOGSTON
Technician:	C. HAYES
Checked by:	G. LOGSTON
Project Number:	34970
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McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
AIRPORT AIRSPACE DRAWING
RUNWAY 13L AND 13R

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
4 of 13

TRUE NORTH
MAGNETIC DECLINATION 5°45' E
ANNUAL RATE OF CHANGE 0°4'W

SOURCE:
NATIONAL GEOPHYSICAL
DATA CENTER (NGDC)
OCTOBER 2004

2000' 0 2000' 4000'
VERTICAL SCALE 1" =200'

2000' 0 2000' 4000'
HORIZONTAL SCALE 1" =2000'

20:1 CONICAL SURFACE

HORIZONTAL SURFACE
10,000'

AIRPORT EL. 107'
HORIZONTAL SURFACE EL. 257'
150' ABOVE ESTABLISHED AIRPORT ELEVATION

7:1 TRANSITIONAL SURFACE

40:1 APPROACH SURFACE

50:1 APPROACH SURFACE

7:1 TRANSITIONAL SURFACE

1000' PRIMARY SURFACE

7:1 TRANSITIONAL SURFACE

257'
300'
350'
400'
457'

GENERAL NOTES:
1. ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL).
2. REFER TO THE INNER PORTION OF THE APPROACH SURFACE DRAWINGS PLAN VIEW DETAILS FOR CLOSE-IN OBSTRUCTIONS. LOCATED ON SHEETS 6, 7, 8, 9, AND 10. THERE ARE NO KNOWN OBSTRUCTIONS OUTSIDE OF THE HORIZONTAL SURFACE.
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4. OBSTRUCTIONS, CLEARANCES, AND LOCATIONS ARE CALCULATED FROM EXISTING AND ULTIMATE RUNWAY END ELEVATIONS UNLESS OTHERWISE NOTED.

ABBREVIATIONS:
DME - DISTANCE MEASURING EQUIPMENT
MCWV TWR - MICROWAVE TOWER
OL - OBSTRUCTION LIGHT

	DESCRIPTION	ELEVATION	OBSTRUCTION	ACTION
16	10TH STREET	117'	6' TO PRIMARY SURFACE	RELOCATED R/W THRESHOLD
17	BUSH	121'	16' TO PRIMARY SURFACE	REMOVE OR TRIM
18	POLE	133'	6' TO TRANSITIONAL SURFACE	LIGHT
19	POLE	133'	28' TO PRIMARY SURFACE	LIGHT
20	POLE	143'	38' TO PRIMARY SURFACE	LIGHT

EXISTING RUNWAY 31 34:1 APPROACH SURFACE
ULTIMATE RUNWAY 31R 50:1 APPROACH SURFACE
ULTIMATE RUNWAY 31L 50:1 APPROACH SURFACE
ULTIMATE RUNWAY 31R 40:1 APPROACH SURFACE
ULTIMATE RUNWAY 31L 40:1 APPROACH SURFACE
LEVEE
LEVEE
CANAL
LEVEE
HIGHWAY 281
HIGHWAY 281
RIO GRANDE RIVER

Scale: VERTICAL: 1"=200' HORIZONTAL: 1"= 2000'	REVISIONS NO.	Description	DATE	BY

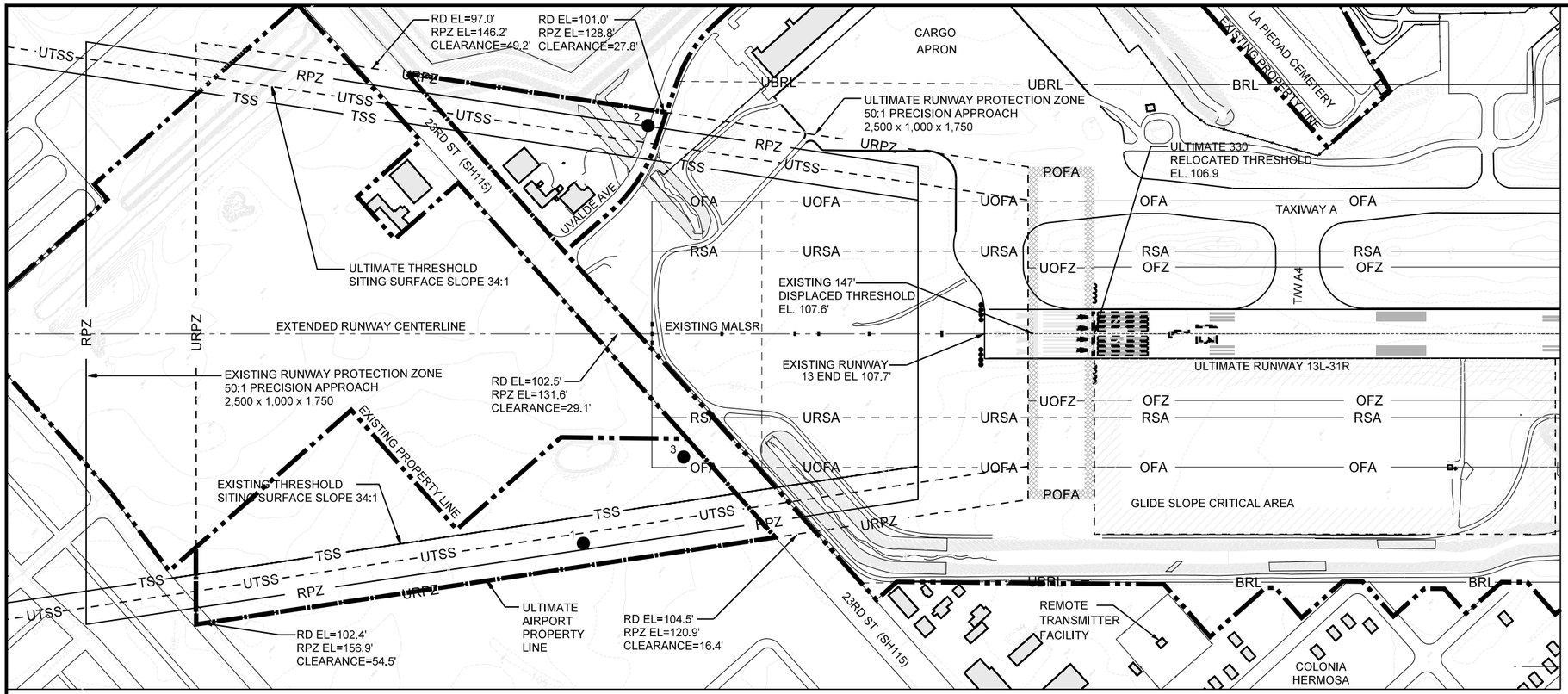
Designer:	G. LOGSTON
Technician:	C. HAYES
Checked by:	G. LOGSTON
Project Number:	34970
FAA A.I.P. PROJECT NUMBER:	
Date:	AUGUST 2005

HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

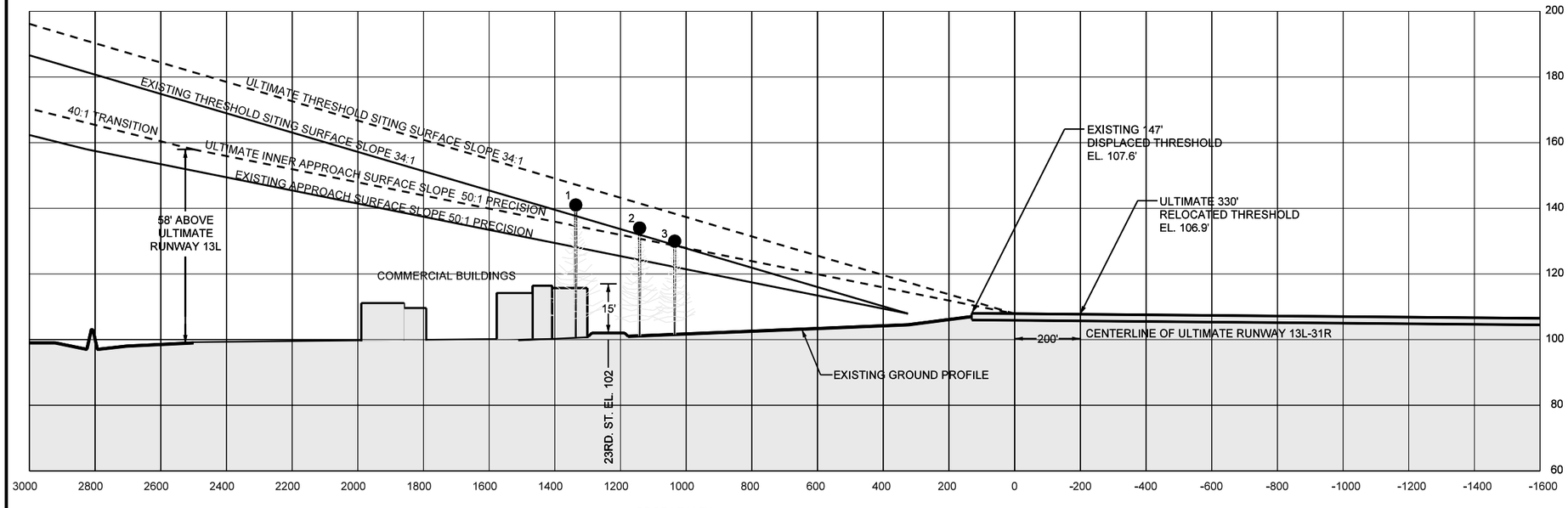
McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
AIRPORT AIRSPACE DRAWING
RUNWAY 31L AND 31R

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
5 of 13



PLAN VIEW



PROFILE VIEW

TRUE NORTH
MAGNETIC DECLINATION 5^45' E
ANNUAL RATE OF CHANGE 0^4'W

SOURCE:
NATIONAL GEOPHYSICAL
DATA CENTER (NGDC)
OCTOBER 2004

200' 0 400' 200'
HORIZONTAL SCALE 1"=200'

20' 0 20' 40'
VERTICAL SCALE 1"=20'

EXISTING RUNWAY 13 - 50:1 APPROACH SURFACE OBSTRUCTION TABLE				
DESCRIPTION		ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	TREE	141'	+13' TO 50:1 PRECISION APPROACH	REMOVE OR TRIM
②	TREE	134'	+10' TO 50:1 PRECISION APPROACH	REMOVE OR TRIM
③	TREE	130'	+8' TO 50:1 PRECISION APPROACH	REMOVE OR TRIM

ULTIMATE RUNWAY 13L-50:1 APPROACH SURFACE OBSTRUCTION TABLE				
DESCRIPTION		ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	TREE	141'	+7' TO 50:1 PRECISION APPROACH	REMOVE OR TRIM
②	TREE	134'	+4' TO 50:1 PRECISION APPROACH	REMOVE OR TRIM
③	TREE	130'	+1' TO 50:1 PRECISION APPROACH	REMOVE OR TRIM

EXISTING THRESHOLD SITING SURFACE SLOPE 34:1 OBSTRUCTION TABLE				
DESCRIPTION		ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	TREE	141'	+3' TO 34:1 THRESHOLD SITING SURFACE	REMOVE OR TRIM
②	TREE	134'	+2' TO 34:1 THRESHOLD SITING SURFACE	REMOVE OR TRIM
③	TREE	130'	+1' TO 34:1 THRESHOLD SITING SURFACE	REMOVE OR TRIM

A FULL FAA NO. 405 SURVEY WAS NOT DONE FOR THE 2005 REVISIONS TO THE ALP.

GENERAL NOTES:

1 ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL).

2. OBSTRUCTIONS, CLEARANCES, AND LOCATIONS ARE CALCULATED FROM EITHER EXISTING OR ULTIMATE RUNWAY END ELEVATIONS UNLESS OTHERWISE NOTED.

3. DEPICTION OF FEATURES AND OBJECTS WITHIN THE PRIMARY, TRANSITIONAL, HORIZONTAL, AND CONICAL PART 77 SURFACES, NOT SHOWN HERE ARE ILLUSTRATED ON THE AIRPORT AIRSPACE DRAWINGS, SHEETS 3, 4, AND 5 OF THE PLANS.

4. OBSTRUCTION DATA GATHERED FROM THE NATIONAL GEODETIC SURVEY (NGS), IN ACCORDANCE WITH A SERIES OF INTERAGENCY AGREEMENTS WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), PROVIDES RUNWAY, NAVIGATIONAL AID, OBSTRUCTION, AND OTHER AERONAUTICAL DATA THAT IS CRITICAL TO THE OPERATION OF THE NATIONAL AIRSPACE SYSTEM. MOST OF THIS DATA IS SOURCE INFORMATION OBTAINED USING FIELD SURVEY AND PHOTOGRAMMETRIC METHODS. DATA DATED MARCH 13, 1999.

Scale:
VERTICAL: 1"= 20'
HORIZONTAL: 1"= 200'

REVISIONS				
NO.	Description		DATE	BY

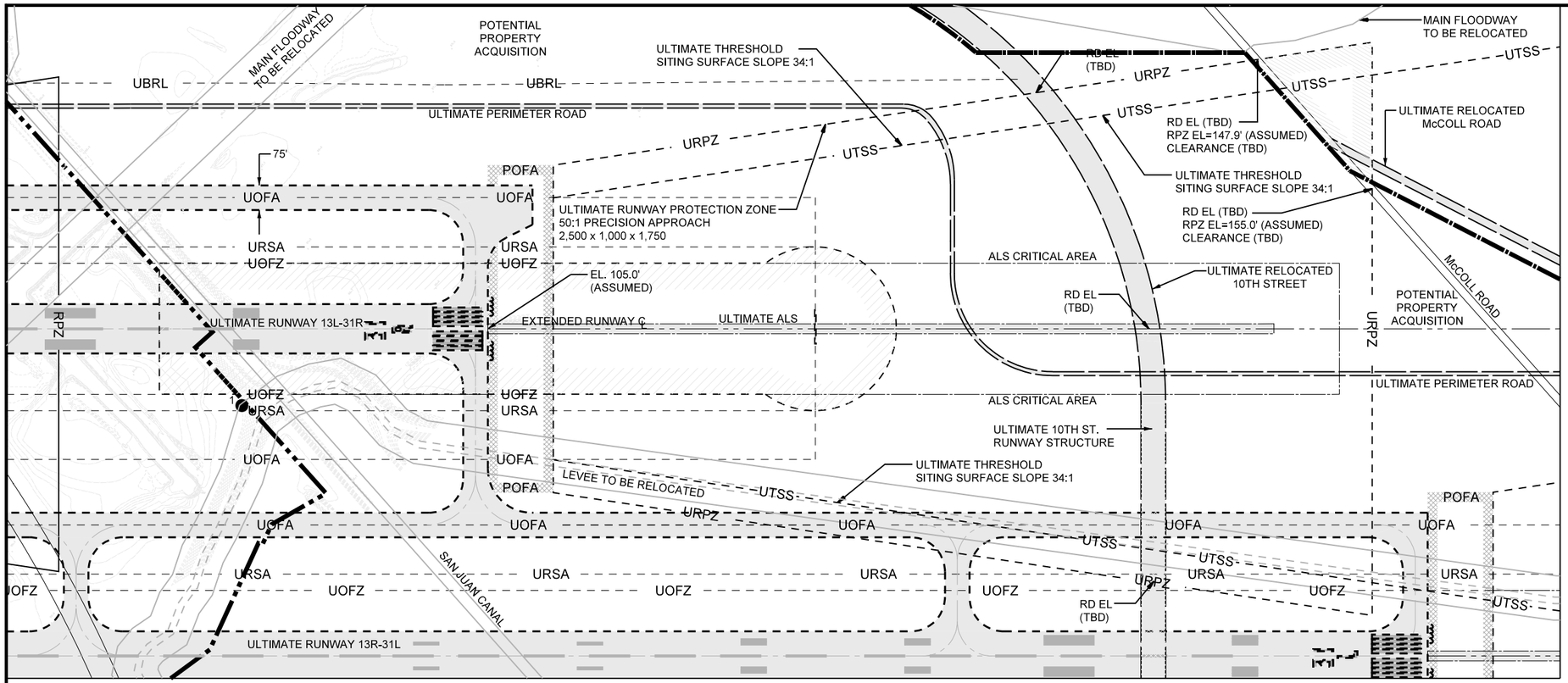
Designer:	G. LOGSTON
Technician:	C. HAYES
Checked by:	G. LOGSTON
Project Number:	34970
FAA A.I.P. PROJECT NUMBER:	
Date:	AUGUST 2005

HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

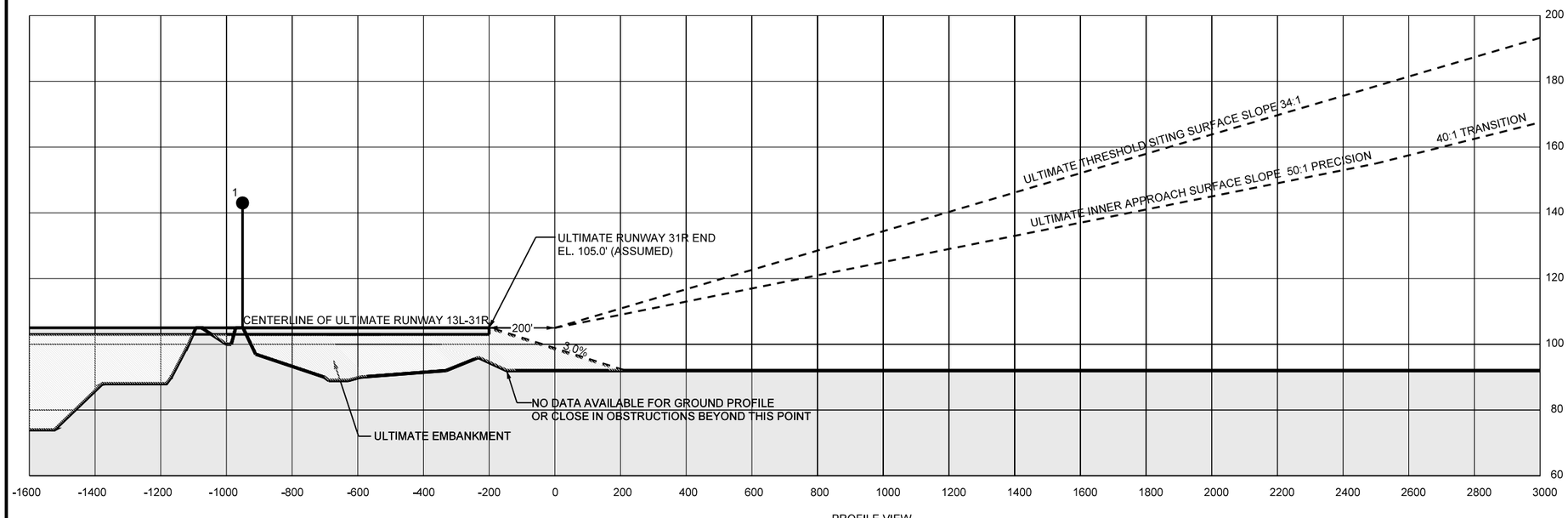
McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
INNER PORTION OF THE APPROACH SURFACE
DRAWING RUNWAY 13L

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
6 of 13



PLAN VIEW



PROFILE VIEW

TRUE NORTH
MAGNETIC DECLINATION 5^45' E
ANNUAL RATE OF CHANGE 0^4'W

SOURCE:
NATIONAL GEOPHYSICAL DATA CENTER (NGDC)
OCTOBER 2004

200' 0 400' 200'
HORIZONTAL SCALE 1"=200'

20' 0 20' 40'
VERTICAL SCALE 1"=20'

RUNWAY 31R - 50:1 APPROACH SURFACE OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
① POLE	143'	+38' TO 7:1 TRANSITIONAL SURFACE	LIGHT
②			
③			

ULTIMATE THRESHOLD SITING SURFACE SLOPE 34:1 OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	NO KNOWN OBSTRUCTIONS		
②			
③			

A FULL FAA NO. 405 SURVEY WAS NOT DONE FOR THE 2005 REVISIONS TO THE ALP.

GENERAL NOTES:

1. ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL).
2. THERE ARE NO OBSTRUCTIONS TO THE THRESHOLD SITING SURFACE.
3. OBSTRUCTIONS, CLEARANCES, AND LOCATIONS ARE CALCULATED FROM EITHER EXISTING OR ULTIMATE RUNWAY END ELEVATIONS UNLESS OTHERWISE NOTED.
4. DEPICTION OF FEATURES AND OBJECTS WITHIN THE PRIMARY, TRANSITIONAL, HORIZONTAL, AND CONICAL PART 77 SURFACES, NOT SHOWN HERE ARE ILLUSTRATED ON THE AIRPORT AIRSPACE DRAWINGS, SHEETS 3, 4, AND 5 OF THE PLANS.
5. OBSTRUCTION DATA GATHERED FROM THE NATIONAL GEODETIC SURVEY (NGS), IN ACCORDANCE WITH A SERIES OF INTERAGENCY AGREEMENTS WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), PROVIDES RUNWAY, NAVIGATIONAL AID, OBSTRUCTION, AND OTHER AERONAUTICAL DATA THAT IS CRITICAL TO THE OPERATION OF THE NATIONAL AIRSPACE SYSTEM. MOST OF THIS DATA IS SOURCE INFORMATION OBTAINED USING FIELD SURVEY AND PHOTOGRAMMETRIC METHODS. DATA DATED MARCH 13, 1999.

Scale:
VERTICAL: 1"= 20'
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REVISIONS				
NO.	Description		DATE	BY

Designer:	G. LOGSTON
Technician:	C. HAYES
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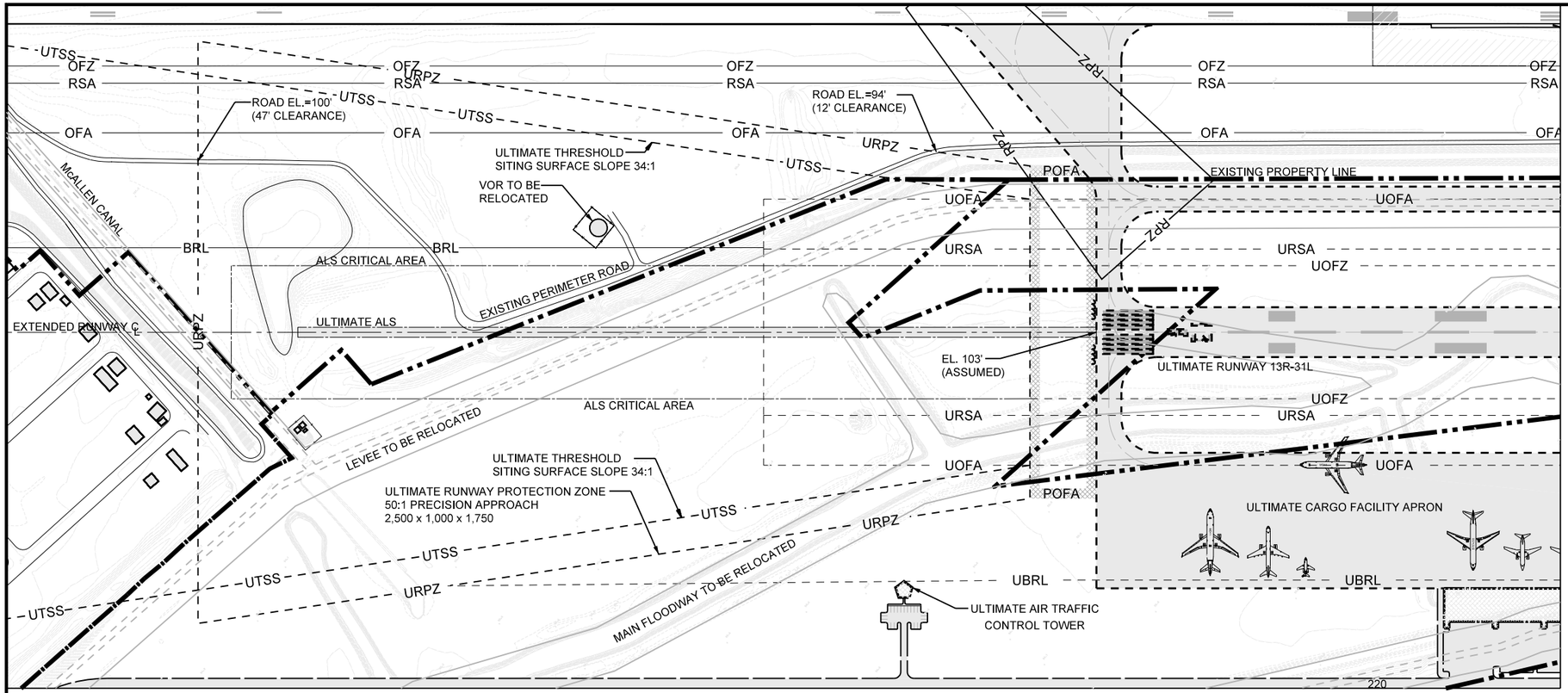
Project Number:	34970
FAA A.I.P. PROJECT NUMBER:	
Date:	AUGUST 2005

HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

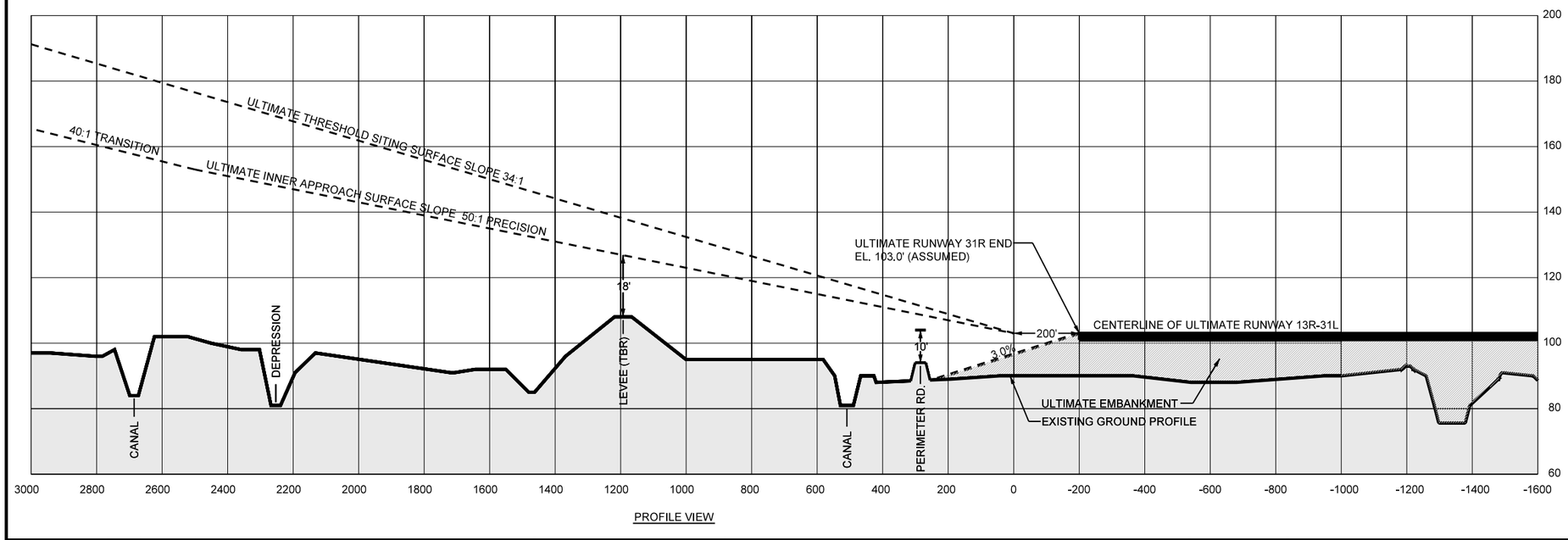
McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
INNER PORTION OF THE APPROACH SURFACE DRAWING RUNWAY 31R

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

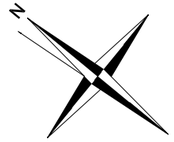
Sheet Number:
7 of 13



PLAN VIEW



PROFILE VIEW



TRUE NORTH
MAGNETIC DECLINATION 5^45' E
ANNUAL RATE OF CHANGE 0^4'W

SOURCE:
NATIONAL GEOPHYSICAL
DATA CENTER (NGDC)
OCTOBER 2004

HORIZONTAL SCALE 1"=200'

VERTICAL SCALE 1"=20'

RUNWAY 13R - 50:1 APPROACH SURFACE OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	NO KNOWN OBSTRUCTIONS		
②			
③			

EXISTING THRESHOLD SITING SURFACE SLOPE 34:1 OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	NO KNOWN OBSTRUCTIONS		
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③			

A FULL FAA NO. 405 SURVEY WAS NOT DONE FOR THE 2005 REVISIONS TO THE ALP.

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Project Number:	34970
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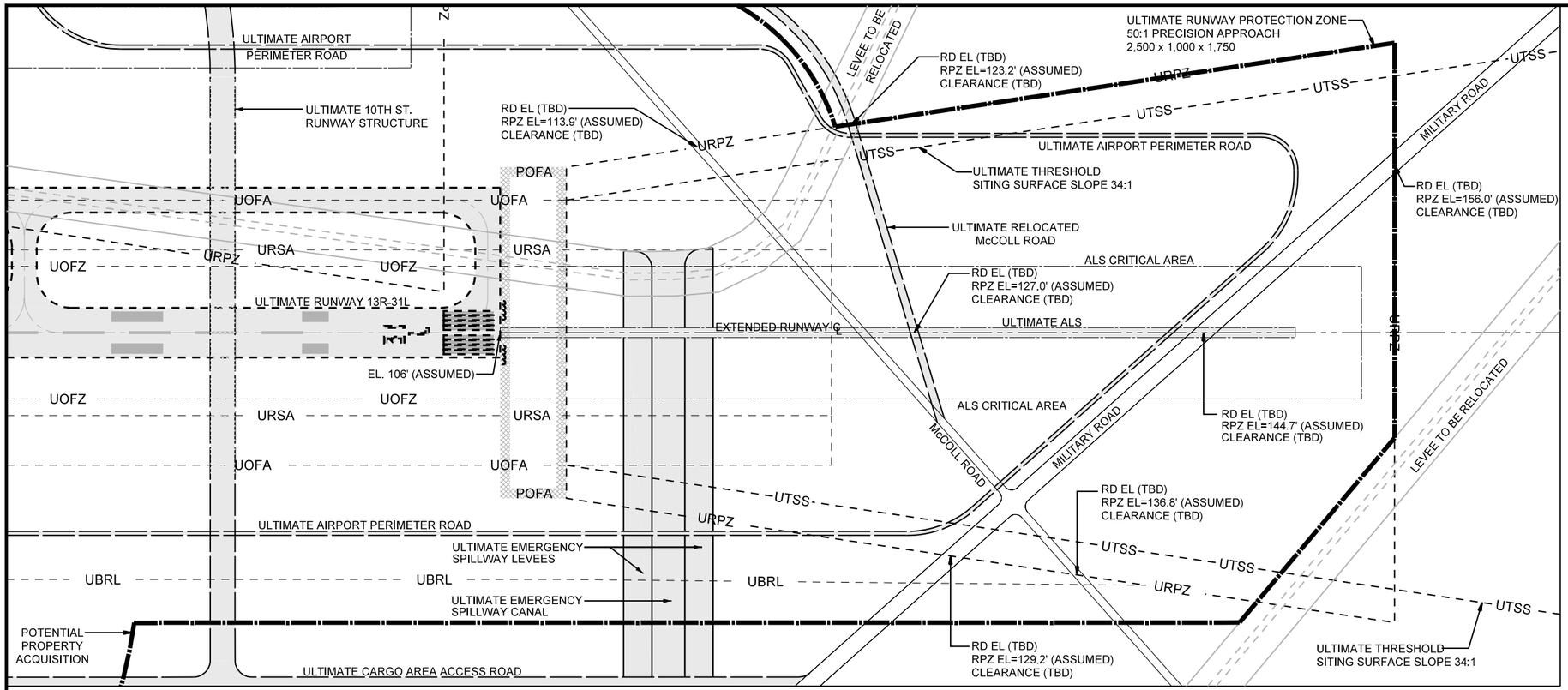
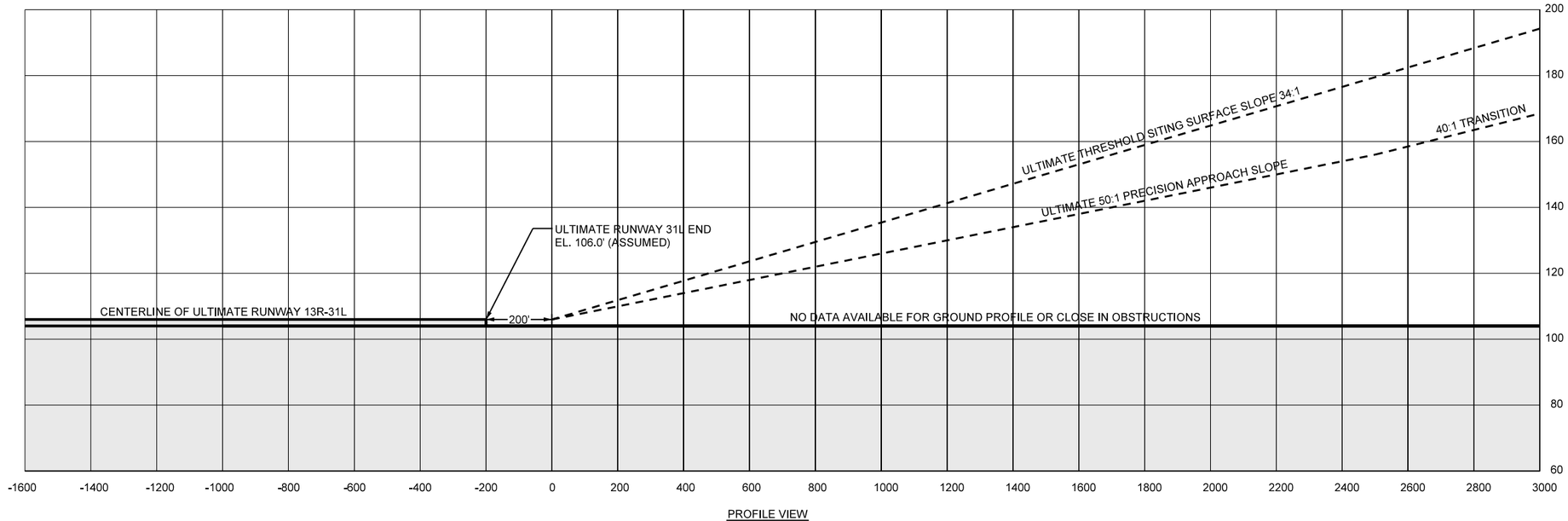
HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
INNER PORTION OF THE APPROACH SURFACE
DRAWING RUNWAY 13R

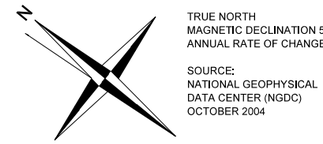
McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS



PLAN VIEW



PROFILE VIEW



TRUE NORTH
MAGNETIC DECLINATION 5^45' E
ANNUAL RATE OF CHANGE 0^4'W

SOURCE:
NATIONAL GEOPHYSICAL DATA CENTER (NGDC)
OCTOBER 2004

200' 0 400' 200'
HORIZONTAL SCALE 1"=200'

20' 0 20' 40'
VERTICAL SCALE 1"=20'

RUNWAY 13R - 50:1 APPROACH SURFACE OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	NO KNOWN OBSTRUCTIONS		
②			
③			

EXISTING THRESHOLD SITING SURFACE SLOPE 34:1 OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	NO KNOWN OBSTRUCTIONS		
②			
③			

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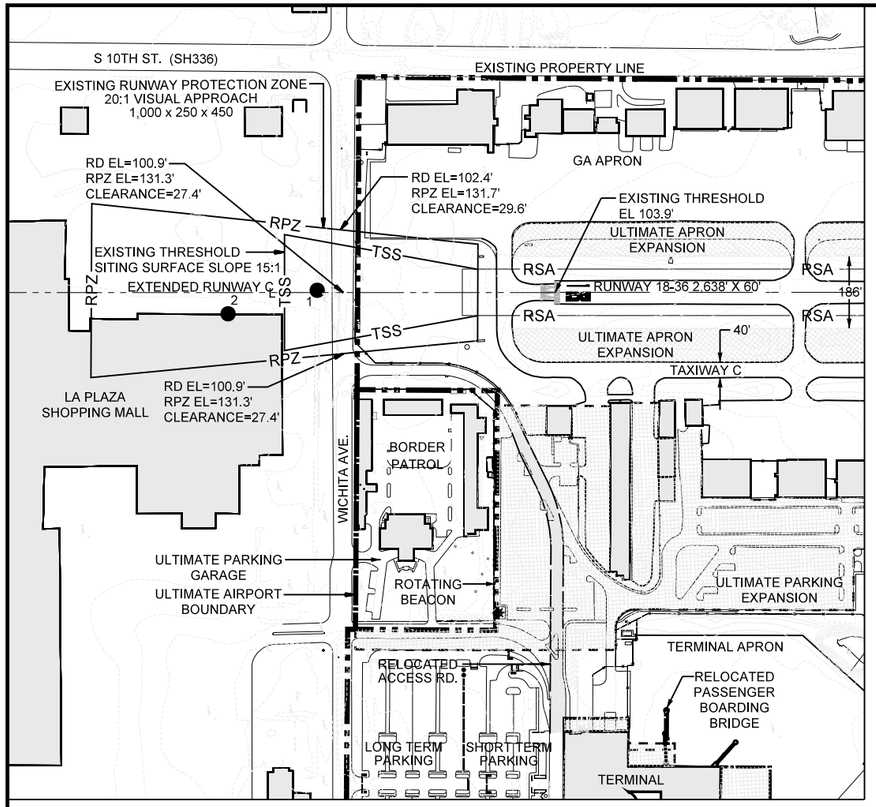
HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
INNER PORTION OF THE APPROACH SURFACE DRAWING RUNWAY 31L

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
9 of 13



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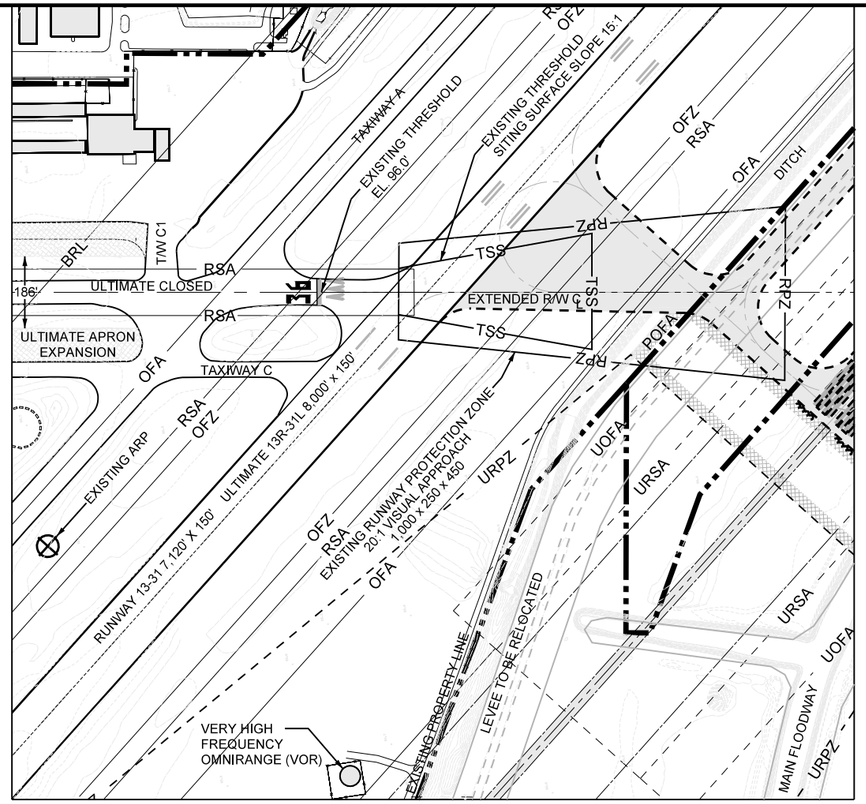

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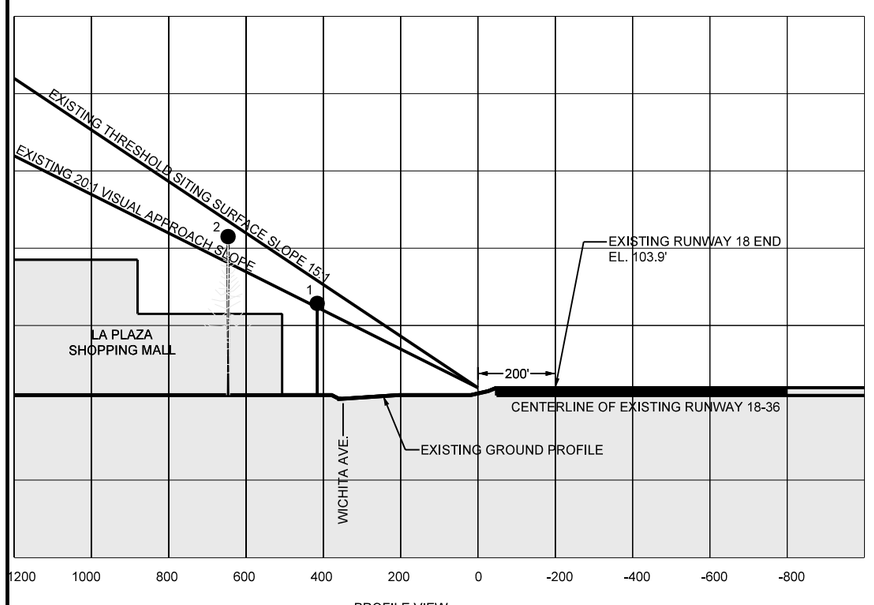
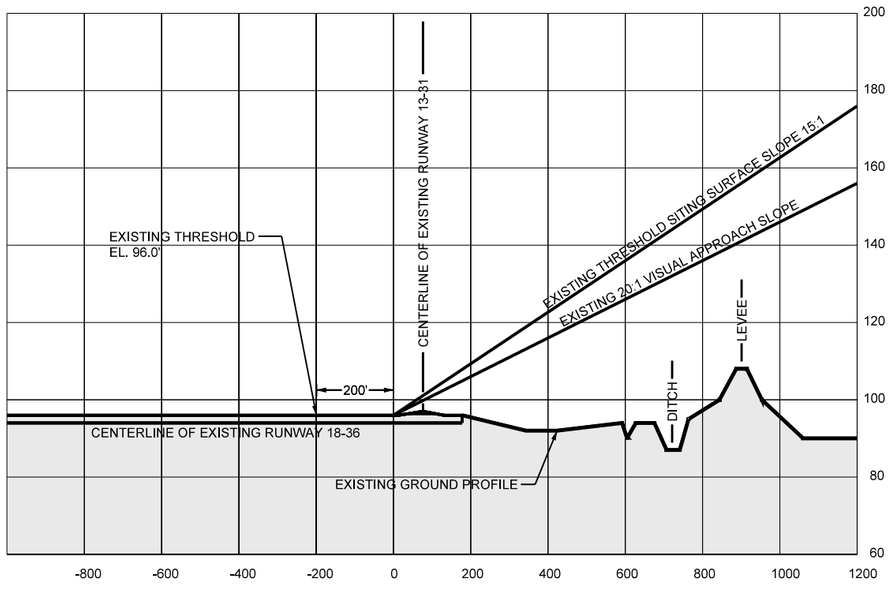


PROFILE VIEW



PROFILE VIEW

TRUE NORTH
MAGNETIC DECLINATION 5°45' E
ANNUAL RATE OF CHANGE 0°4'W

SOURCE:
NATIONAL GEOPHYSICAL
DATA CENTER (NGDC)
OCTOBER 2004

200' 0 400' 200'
HORIZONTAL SCALE 1"=200'

20' 0 20' 40'
VERTICAL SCALE 1"=20'

RUNWAY 18 - 20:1 APPROACH SLOPE OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
① LIGHT POLE	122'	+1' TO 20:1 VISUAL APPROACH	NONE
② TREE	143'	+9' TO 20:1 VISUAL APPROACH	REMOVE OR TRIM
③			

RUNWAY 36 - 20:1 APPROACH SLOPE OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	NO KNOWN OBSTRUCTIONS		
②			
③			

EXISTING THRESHOLD SITING SURFACE SLOPE 15:1 OBSTRUCTION TABLE			
DESCRIPTION	ELEVATION (MSL)	OBSTRUCTION PENETRATION	ACTION
①	NO KNOWN OBSTRUCTIONS		
②			
③			

A FULL FAA NO. 405 SURVEY WAS NOT DONE FOR THE 2005 REVISIONS TO THE ALP.

GENERAL NOTES:

1. ALL ELEVATIONS ARE MEAN SEA LEVEL (MSL).
2. THERE ARE NO OBSTRUCTIONS TO THE THRESHOLD SITING SURFACE.
3. OBSTRUCTIONS, CLEARANCES, AND LOCATIONS ARE CALCULATED FROM EITHER EXISTING OR ULTIMATE RUNWAY END ELEVATIONS UNLESS OTHERWISE NOTED.
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Scale:
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HORIZONTAL: 1"= 200'

REVISIONS				
NO.	Description		DATE	BY

Designer: G. LOGSTON
Technician: C. HAYES
Checked by: G. LOGSTON
Project Number: 34970
FAA A.I.P. PROJECT NUMBER:
Date: AUGUST 2005

HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
INNER PORTION OF THE APPROACH SURFACE
DRAWING RUNWAYS 18 & 36

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
10 of 13

EXISTING BUILDING DATA TABLE

BLDG NO	OCCUPANT / BUILDING DESCRIPTION	BLDG EL*
1	McCREERY AVIATION (ABC AVIATION) / HANGAR	112'
2	McCREERY AVIATION CO./ SOUTH T-HANGAR	110'
3	McCREERY AVIATION CO./ EMPTY LOT	N/A
4	McCREERY AVIATION CO./ HANGAR	118'
5	McCREERY AVIATION CO./ OFFICE	118'
6	AIRCRAFT RESCUE FIRE FIGHTING (ARFF)	119'
7	FIRST NATIONAL BANK /HANGAR	120'
8	FIRST NATIONAL BANK /HANGAR	120'
9	McCREERY AVIATION CO./ HANGAR	121'
10	McCREERY AVIATION CO./ HANGAR C	125'
11	McCREERY AVIATION CO. / HANGAR B	125'
12	PASCUCCI AVIATION CO. / HANGAR	119'
13	McCREERY AVIATION CO. / GARAGE	114'
14	McCREERY AVIATION CO. HANGAR F	118'
15	McCREERY AVIATION CO. / FBO FUEL FARM	N/A
16	McCREERY AVIATION CO. / HANGAR E	114'
17	McCREERY AVIATION CO./ HANGAR A-D	125'
18	RIO GRANDE CHEMICAL / HANGAR	120'
19	CRAFTECH ENTERPRISES / NORTH T-HANGAR	120'
20	RIO GRANDE CHEMICAL / JOINT HANGAR	121'
21	SVT AVIATION / JOINT HANGAR	123'
22	WALTER PASSMORE / JOINT HANGAR	124'
23	MFE AVIATION (BOB WALLACE) / HANGAR	126'
24	MIKE STANTON dba WESTERN FLYERS / HANGAR	123'
25	MIKE STANTON (BORDER PATROL) / HANGAR	122'
26	MIKE STANTON (BORDER PATROL) / HANGAR	121'
27	TEXAS STATE BANK / HANGAR	117'
28	MAYFAIR MINERALS / HANGAR	117'
29	AIR TRAFFIC CONTROL TOWER	146'
30	UTILITY YARD	113'
31	TERMINAL BUILDING	144'
32	CARGO FACILITY	134'

*BUILDING ELEVATIONS NOT SURVEYED

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING CONSTRUCTION
BRL	UBRL	BUILDING RESTRICTION LINE 35' (BRL)
RSA	URSA	RUNWAY SAFETY AREA (RSA)
OFA	UOFA	OBJECT FREE AREA (OFA)
RPZ	URPZ	RUNWAY PROTECTION ZONE (RPZ)
		RUNWAY THRESHOLD LIGHTS
		RUNWAY END IDENTIFICATION LIGHTS (REIL)
		FENCING
VASI	PAPI	NAVIGATIONAL AID INSTALLATION

TRUE NORTH
MAGNETIC DECLINATION 5^45' E
ANNUAL RATE OF CHANGE 0^4'W

SOURCE:
NATIONAL GEOPHYSICAL DATA CENTER (NGDC)
OCTOBER 2004

200' 0 400' 200'
1"=200'

Scale	REVISIONS NO.	Description	DATE	BY
1"=200'				

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Project Number:	34970
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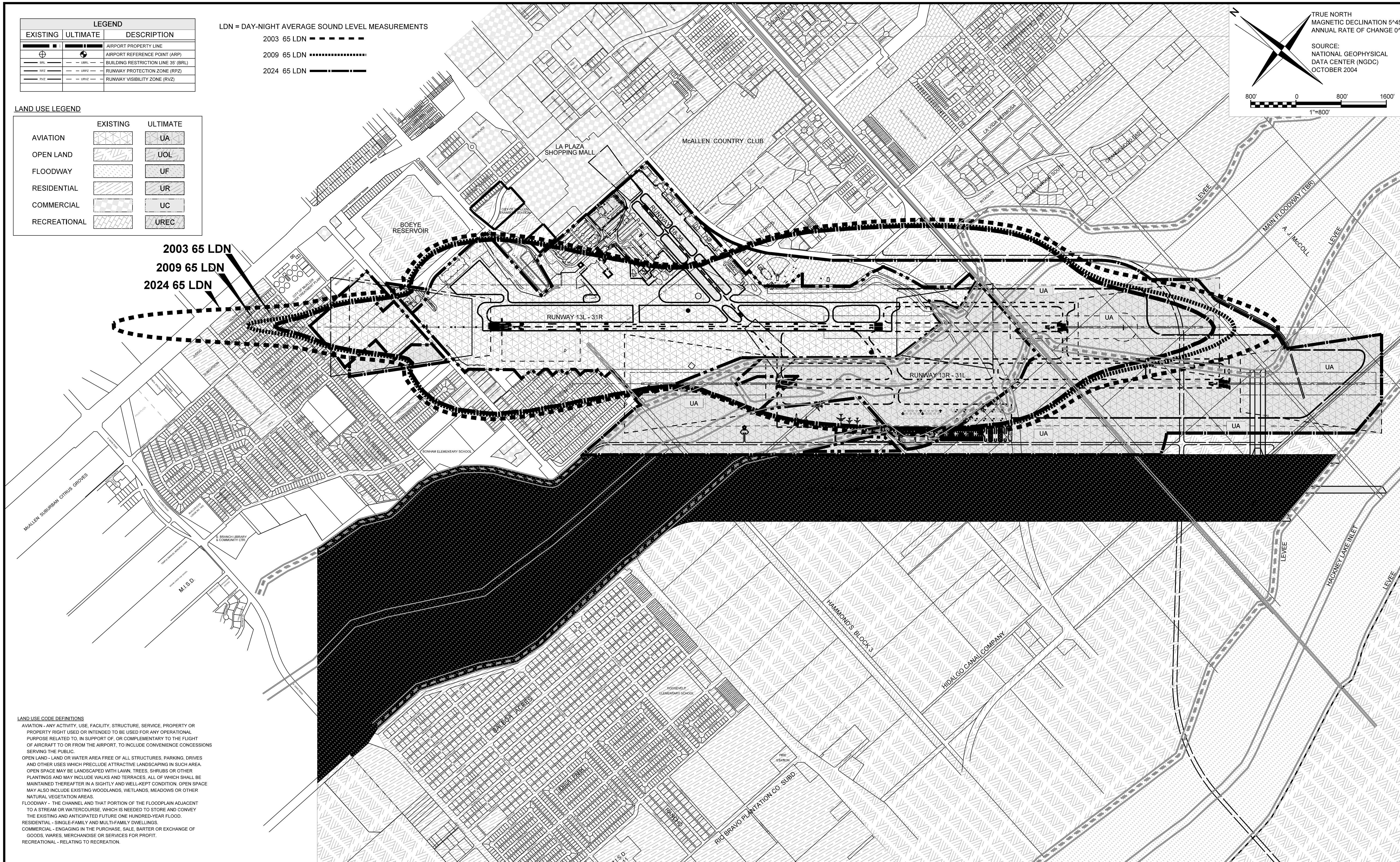
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN

TERMINAL AREA DRAWING

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number: 11 of 13



LAND USE CODE DEFINITIONS

AVIATION - ANY ACTIVITY, USE, FACILITY, STRUCTURE, SERVICE, PROPERTY OR PROPERTY RIGHT USED OR INTENDED TO BE USED FOR ANY OPERATIONAL PURPOSE RELATED TO, IN SUPPORT OF, OR COMPLEMENTARY TO THE FLIGHT OF AIRCRAFT TO OR FROM THE AIRPORT, TO INCLUDE CONVENIENCE CONCESSIONS SERVING THE PUBLIC.

OPEN LAND - LAND OR WATER AREA FREE OF ALL STRUCTURES, PARKING, DRIVES AND OTHER USES WHICH PRECLUDE ATTRACTIVE LANDSCAPING IN SUCH AREA. OPEN SPACE MAY BE LANDSCAPED WITH LAWN, TREES, SHRUBS OR OTHER PLANTINGS AND MAY INCLUDE WALKS AND TERRACES, ALL OF WHICH SHALL BE MAINTAINED THEREAFTER IN A SIGHTLY AND WELL-KEPT CONDITION. OPEN SPACE MAY ALSO INCLUDE EXISTING WOODLANDS, WETLANDS, MEADOWS OR OTHER NATURAL VEGETATION AREAS.

FLOODWAY - THE CHANNEL AND THAT PORTION OF THE FLOODPLAIN ADJACENT TO A STREAM OR WATERCOURSE, WHICH IS NEEDED TO STORE AND CONVEY THE EXISTING AND ANTICIPATED FUTURE ONE HUNDRED-YEAR FLOOD.

RESIDENTIAL - SINGLE-FAMILY AND MULTI-FAMILY DWELLINGS.

COMMERCIAL - ENGAGING IN THE PURCHASE, SALE, BARTER OR EXCHANGE OF GOODS, WARES, MERCHANDISE OR SERVICES FOR PROFIT.

RECREATIONAL - RELATING TO RECREATION.

Scale: 1"=800'

REVISIONS			
NO.	Description	DATE	BY

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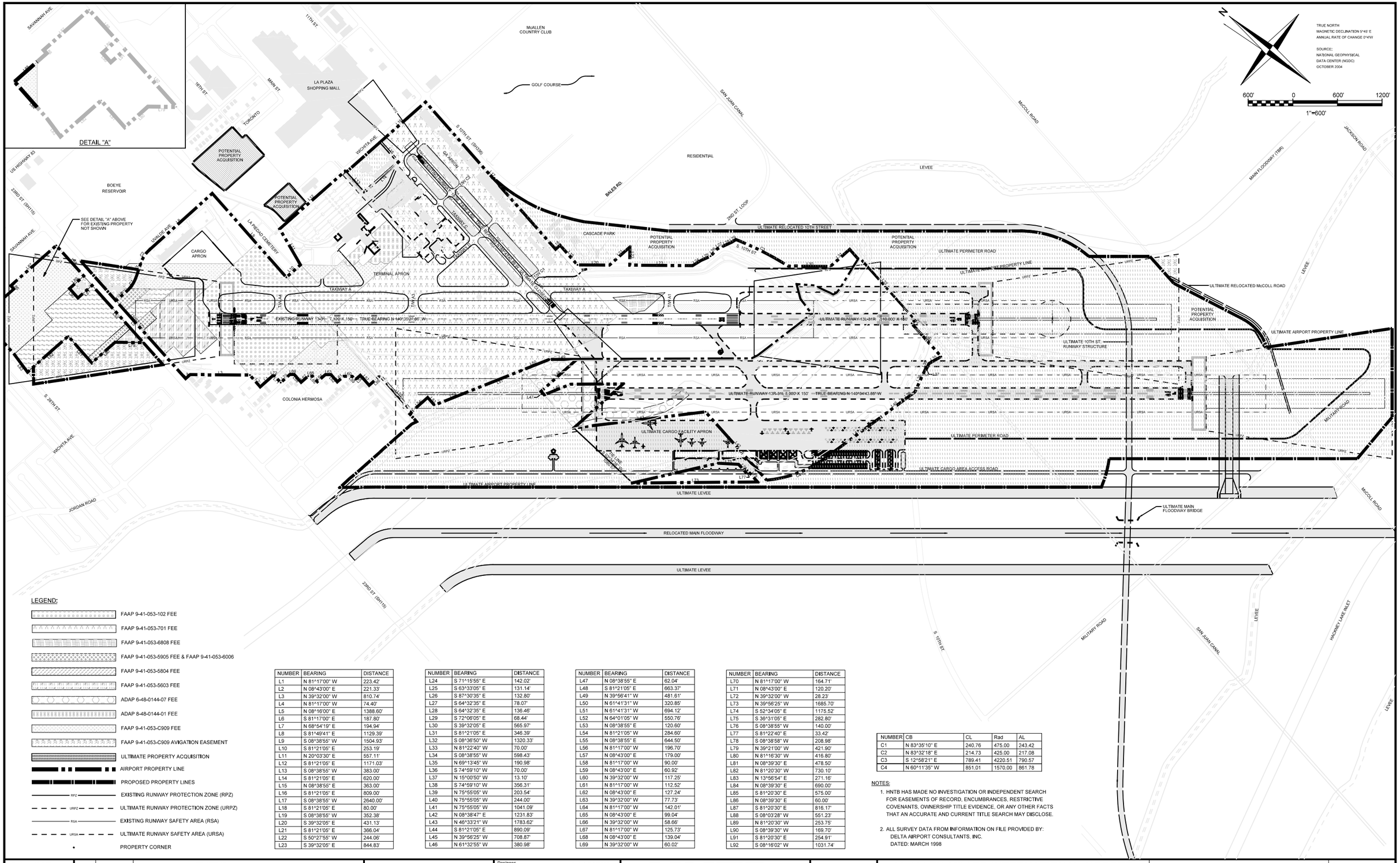
Technician: C. HAYES
Checked by: G. LOGSTON
Project Number: 34970
FAA A.I.P. PROJECT NUMBER:
Date: AUGUST 2005

HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN

LAND USE DRAWING

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS



LEGEND:

- FAAP 9-41-053-102 FEE
- FAAP 9-41-053-701 FEE
- FAAP 9-41-053-6808 FEE
- FAAP 9-41-053-5905 FEE & FAAP 9-41-053-6006
- FAAP 9-41-053-5804 FEE
- FAAP 9-41-053-5603 FEE
- ADAP 6-48-0144-07 FEE
- ADAP 8-48-0144-01 FEE
- FAAP 9-41-053-C909 FEE
- FAAP 9-41-053-C909 AVIGATION EASEMENT
- ULTIMATE PROPERTY ACQUISITION
- AIRPORT PROPERTY LINE
- PROPOSED PROPERTY LINES
- RPZ — EXISTING RUNWAY PROTECTION ZONE (RPZ)
- URPZ — ULTIMATE RUNWAY PROTECTION ZONE (URPZ)
- RSA — EXISTING RUNWAY SAFETY AREA (RSA)
- URSA — ULTIMATE RUNWAY SAFETY AREA (URSA)
- PROPERTY CORNER

NUMBER	BEARING	DISTANCE
L1	N 81°17'00" W	223.42'
L2	N 08°43'00" E	221.33'
L3	N 39°32'00" W	810.74'
L4	N 81°17'00" W	74.40'
L5	N 08°16'00" E	1388.60'
L6	S 81°17'00" E	187.80'
L7	N 68°54'19" E	194.94'
L8	S 81°49'41" E	1129.39'
L9	S 08°38'55" W	1504.93'
L10	S 81°21'05" E	253.19'
L11	N 20°03'30" E	557.11'
L12	S 81°21'05" E	1171.03'
L13	S 08°38'55" W	383.00'
L14	S 81°21'05" E	620.00'
L15	N 08°38'55" E	363.00'
L16	S 81°21'05" E	809.00'
L17	S 08°38'55" W	2640.00'
L18	S 81°21'05" E	80.00'
L19	S 08°38'55" W	352.38'
L20	S 39°32'05" E	431.13'
L21	S 81°21'05" E	366.04'
L22	S 50°27'55" W	244.06'
L23	S 39°32'05" E	844.83'

NUMBER	BEARING	DISTANCE
L24	S 71°15'55" E	142.02'
L25	S 63°33'05" E	131.14'
L26	S 87°30'35" E	132.80'
L27	S 64°32'35" E	78.07'
L28	S 64°32'35" E	136.46'
L29	S 72°06'05" E	68.44'
L30	S 39°32'05" E	565.97'
L31	S 81°21'05" E	346.39'
L32	S 08°36'50" W	1320.33'
L33	N 81°22'40" W	70.00'
L34	S 08°38'55" W	598.43'
L35	N 69°13'45" W	190.98'
L36	S 74°59'10" W	70.00'
L37	N 15°00'50" W	13.10'
L38	S 74°59'10" W	356.31'
L39	N 75°55'05" W	203.54'
L40	N 75°55'05" W	244.00'
L41	N 75°55'05" W	1041.09'
L42	N 08°38'47" E	1231.83'
L43	N 46°33'21" W	1783.62'
L44	S 81°21'05" E	890.09'
L45	N 39°56'25" W	708.87'
L46	N 61°32'55" W	380.98'

NUMBER	BEARING	DISTANCE
L47	N 08°38'55" E	62.04'
L48	S 81°21'05" E	663.37'
L49	N 39°56'41" W	481.61'
L50	N 61°41'31" W	320.85'
L51	N 61°41'31" W	694.12'
L52	N 64°01'05" W	550.76'
L53	N 08°38'55" E	120.60'
L54	N 81°21'05" W	284.60'
L55	N 08°38'55" E	644.50'
L56	N 81°17'00" W	196.70'
L57	N 08°43'00" E	179.00'
L58	N 81°17'00" W	90.00'
L59	N 08°43'00" E	60.92'
L60	N 39°32'00" W	117.25'
L61	N 81°17'00" W	112.52'
L62	N 08°43'00" E	127.24'
L63	N 39°32'00" W	77.73'
L64	N 81°17'00" W	142.01'
L65	N 08°43'00" E	99.04'
L66	N 39°32'00" W	58.66'
L67	N 81°17'00" W	125.73'
L68	N 08°43'00" E	139.04'
L69	N 39°32'00" W	60.02'

NUMBER	BEARING	DISTANCE
L70	N 81°17'00" W	164.71'
L71	N 08°43'00" E	120.20'
L72	N 39°32'00" W	28.23'
L73	N 39°56'25" W	1685.70'
L74	S 52°34'05" E	1175.52'
L75	S 36°31'05" E	282.80'
L76	S 08°38'55" W	140.00'
L77	S 81°22'40" E	33.42'
L78	S 08°38'58" W	208.98'
L79	N 39°21'00" W	421.90'
L80	N 81°16'30" W	416.80'
L81	N 08°39'30" E	478.50'
L82	N 81°20'30" W	730.10'
L83	N 13°56'54" E	271.16'
L84	N 08°39'30" E	690.00'
L85	S 81°20'30" E	575.00'
L86	N 08°39'30" E	60.00'
L87	S 81°20'30" E	816.17'
L88	S 08°03'28" W	551.23'
L89	N 81°20'30" W	253.75'
L90	S 08°39'30" W	169.70'
L91	S 81°20'30" E	254.91'
L92	S 08°16'02" W	1031.74'

NUMBER	CB	CL	Rad	AL
C1	N 83°35'10" E	240.76	475.00	243.42
C2	N 83°32'18" E	214.73	425.00	217.08
C3	S 12°58'21" E	789.41	4220.51	790.57
C4	N 60°11'35" W	851.01	1570.00	861.78

NOTES:

1. HNTB HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
2. ALL SURVEY DATA FROM INFORMATION ON FILE PROVIDED BY:
   DELTA AIRPORT CONSULTANTS, INC.
   DATED: MARCH 1998

Scale: 1"=600'

NO.	Description	REVISIONS	DATE	BY

Designer:	G. LOGSTON
Technician:	C. HAYES
Checked by:	G. LOGSTON
Project Number:	34970
FAA A.I.P. PROJECT NUMBER:	
Date:	AUGUST 2005

HNTB
ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

McALLEN-MILLER INTERNATIONAL AIRPORT
AIRPORT LAYOUT PLAN
AIRPORT PROPERTY MAP

McALLEN-MILLER INTERNATIONAL AIRPORT
McALLEN, TEXAS

Sheet Number:
13 of 13

APPENDICES

Appendix A

Supplemental Forecast Information

Appendix A-1

McAllen International Operations

Appendix A-1
McAllen Miller International Airport
International Operations, 1990-2003
Inbound and Outbound

INBOUND

CARRIER	CARRIER_NAME	DATA_SOURCE	DEST	DEST_CITY_NAME	FREIGHT	MAIL	MONTH	ORIGIN	ORIGIN_CITY_NAME	PASSENGERS	YEAR
1990	1990										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	708	0	6	MEX	Mexico City, Mexico	1,664	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,187	0	12	MEX	Mexico City, Mexico	2,648	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	590	0	5	MEX	Mexico City, Mexico	1,926	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,065	0	7	MEX	Mexico City, Mexico	2,588	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	62	0	1	MEX	Mexico City, Mexico	1,793	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,362	47	11	MEX	Mexico City, Mexico	2,209	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	344	1	4	MEX	Mexico City, Mexico	2,223	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	201	0	2	MEX	Mexico City, Mexico	1,619	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	657	0	3	MEX	Mexico City, Mexico	1,879	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	550	0	8	MEX	Mexico City, Mexico	2,637	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	457	0	10	MEX	Mexico City, Mexico	1,913	1990
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	3,353	0	9	MEX	Mexico City, Mexico	1,762	1990
CDQ	Connie Kalitta Services	I	MFE	Mission/Mcallen/Edinburg, TX	2,251	0	6	MTY	Monterrey, Mexico	0	1990
CDQ	Connie Kalitta Services	I	MFE	Mission/Mcallen/Edinburg, TX	6,731	0	5	MTY	Monterrey, Mexico	0	1990
					20,518	48				24,861	
1991	1991										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	193	1	1	MEX	Mexico City, Mexico	1,783	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,747	0	12	MEX	Mexico City, Mexico	2,710	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	12	MEX	Mexico City, Mexico	0	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	837	0	10	MEX	Mexico City, Mexico	2,090	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	977	0	6	MEX	Mexico City, Mexico	1,804	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	331	0	2	MEX	Mexico City, Mexico	1,728	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	493	0	8	MEX	Mexico City, Mexico	2,890	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	640	0	7	MEX	Mexico City, Mexico	2,791	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,348	0	11	MEX	Mexico City, Mexico	2,001	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	442	0	5	MEX	Mexico City, Mexico	2,039	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	717	0	4	MEX	Mexico City, Mexico	2,036	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,125	0	9	MEX	Mexico City, Mexico	1,796	1991
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,035	0	3	MEX	Mexico City, Mexico	2,275	1991
					10,885	1				25,943	
1992	1992										
JIQ	Jet Fleet Intl. Airlines	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	ACA	Acapulco, Mexico	25	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	247	0	1	MEX	Mexico City, Mexico	2,014	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	598	0	12	MEX	Mexico City, Mexico	2,577	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	352	0	7	MEX	Mexico City, Mexico	2,481	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,260	0	6	MEX	Mexico City, Mexico	1,865	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,530	0	8	MEX	Mexico City, Mexico	2,134	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	444	0	9	MEX	Mexico City, Mexico	1,749	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,150	0	11	MEX	Mexico City, Mexico	2,521	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	196	169	10	MEX	Mexico City, Mexico	2,045	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	191	0	5	MEX	Mexico City, Mexico	1,771	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,009	0	4	MEX	Mexico City, Mexico	2,305	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	765	0	2	MEX	Mexico City, Mexico	1,756	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,915	0	3	MEX	Mexico City, Mexico	1,979	1992
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	12	MTY	Monterrey, Mexico	0	1992
					11,657	169				25,222	
1993	1993										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	2	MEX	Mexico City, Mexico	1,894	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	348	0	3	MEX	Mexico City, Mexico	2,046	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	165	0	4	MEX	Mexico City, Mexico	2,120	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,237	5	5	MEX	Mexico City, Mexico	1,984	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,483	0	7	MEX	Mexico City, Mexico	2,871	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	12	MEX	Mexico City, Mexico	2,539	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	235	0	6	MEX	Mexico City, Mexico	1,879	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	MEX	Mexico City, Mexico	1,859	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	1	MEX	Mexico City, Mexico	2,098	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,074	0	8	MEX	Mexico City, Mexico	2,615	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,628	106	9	MEX	Mexico City, Mexico	1,863	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	260	0	10	MEX	Mexico City, Mexico	2,084	1993
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	MTY	Monterrey, Mexico	0	1993
FM	Federal Express Corporation	I	MFE	Mission/Mcallen/Edinburg, TX	10	0	3	MTY	Monterrey, Mexico	0	1993
					8,440	111				25,852	
1994	1994										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	MEX	Mexico City, Mexico	1,925	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	21	0	6	MEX	Mexico City, Mexico	1,716	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	9	MEX	Mexico City, Mexico	1,992	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	4	MEX	Mexico City, Mexico	1,559	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	MEX	Mexico City, Mexico	2,503	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	10	MEX	Mexico City, Mexico	2,261	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	10	0	7	MEX	Mexico City, Mexico	2,476	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	2	MEX	Mexico City, Mexico	1,991	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	30	0	3	MEX	Mexico City, Mexico	3,059	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	MEX	Mexico City, Mexico	2,178	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,357	0	12	MEX	Mexico City, Mexico	2,205	1994
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	1	MEX	Mexico City, Mexico	1,895	1994
					2,418	0					

	1995		1995								
MMQ	Miami Air International	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	CUN	Cancun, Mexico	131	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,810	0	6	MEX	Mexico City, Mexico	1,134	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,192	0	5	MEX	Mexico City, Mexico	1,117	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	305	0	1	MEX	Mexico City, Mexico	1,194	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,171	0	9	MEX	Mexico City, Mexico	1,118	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	MEX	Mexico City, Mexico	1,073	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	12	MEX	Mexico City, Mexico	1,177	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	224	0	2	MEX	Mexico City, Mexico	1,154	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	807	0	8	MEX	Mexico City, Mexico	1,502	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,462	0	4	MEX	Mexico City, Mexico	1,397	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	7	MEX	Mexico City, Mexico	1,697	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	139	0	3	MEX	Mexico City, Mexico	1,178	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	3,818	0	10	MEX	Mexico City, Mexico	973	1995
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	1	PTY	Panama City, Panama Republic	91	1995
JKQ	Express One Int'l, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	ZIH	Ixtapa/Zihuatanejo, Mexico	0	1995
					12,928	0					
	1996		1996								
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	60	0	1	MEX	Mexico City, Mexico	1,163	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,223	0	12	MEX	Mexico City, Mexico	1,664	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	20	0	10	MEX	Mexico City, Mexico	1,256	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,264	0	5	MEX	Mexico City, Mexico	1,277	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,992	0	8	MEX	Mexico City, Mexico	1,401	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	30	0	9	MEX	Mexico City, Mexico	1,149	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	438	0	11	MEX	Mexico City, Mexico	1,328	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,669	0	2	MEX	Mexico City, Mexico	1,156	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,745	0	3	MEX	Mexico City, Mexico	1,533	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	5,513	0	7	MEX	Mexico City, Mexico	1,498	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	778	0	4	MEX	Mexico City, Mexico	1,376	1996
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,993	0	6	MEX	Mexico City, Mexico	1,172	1996
AA	American Airlines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	MTY	Monterrey, Mexico	25	1996
					18,725	0					
	1997										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	BJX	Leon-Guanajuato, Mexico	0	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	10,988	0	1	MEX	Mexico City, Mexico	1,447	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	4,807	0	12	MEX	Mexico City, Mexico	1,646	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	6,741	0	8	MEX	Mexico City, Mexico	1,636	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,088	0	4	MEX	Mexico City, Mexico	1,193	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,749	0	5	MEX	Mexico City, Mexico	1,216	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	587	0	2	MEX	Mexico City, Mexico	1,433	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,936	0	6	MEX	Mexico City, Mexico	1,407	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	7,126	0	9	MEX	Mexico City, Mexico	1,271	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	14,529	0	10	MEX	Mexico City, Mexico	1,370	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,810	0	3	MEX	Mexico City, Mexico	1,886	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	16,382	0	11	MEX	Mexico City, Mexico	1,493	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	4,908	0	7	MEX	Mexico City, Mexico	1,945	1997
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	MZT	Mazatlan, Mexico	0	1997
MMQ	Miami Air International	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	1	ZIH	Ixtapa/Zihuatanejo, Mexico	0	1997
					73,651	0				17,943	
	1998										
JKQ	Express One Int'l, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	3	ACA	Acapulco, Mexico	692	1998
JKQ	Express One Int'l, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	149	0	4	ACA	Acapulco, Mexico	0	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	3	BJX	Leon-Guanajuato, Mexico	0	1998
JKQ	Express One Int'l, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	4	CUN	Cancun, Mexico	167	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	10	CUN	Cancun, Mexico	0	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	5,060	0	9	MEX	Mexico City, Mexico	831	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,806	0	10	MEX	Mexico City, Mexico	1,233	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	3,053	0	6	MEX	Mexico City, Mexico	1,377	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	23,633	0	8	MEX	Mexico City, Mexico	1,465	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	4,561	0	7	MEX	Mexico City, Mexico	1,864	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,749	0	12	MEX	Mexico City, Mexico	1,001	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	288	0	11	MEX	Mexico City, Mexico	1,448	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	2,452	0	2	MEX	Mexico City, Mexico	894	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	867	0	3	MEX	Mexico City, Mexico	1,136	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,249	0	1	MEX	Mexico City, Mexico	1,213	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,950	0	5	MEX	Mexico City, Mexico	1,427	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	3,428	0	4	MEX	Mexico City, Mexico	1,998	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	12	MTY	Monterrey, Mexico	0	1998
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	10	YVR	Vancouver, Canada	7	1998
					52,245	0				16,753	
	1999										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	290	0	7	MEX	Mexico City, Mexico	976	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	59	0	9	MEX	Mexico City, Mexico	71	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	MEX	Mexico City, Mexico	805	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,285	0	1	MEX	Mexico City, Mexico	246	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	MEX	Mexico City, Mexico	431	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	99	0	3	MEX	Mexico City, Mexico	522	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	4	MEX	Mexico City, Mexico	316	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	MTY	Monterrey, Mexico	0	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	PTY	Panama City, Panama Republic	81	1999
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	SJO	San Jose, Costa Rica	0	1999
U7	USA Jet Airlines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	1,846	0	10	YHM	Hamilton, Canada	0	1999
					3,579	0				3,448	

	2000										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	ACA	Acapulco, Mexico	0	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	12	CUN	Cancun, Mexico	0	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	CUN	Cancun, Mexico	3	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	2	CUN	Cancun, Mexico	0	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	4	CUN	Cancun, Mexico	3	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	CUN	Cancun, Mexico	0	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	3	CUN	Cancun, Mexico	9	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	GDL	Guadalajara, Mexico	10	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	GDL	Guadalajara, Mexico	2	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	MEX	Mexico City, Mexico	0	2000
TW	Trans World Airlines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	3	MEX	Mexico City, Mexico	17	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	MTY	Monterrey, Mexico	0	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	187	0	5	MTY	Monterrey, Mexico	71	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	SAL	San Salvador, El Salvador	0	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	11	SJD	Los Cabos, Mexico	0	2000
RLQ	Reliant Airlines	I	MFE	Mission/Mcallen/Edinburg, TX	2,913	0	9	SRB	Santa Rosa, Bolivia	0	2000
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	5	YYC	Calgary, Canada	0	2000
					3,100	0				115	
	2001										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	12	BOG	Bogota, Colombia	1	2001
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	BZE	Belize City, Belize	0	2001
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	3	BZE	Belize City, Belize	0	2001
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	9	CUN	Can Cun, Mexico	2	2001
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	GDL	Guadalajara, Mexico	0	2001
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	9	MEX	Mexico City, Mexico	0	2001
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	10	MEX	Mexico City, Mexico	23	2001
AMQ	Ameristar Air Cargo	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	SLW	Saltillo, Mexico	0	2001
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	10	YYZ	Toronto, Canada	0	2001
					0	0				26	
	2002										
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	BOG	Bogota, Colombia	0	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	3	ZIH	Ixtapa/Zihuatanejo, Mexico	0	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	4	ZIH	Ixtapa/Zihuatanejo, Mexico	0	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	4	MEX	Mexico City, Mexico	0	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	7	MEX	Mexico City, Mexico	0	2002
U7	USA Jet Airlines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	5,400	0	10	YYZ	Toronto, Canada	0	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	6	YVR	Vancouver, Canada	16	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	7	YVR	Vancouver, Canada	10	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	8	YVR	Vancouver, Canada	2	2002
CO	Continental Air Lines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	9	YVR	Vancouver, Canada	4	2002
U7	USA Jet Airlines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	21,220	0	10	YQG	Windsor, Canada	0	2002
					26,620	0				32	
	2003										
AA	American Airlines, Inc.	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	3	YYC	Calgary, Canada	2	2003
AMQ	Ameristar Air Cargo	I	MFE	Mission/Mcallen/Edinburg, TX	0	0	2	BJX	Leon-Guanajuato, Mexico	0	2003

OUTBOUND

CARRIER	CARRIER_NAME	DATA_SOURCE	DEST	DEST_CITY_NAME	FREIGHT	MAIL	MONTH	ORIGIN	ORIGIN_CITY_NAME	PASSENGERS	YEAR
	1990										
CO	Continental Air Lines, Inc.	I	ACA	Acapulco, Mexico	0	0	10	MFE	Mission/Mcallen/Edinburg, TX	0	1990
CO	Continental Air Lines, Inc.	I	ACA	Acapulco, Mexico	0	0	11	MFE	Mission/Mcallen/Edinburg, TX	0	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	118,611	0	10	MFE	Mission/Mcallen/Edinburg, TX	1,840	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	80,810	0	9	MFE	Mission/Mcallen/Edinburg, TX	1,785	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	73,975	0	4	MFE	Mission/Mcallen/Edinburg, TX	2,080	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	78,305	0	11	MFE	Mission/Mcallen/Edinburg, TX	2,469	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	81,077	0	1	MFE	Mission/Mcallen/Edinburg, TX	2,112	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	79,753	0	8	MFE	Mission/Mcallen/Edinburg, TX	2,741	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	79,503	0	2	MFE	Mission/Mcallen/Edinburg, TX	1,629	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	89,566	0	3	MFE	Mission/Mcallen/Edinburg, TX	1,982	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	107,840	0	12	MFE	Mission/Mcallen/Edinburg, TX	2,482	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	122,456	0	6	MFE	Mission/Mcallen/Edinburg, TX	1,792	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	96,176	0	5	MFE	Mission/Mcallen/Edinburg, TX	2,045	1990
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	78,448	0	7	MFE	Mission/Mcallen/Edinburg, TX	2,415	1990
					1,086,520					25,372	
	1991										
CO	Continental Air Lines, Inc.	I	ACA	Acapulco, Mexico	0	0	10	MFE	Mission/Mcallen/Edinburg, TX	0	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	59,430	0	9	MFE	Mission/Mcallen/Edinburg, TX	1,830	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	67,838	0	4	MFE	Mission/Mcallen/Edinburg, TX	2,272	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	70,171	0	3	MFE	Mission/Mcallen/Edinburg, TX	1,841	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	60,458	0	5	MFE	Mission/Mcallen/Edinburg, TX	2,175	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	67,722	600	1	MFE	Mission/Mcallen/Edinburg, TX	2,074	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	64,481	0	12	MFE	Mission/Mcallen/Edinburg, TX	2,518	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	108,930	0	6	MFE	Mission/Mcallen/Edinburg, TX	1,841	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	71,590	0	10	MFE	Mission/Mcallen/Edinburg, TX	1,948	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	59,842	0	2	MFE	Mission/Mcallen/Edinburg, TX	1,688	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	65,835	0	8	MFE	Mission/Mcallen/Edinburg, TX	3,148	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	106,122	0	7	MFE	Mission/Mcallen/Edinburg, TX	2,882	1991
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	89,794	400	11	MFE	Mission/Mcallen/Edinburg, TX	2,311	1991
					892,213	1,000				26,528	
	1992										
	NONE										

1993										
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	55,030	0	11 MFE	Mission/Mcallen/Edinburg, TX	2,485	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	56,613	0	1 MFE	Mission/Mcallen/Edinburg, TX	2,446	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	43,414	0	10 MFE	Mission/Mcallen/Edinburg, TX	2,086	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	39,725	0	9 MFE	Mission/Mcallen/Edinburg, TX	2,016	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	43,444	0	8 MFE	Mission/Mcallen/Edinburg, TX	3,214	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	61,694	0	2 MFE	Mission/Mcallen/Edinburg, TX	2,131	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	73,183	0	3 MFE	Mission/Mcallen/Edinburg, TX	2,374	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	59,519	0	5 MFE	Mission/Mcallen/Edinburg, TX	2,324	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	64,302	0	4 MFE	Mission/Mcallen/Edinburg, TX	2,256	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	51,224	0	12 MFE	Mission/Mcallen/Edinburg, TX	2,698	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	64,215	0	6 MFE	Mission/Mcallen/Edinburg, TX	2,153	1993
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	54,457	0	7 MFE	Mission/Mcallen/Edinburg, TX	2,832	1993
CO	Continental Air Lines, Inc.	I	MTY	Monterrey, Mexico	0	0	5 MFE	Mission/Mcallen/Edinburg, TX	87	1993
AA	American Airlines, Inc.	I	YYZ	Toronto, Canada	0	0	6 MFE	Mission/Mcallen/Edinburg, TX	7	1993
					666,820	0			29,109	
1994										
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	57,990	0	12 MFE	Mission/Mcallen/Edinburg, TX	2,648	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	51,345	0	1 MFE	Mission/Mcallen/Edinburg, TX	2,343	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	51,289	0	11 MFE	Mission/Mcallen/Edinburg, TX	2,526	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	50,693	0	2 MFE	Mission/Mcallen/Edinburg, TX	2,327	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	47,281	0	3 MFE	Mission/Mcallen/Edinburg, TX	2,789	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	66,342	0	7 MFE	Mission/Mcallen/Edinburg, TX	2,530	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	70,895	0	10 MFE	Mission/Mcallen/Edinburg, TX	2,356	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	60,493	0	8 MFE	Mission/Mcallen/Edinburg, TX	3,043	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	44,934	4,072	9 MFE	Mission/Mcallen/Edinburg, TX	2,407	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	57,677	0	4 MFE	Mission/Mcallen/Edinburg, TX	2,650	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	53,342	0	5 MFE	Mission/Mcallen/Edinburg, TX	2,417	1994
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	62,507	0	6 MFE	Mission/Mcallen/Edinburg, TX	1,955	1994
CO	Continental Air Lines, Inc.	I	VER	Veracruz, Mexico	0	0	12 MFE	Mission/Mcallen/Edinburg, TX	0	1994
CDQ	American Int'l Airways, Inc	I	VER	Veracruz, Mexico	61,404	0	12 MFE	Mission/Mcallen/Edinburg, TX	0	1994
					736,192	4,072			29,991	
1995										
CO	Continental Air Lines, Inc.	I	ACA	Acapulco, Mexico	0	0	11 MFE	Mission/Mcallen/Edinburg, TX	0	1995
CO	Continental Air Lines, Inc.	I	BJX	Leon-Guanajuato, Mexico	0	0	9 MFE	Mission/Mcallen/Edinburg, TX	10	1995
CO	Continental Air Lines, Inc.	I	BJX	Leon-Guanajuato, Mexico	0	0	10 MFE	Mission/Mcallen/Edinburg, TX	12	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	33,845	0	1 MFE	Mission/Mcallen/Edinburg, TX	1,508	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	19,627	0	9 MFE	Mission/Mcallen/Edinburg, TX	1,194	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	43,966	1,077	6 MFE	Mission/Mcallen/Edinburg, TX	1,270	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	35,774	0	5 MFE	Mission/Mcallen/Edinburg, TX	1,282	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	25,011	0	11 MFE	Mission/Mcallen/Edinburg, TX	1,208	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	33,028	2,963	8 MFE	Mission/Mcallen/Edinburg, TX	1,697	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	22,461	452	2 MFE	Mission/Mcallen/Edinburg, TX	1,123	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	43,328	0	12 MFE	Mission/Mcallen/Edinburg, TX	1,633	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	19,853	1,400	3 MFE	Mission/Mcallen/Edinburg, TX	1,190	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	18,420	100	10 MFE	Mission/Mcallen/Edinburg, TX	954	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	26,445	951	4 MFE	Mission/Mcallen/Edinburg, TX	1,323	1995
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	28,473	0	7 MFE	Mission/Mcallen/Edinburg, TX	1,654	1995
KR	Kitty Hawk Aircargo	I	YYZ	Toronto, Canada	4,179	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	1995
					354,410	6,943			16,058	
1996										
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	45,694	0	12 MFE	Mission/Mcallen/Edinburg, TX	1,838	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	25,245	214	1 MFE	Mission/Mcallen/Edinburg, TX	1,364	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	23,433	0	5 MFE	Mission/Mcallen/Edinburg, TX	1,551	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	15,487	0	10 MFE	Mission/Mcallen/Edinburg, TX	1,343	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	11,774	0	9 MFE	Mission/Mcallen/Edinburg, TX	1,272	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	19,693	0	11 MFE	Mission/Mcallen/Edinburg, TX	1,342	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	22,554	0	8 MFE	Mission/Mcallen/Edinburg, TX	1,691	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	16,857	0	3 MFE	Mission/Mcallen/Edinburg, TX	1,446	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	20,789	0	2 MFE	Mission/Mcallen/Edinburg, TX	1,313	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	12,907	0	6 MFE	Mission/Mcallen/Edinburg, TX	1,371	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	19,359	0	4 MFE	Mission/Mcallen/Edinburg, TX	1,797	1996
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	25,907	0	7 MFE	Mission/Mcallen/Edinburg, TX	1,491	1996
U7	USA Jet Airlines, Inc.	I	YXU	London, Canada	780	0	12 MFE	Mission/Mcallen/Edinburg, TX	0	1996
MMQ	Miami Air International	I	ZLO	Manzanillo, Mexico	0	0	11 MFE	Mission/Mcallen/Edinburg, TX	0	1996
					260,479	214			17,819	
1997										
	NONE									
1998										
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	15,416	97	1 MFE	Mission/Mcallen/Edinburg, TX	1,302	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	43,997	2,323	2 MFE	Mission/Mcallen/Edinburg, TX	854	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	11,863	0	3 MFE	Mission/Mcallen/Edinburg, TX	1,106	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	24,183	0	5 MFE	Mission/Mcallen/Edinburg, TX	1,647	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	18,662	0	4 MFE	Mission/Mcallen/Edinburg, TX	1,846	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	16,480	0	6 MFE	Mission/Mcallen/Edinburg, TX	1,392	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	23,200	0	8 MFE	Mission/Mcallen/Edinburg, TX	1,693	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	9,911	0	7 MFE	Mission/Mcallen/Edinburg, TX	1,560	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	9,680	162	9 MFE	Mission/Mcallen/Edinburg, TX	904	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	25,673	0	10 MFE	Mission/Mcallen/Edinburg, TX	1,186	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	65,432	4,800	12 MFE	Mission/Mcallen/Edinburg, TX	1,112	1998
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	34,996	0	11 MFE	Mission/Mcallen/Edinburg, TX	1,500	1998
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	510	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	1998
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	143	0	6 MFE	Mission/Mcallen/Edinburg, TX	0	1998
CO	Continental Air Lines, Inc.	I	YYC	Calgary, Canada	0	0	8 MFE	Mission/Mcallen/Edinburg, TX	8	1998
CO	Continental Air Lines, Inc.	I	YYC	Calgary, Canada	0	0	7 MFE	Mission/Mcallen/Edinburg, TX	11	1998
CO	Continental Air Lines, Inc.	I	YYC	Calgary, Canada	0	0	9 MFE	Mission/Mcallen/Edinburg, TX	2	1998
					300,146	7,382			16,123	

	1999									
CO	Continental Air Lines, Inc.	I	GDL	Guadalajara, Mexico	0	0	6 MFE	Mission/Mcallen/Edinburg, TX	0	1999
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	34,714	0	8 MFE	Mission/Mcallen/Edinburg, TX	936	1999
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	8,430	0	7 MFE	Mission/Mcallen/Edinburg, TX	772	1999
U7	USA Jet Airlines, Inc.	I	MEX	Mexico City, Mexico	1,992	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	1999
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	2,481	0	9 MFE	Mission/Mcallen/Edinburg, TX	74	1999
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	1,957	0	6 MFE	Mission/Mcallen/Edinburg, TX	463	1999
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	2,506	0	1 MFE	Mission/Mcallen/Edinburg, TX	296	1999
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	1,146	0	4 MFE	Mission/Mcallen/Edinburg, TX	737	1999
CO	Continental Air Lines, Inc.	I	MEX	Mexico City, Mexico	1,315	0	3 MFE	Mission/Mcallen/Edinburg, TX	111	1999
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	5,761	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	1999
U7	USA Jet Airlines, Inc.	I	YXU	London, Canada	284	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	1999
U7	USA Jet Airlines, Inc.	I	YYZ	Toronto, Canada	1,062	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	1999
U7	USA Jet Airlines, Inc.	I	YYZ	Toronto, Canada	1,684	0	7 MFE	Mission/Mcallen/Edinburg, TX	0	1999
					63,332	0			3,389	
	2000									
CO	Continental Air Lines, Inc.	I	BZE	Belize City, Belize	0	0	6 MFE	Mission/Mcallen/Edinburg, TX	0	2000
CO	Continental Air Lines, Inc.	I	BZE	Belize City, Belize	0	0	5 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	MEX	Mexico City, Mexico	690	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	MEX	Mexico City, Mexico	96	0	9 MFE	Mission/Mcallen/Edinburg, TX	0	2000
CO	Continental Air Lines, Inc.	I	SAP	San Pedro Sula, Honduras	0	0	5 MFE	Mission/Mcallen/Edinburg, TX	2	2000
CO	Continental Air Lines, Inc.	I	SAP	San Pedro Sula, Honduras	0	0	4 MFE	Mission/Mcallen/Edinburg, TX	4	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	857	0	2 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	5,170	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	4,803	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	395	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	6,406	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	5,108	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	8,499	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	8,327	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YHM	Hamilton, Canada	2,784	0	11 MFE	Mission/Mcallen/Edinburg, TX	0	2000
U7	USA Jet Airlines, Inc.	I	YXU	London, Canada	1,883	0	1 MFE	Mission/Mcallen/Edinburg, TX	0	2000
					45,018	0			6	
	2001									
CO	Continental Air Lines, Inc.	I	CUN	Cancun, Mexico	0	0	9 MFE	Mission/Mcallen/Edinburg, TX	0	2001
U7	USA Jet Airlines, Inc.	I	YXU	London, Canada	11,461	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	2001
U7	USA Jet Airlines, Inc.	I	YXU	London, Canada	12,758	0	9 MFE	Mission/Mcallen/Edinburg, TX	0	2001
AA	American Airlines, Inc.	I	YYZ	Toronto, Canada	0	0	3 MFE	Mission/Mcallen/Edinburg, TX	16	2001
					24,219	0				
	2002									
CO	Continental Air Lines, Inc.	I	BOG	Bogota, Colombia	0	0	4 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	BZE	Belize City, Belize	0	0	6 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	BZE	Belize City, Belize	0	0	7 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	BZE	Belize City, Belize	0	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	BZE	Belize City, Belize	0	0	9 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	CDG	Paris, France	0	0	12 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	GDL	Guadalajara, Mexico	0	0	5 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	GDL	Guadalajara, Mexico	0	0	6 MFE	Mission/Mcallen/Edinburg, TX	0	2002
U7	USA Jet Airlines, Inc.	I	HMO	Hermosillo, Mexico	1,511	0	10 MFE	Mission/Mcallen/Edinburg, TX	0	2002
U7	USA Jet Airlines, Inc.	I	QRO	Queretaro, Mexico	1,800	0	6 MFE	Mission/Mcallen/Edinburg, TX	0	2002
U7	USA Jet Airlines, Inc.	I	SLW	Saltillo, Mexico	731	0	6 MFE	Mission/Mcallen/Edinburg, TX	0	2002
AMQ	Ameristar Air Cargo	I	YQG	Windsor, Canada	7,334	0	8 MFE	Mission/Mcallen/Edinburg, TX	0	2002
CO	Continental Air Lines, Inc.	I	YYC	Calgary, Canada	0	0	4 MFE	Mission/Mcallen/Edinburg, TX	6	2002
CO	Continental Air Lines, Inc.	I	YYZ	Toronto, Canada	0	0	8 MFE	Mission/Mcallen/Edinburg, TX	13	2002
CO	Continental Air Lines, Inc.	I	YYZ	Toronto, Canada	0	0	9 MFE	Mission/Mcallen/Edinburg, TX	0	2002
					11,376	0			19	
	2003									
AMQ	Ameristar Air Cargo	I	BJX	Leon-Guanajuato, Mexico	0	0	2 MFE	Mission/Mcallen/Edinburg, TX	0	2003
CO	Continental Air Lines, Inc.	I	YYZ	Toronto, Canada	0	0	1 MFE	Mission/Mcallen/Edinburg, TX	8	2003
CO	Continental Air Lines, Inc.	I	YYZ	Toronto, Canada	0	0	2 MFE	Mission/Mcallen/Edinburg, TX	1	2003

Source: United States Department of Transportation, *Origin/Destination Flow for McAllen-Miller International Airport*

Appendix A-2

Top 25 Exports and Imports Through Border Region Ports
United States and Mexico Activity
1997-2002

Appendix A-2

Texas Center for Border Economic & Enterprise Development TOP 25 EXPORTS AND IMPORTS THROUGH TEXAS PORTS

U.S. / MEXICO TRADE ACTIVITY JAN - DEC 1997

U.S. EXPORTS TO MEXICO

CITY	RANK	SITC	U.S. EXPORTS TO MEXICO	TRADE VALUE
BROWNSVILLE				
	1	77129	Parts Of Electric Power Machinery (Other Than Rotating Electric Power Generating Machinery And Equipment), And Parts Thereof	$274,765,520
	2	77867	Fixed Capacitors, N.E.S.	$272,691,007
	3	22220	Soybeans	$196,320,781
	4	77869	Parts Of Electrical Capacitors	$187,756,518
	5	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$183,828,967
	6	76499	Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$139,829,240
	7	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$135,703,370
	8	26310	Cotton (Other Than Linters), Not Carded Or Combed	$121,362,455
	9	69969	Articles Of Iron Or Steel, N.E.S.	$98,942,286
	10	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$88,534,463
	11	76383	Sound Reproducing Apparatus, N.E.S.	$87,928,066
	12	77220	Printed Circuits	$86,803,026
	13	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$83,084,712
	14	33452	Petroleum Lubricating Oils And Oils From Bituminous Materials; Preparations With These Oils As Basic Constituent, Except Condensate From Natural Gas	$78,912,678
	15	89399	Articles Of Plastics, N.E.S.	$61,417,933
	16	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$52,768,751
	17	59899	Chemical Products And Preparations, N.E.S.	$51,223,528
	18	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$49,890,362
	19	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$44,006,860
	20	77641	Digital Monolithic Integrated Units	$43,150,647
	21	51614	Methyloxirane (Propylene Oxide)	$41,040,766
	22	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$40,288,110
	23	77643	Nondigital Monolithic Integrated Units	$38,408,911
	24	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$37,254,004
	25	67532	Stainless Steel Flat-Rolled Products, Hot-Rolled, Not Under 600 Mm Wide, Not Under 3 Mm But Under 4.75 Mm Thick, In Coils	$35,588,811
BROWNSVILLE	SUBTOTAL			$2,531,501,772

DEL RIO

		1	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$69,631,049
		2	82119	Parts Of Seats, N.E.S.	$65,521,402
		3	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$59,369,323
		4	121	Sheep, Live	$55,278,060
		5	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$51,022,251
		6	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$36,187,673
		7	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$35,562,485
		8	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$31,863,151
		9	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$30,685,319
		10	89399	Articles Of Plastics, N.E.S.	$30,619,345
		11	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$29,848,069
		12	77311	Insulated Electric Winding Wire	$27,925,359
		13	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$27,272,285
		14	69312	Stranded Wire, Ropes, Cables, Etc. Of Copper, Not Electrically Insulated	$25,638,303
		15	77821	Filament Lamps (Other Than Flashbulbs, Infrared And Ultraviolet Lamps And Sealed Beam Lamp Units)	$24,943,950
		16	77254	Relays For Electrical Apparatus Used With Electrical Circuits Not Exceeding 1,000 Volts	$24,062,094
		17	77579	Parts Of Electromechanical Domestic Appliances With Self-Contained Electricmotor	$18,228,589
		18	69915	Mountings, Fittings And Similar Articles For Motor Vehicles, N.E.S., Of Base Metal	$16,205,523
		19	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$15,722,034
		20	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$12,419,142
		21	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$11,711,590
		22	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$11,425,602
		23	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$11,322,324
		24	77328	Insulating Fittings For Electrical Machines, Appliances Or Equiptment, Of Plastic Materials, But Not Including The Insulators	$11,207,971
		25	65613	Narrow Woven Fabrics, N.E.S.	$10,383,565
DEL RIO	SUBTOTAL				$744,056,458

EAGLE PASS

1	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$680,762,871
2	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$296,053,412
3	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$190,825,401
4	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$183,360,911
5	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$179,939,881
6	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$152,856,811
7	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$111,638,011
8	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$105,133,762
9	28239	Ferrous Waste And Scrap, N.E.S.	$76,631,819
10	78434	Gear Boxes	$58,353,093
11	32121	Bituminous Coal, Pulverized Or Not, But Not Agglomerated	$55,443,469
12	69421	Screws, Bolts, Nuts, Screw Hooks, Rivets, Washers And Similar Articles, Threaded, Of Iron Or Steel	$54,073,807
13	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$42,162,628
14	69915	Mountings, Fittings And Similar Articles For Motor Vehicles, N.E.S., Of Base Metal	$39,236,492
15	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$35,896,446
16	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$32,138,141
17	62999	Articles Of Unhardened Noncellular Vulcanized Rubber, N.E.S.	$27,238,179
18	74149	Parts Of Refrigerators, Freezers And Other Refrigerating Or Freezing Equipment (Electric Or Other)	$25,462,007
19	76483	Radar Apparatus, Radio Navigational Aid Apparatus And Radio Remote Control Apparatus	$24,952,056
20	21111	Hides And Skins (Excluding Those Of Heading 211.2) Of Bovine Animals, Fresh Or Wet-Salted	$23,765,551
21	67629	Alloy Steel N.E.S. Bars And Rods, N.E.S., Hot-Rolled, Hot-Drawn Or Hot-Extruded (Except High Speed Steel Or Silico-Manganese Steel)	$23,327,915
22	77821	Filament Lamps (Other Than Flashbulbs, Infrared And Ultraviolet Lamps And Sealed Beam Lamp Units)	$22,429,938
23	34420	Gaseous Hydrocarbons, Liquefied, N.E.S.	$21,857,574
24	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$21,492,462
25	34210	Propane, Liquefied	$20,897,665
EAGLE PASS SUBTOTAL			$2,505,930,302

EL PASO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$627,096,064
2	82119	Parts Of Seats, N.E.S.	$372,744,376
3	89399	Articles Of Plastics, N.E.S.	$333,495,550
4	77645	Hybrid Integrated Circuits	$311,049,754
5	77611	Television Picture Tubes, Color	$251,112,090
6	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$238,033,901
7	77311	Insulated Electric Winding Wire	$200,015,327
8	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$195,496,839
9	69969	Articles Of Iron Or Steel, N.E.S.	$188,346,245
10	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$179,401,819
11	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$170,873,271
12	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$166,339,177
13	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$157,453,488
14	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$151,736,543
15	61142	Bovine Leather N.E.S. And Equine Leather (Without Hair), Parchment-Dressed Or Prepared After Tanning	$146,455,014
16	77220	Printed Circuits	$144,751,281
17	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$139,986,962
18	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$134,429,134
19	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$120,532,942
20	33411	Gasoline Including Aviation (Except Jet) Fuel	$104,595,364
21	84619	Clothing Accessories N.E.S., Parts Of Garments Or Clothing (Other Than Brassieres, Girdles, Corsets, Suspenders Etc.), Not Knitted Or Crocheted	$102,699,571
22	77129	Parts Of Electric Power Machinery (Other Than Rotating Electric Power Generating Machinery And Equipment), And Parts Thereof	$99,037,924
23	65720	Nonwovens, Whether Or Not Impregnated, Coated, Covered Or Laminated, N.E.S.	$96,494,714
24	76491	Parts Of Electrical Apparatus For Line Telephony Or Line Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$90,972,906
25	77621	Television Camera Tubes; Image Converters And Intensifiers; Other Photocathode Tubes	$89,773,306
EL PASO	SUBTOTAL		$4,812,923,562

FABENS					
		1	65519	Knitted Or Crocheted Pile Fabrics, N.E.S.	$30,774
		2	74190	Parts, N.E.S. For Temperature Changing Industrial And Laboratory Machinery And Equipment	$11,536
		3	58291	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Cellular	$10,425
FABENS	SUBTOTAL				$52,735
HIDALGO					
		1	77649	Electronic Integrated Circuits And Microassemblies, N.E.S.	$158,956,665
		2	77611	Television Picture Tubes, Color	$149,003,404
		3	77220	Printed Circuits	$134,282,519
		4	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$128,039,477
		5	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$112,273,867
		6	89399	Articles Of Plastics, N.E.S.	$78,372,280
		7	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$72,172,654
		8	77869	Parts Of Electrical Capacitors	$67,949,031
		9	76383	Sound Reproducing Apparatus, N.E.S.	$64,251,429
		10	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$55,796,060
		11	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$50,112,731
		12	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$49,263,111
		13	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$48,065,240
		14	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$44,999,818
		15	77631	Diodes, Not Photosensitive Nor Light Emitting Diodes	$44,879,437
		16	77633	Transistors (Excluding Photosensitive Transistors) With A Dissipation Rate Of 1 Watt Or More	$40,358,810
		17	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$38,009,617
		18	77232	Fixed Electrical Resistors, N.E.S	$35,919,016
		19	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$34,789,803
		20	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$31,723,149
		21	87490	Parts And Accessories For Machines, Appliances, Instruments And Apparatus, N.E.S., Measuring, Checking, Analysing Or Controlling, N.E.S.	$30,755,517
		22	72849	Machinery Having Individual Functions, N.E.S.	$30,375,148
		23	87325	Speedometers And Tachometers; Stroboscopes	$29,794,667
		24	34310	Natural Gas, Liquefied	$28,752,431
		25	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$27,787,942
HIDALGO	SUBTOTAL				$1,586,683,823

LAREDO					
		1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$1,095,637,541
		2	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$979,239,112
		3	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$837,759,101
		4	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$743,589,840
		5	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$704,520,768
		6	78434	Gear Boxes	$491,375,105
		7	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$409,506,963
		8	77641	Digital Monolithic Integrated Units	$332,125,486
		9	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$319,812,790
		10	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$317,407,003
		11	71323	Compression-Ignition Engines (Diesel Or Semi-Diesel), For Road Vehicles, Etc.	$263,850,074
		12	22220	Soybeans	$250,743,051
		13	62520	New Pneumatic Rubber Tires, Of A Kind Used On Buses And Trucks	$240,133,328
		14	26310	Cotton (Other Than Linters), Not Carded Or Combed	$224,755,163
		15	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$217,587,800
		16	72849	Machinery Having Individual Functions, N.E.S.	$210,181,056
		17	62510	New Pneumatic Rubber Tires, Of A Kind Used On Motor Cars (Including Station Wagons And Racing Cars)	$175,490,222
		18	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$172,470,365
		19	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$162,990,263
		20	76491	Parts Of Electrical Apparatus For Line Telephony Or Line Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$162,821,926
		21	57112	Polyethylene, Having A Specific Gravity Of 0.94 Or More, In Primary Forms	$158,775,384
		22	68423	Aluminum And Aluminum Alloy Plates, Sheets And Strip, Over .2 Mm Thick	$151,179,329
		23	89399	Articles Of Plastics, N.E.S.	$150,959,720
		24	57111	Polyethylene, Having A Specific Gravity Of Less Than 0.94, In Primary Forms	$149,522,250
		25	88230	Photographic Film In Rolls, Sensitised, Unexposed, Except Of Paper, Paperboard Or Textiles; Instant Print Film In Rolls, Sensitised, Unexposed	$147,227,459
LAREDO	SUBTOTAL				$9,069,661,099

PRESIDIO					
		1	68412	Aluminum Alloys, Unwrought	$14,712,544
		2	4120	Wheat (Including Spelt) And Meslin, Unmilled, N.E.S.	$4,163,260
		3	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$4,144,258
		4	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$3,987,886
		5	29252	Seeds Of Forage Plants, Other Than Beet Seed	$3,947,467
		6	72839	Parts Of Machinery For Sorting, Washing, Crushing Or Mixing Earth, Stone, Ores Etc., And For Shaping Solid Mineral Fuels, Ceramic Pastes Etc.	$3,776,556
		7	72249	Wheeled Tractors, N.E.S.	$2,230,646
		8	59226	Dextrins And Other Modified Starches	$2,086,151
		9	56200	Fertilizers (Exports Include Group 272; Imports Exclude Group 272)	$1,959,774
		10	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$1,502,391
		11	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$1,431,479
		12	62559	New Pneumatic Rubber Tires, N.E.S.	$1,343,108
		13	72122	Combine Harvester-Threshers	$971,000
		14	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$859,345
		15	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$772,473
		16	72123	Harvesting And Threshing Machinery, N.E.S.; Mowers, N.E.S. (Other Than Mowers For Lawns, Parks Or Sports Grounds)	$749,836
		17	62542	New Pneumatic Rubber Tires, Of A Kind Used On Bicycles	$738,921
		18	5774	Almonds, Fresh Or Dried, Whether Or Not Shelled Or Peeled	$735,020
		19	74564	Agricultural Or Horticultural Appliances For Projecting, Dispersing Or Spraying Liquids Or Powders	$655,645
		20	58160	Tubes, Pipes And Hoses Of Plastics, N.E.S.	$623,410
		21	22212	Groundnuts (Peanuts), Not Roasted Or Cooked, Shelled	$501,105
		22	72121	Mowers For Lawns, Parks Or Sports Grounds	$417,115
		23	53351	Prepared Pigments, Opacifiers And Colors, Vitrifiable Enamel Etc. Used In Ceramic, Enameling And Glass Industry; Glass Frit, Powder, Granules Or Flake	$392,271
		24	73739	Parts For Electric Laser, Other Light Or Photon Beam, Ultrasonic Etc. Soldering, Brazing Or Welding Machines And Apparatus For Hot Metal Etc. Spraying	$383,935
		25	5619	Vegetables N.E.S., Dried, And Mixtures Of Vegetables, Dried (Whole, Cut, Sliced, Etc.), But Not Further Prepared	$378,960
PRESIDIO	SUBTOTAL				$53,464,556

PROGRESO					
		1	4530	Grain Sorghum, Unmilled	$26,585,629
		2	64169	Paper, Creped, Crinkled, Embossed Or Perforated, N.E.S., In Rolls Or Sheets	$5,756,374
		3	8133	Oil-Cake And Other Solid Residues (Except Dregs), Whether Ground Or In The Form Of Pellets, From The Extraction Of Fats Or Oils From Cottonseeds	$5,220,857
		4	22230	Cottonseeds	$2,883,933
		5	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$2,586,482
		6	5423	Beans, Other Than Broad Beans And Horse Beans, Dried, Shelled	$2,357,950
		7	26320	Cotton Linters	$2,055,710
		8	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$1,780,195
		9	61130	Whole Bovine Skin Leather (Without Hair), With A Surface Area Not Over 28 Sq. Ft, (2,6 M2), Not Specially Dressed Or Finished	$1,131,092
		10	8151	Residues Of Starch Manufacture And Similar Residues	$688,238
		11	65773	Textile Products And Articles, For Technical Uses	$562,379
		12	64299	Articles Of Paper Pulp, Paper, Paperboard, Cellulose Wadding Or Webs Of Cellulose Fibers, N.E.S.	$552,641
		13	59227	Glues Based On Starches, Dextrins Or Other Modified Starches	$492,482
		14	53341	Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Ar Aqueous Medium	$492,447
		15	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$491,659
		16	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$483,848
		17	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$470,970
		18	84619	Clothing Accessories N.E.S., Parts Of Garments Or Clothing (Other Than Brassieres, Girdles, Corsets, Suspenders Etc.), Not Knitted Or Crocheted	$455,718
		19	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$444,520
		20	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$384,713
		21	58299	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Noncellular	$367,438
		22	4814	Worked Cereal Grains N.E.S. (E.G. Hulled, Pearled, Clipped, Sliced Or Kibbled), Except Semi-Milled Or Wholly Milled Rice	$355,062
		23	73311	Forging Or Die-Stamping Machines (Including Presses) And Hammers	$352,556
		24	53329	Printing Ink, Other Than Black	$336,512
		25	74918	Injection Or Compression Types Of Molds For Rubber Or Plastics	$330,071
PROGRESO	SUBTOTAL				$57,619,476

RIO GRANDE

			Gold (Including Gold Plated With Platinum), Nonmonetary,	
	1	97101	Unwrought Or In Semimanufactured Forms Or In Powder Form	$17,954,312
			Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of	
	2	25111	Corrugated Paper Of Paperboard	$9,478,639
	3	4530	Grain Sorghum, Unmilled	$9,089,642
			Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals	
	4	89731	Clad With Precious Metals (Except Watches And Watch Cases)	$4,881,885
			Synthetic Or Reconstructed Precious Or Semiprecious Stones,	
			N.E.S., Not Strung, Mounted, Or Set (Including Ungraded Stones	
	5	66749	Strung Only For Transport)	$3,830,162
	6	27331	Silica Sands And Quartz Sands	$2,514,558
	7	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$2,399,173
			Woven Pile And Chenille Fabrics, N.E.S., Of Textile Materials Other	
			Than Wool, Cotton And Manmade Fibers (Excluding Narrow	
	8	65495	Fabrics)	$1,707,972
	9	28799	Base Metal Ores And Concentrates, N.E.S.	$1,519,945
			Waste And Scrap Of Paper And Paperboard, N.E.S. (Including	
	10	25119	Unsorted Waste And Scrap)	$1,516,737
	11	59899	Chemical Products And Preparations, N.E.S.	$1,245,602
	12	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$1,221,834
	13	68711	Tin, Unwrought (Not Alloyed)	$1,087,410
			Refractory Ceramic Goods (Retorts, Crucibles, Muffles, Nozzles,	
	14	66370	Plugs, Etc.), N.E.S.	$787,317
	15	64141	Kraft Paper, Uncoated, N.E.S., In Rolls Or Sheets	$775,821
			Mucilages And Thickeners (Whether Or Not Modified), Derived	
	16	29296	From Vegetable Products	$564,060
			Export Shipments Valued Not Over $10,000 (Thru March 1998) And	
	17	99200	Not Over $20,000 (Effective April 1998), Not Identified By Kind	$476,914
	18	72249	Wheeled Tractors, N.E.S.	$408,700
	19	75290	Data Processing Equipment, N.E.S.	$396,897
			Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics,	
	20	84483	Women'S Or Girls'	$384,795
	21	4593	Canary Seed, Unmilled	$379,928
			Negligees, Bathrobes, Dressing Gowns And Similar Articles, Of	
	22	84489	Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$374,142
			Worn Clothing And Other Worn Textile Articles Traded In Bulk Or	
	23	26901	In Bales, Sacks Or Similar Bulk Packings	$352,847
			Sanitary Napkins And Tampons, Diapers, Diaper Liners And Similar	
			Sanitary Articles, Of Paper Pulp, Paper, Cellulose Wadding Or Webs	
	24	64295	Of Cellulose Fiber	$305,604
			Waste And Scrap Of Other Paper Of Paperboard Made Mainly Of	
	25	25112	Bleached Chemical Pulp, Not Colored In The Mass	$297,161
RIO GRANDE	SUBTOTAL			$63,952,057

ROMA

1	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$10,387,394
2	65222	Cotton Woven Fabrics, N.E.S., Unbleached, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$7,166,081
3	65241	Cotton Woven Fabrics, N.E.S., Bleached, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$4,012,157
4	74319	Air Or Vacuum Pumps, N.E.S.	$3,338,604
5	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$3,041,555
6	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$2,792,523
7	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$2,362,760
8	71392	Parts, N.E.S., Suitable For Use Solely Or Principally With Compression-Ignition Internal Combustion Piston Engines	$1,234,225
9	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$1,204,670
10	74190	Parts, N.E.S. For Temperature Changing Industrial And Laboratory Machinery And Equipment	$1,122,809
11	11241	Whiskey	$1,060,557
12	1235	Poultry Cuts (Of Chickens, Ducks, Geese, Turkeys And Guineas) And Offal, Frozen	$924,400
13	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$903,912
14	81100	Prefabricated Buildings	$882,281
15	89431	Video Games Of A Kind Used With A Television Receiver	$827,846
16	65359	Woven Fabrics Of Artificial Filament Yarn, N.E.S. (Other Than Pile Or Chenille And Narrow Or Special Fabrics)	$610,326
17	69564	Interchangeable Tools For Hand Tools Or For Machine-Tools (Pressing, Stamping, Punching, Drilling, Etc.), Including Dies For Extruding Metal	$561,843
18	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$518,581
19	89972	Brooms, Brushes (Including Brushes Which Are Parts Of Machines, Etc. Or Vehicles), Mops And Feather Dusters; Prepared Knots And Tufts; Paint Pads Etc.	$508,708
20	76481	Reception Apparatus For Radiotelephony Or Radiotelegraphy, N.E.S.	$485,376
21	68412	Aluminum Alloys, Unwrought	$460,452
22	72321	Front-End Shovel-Loaders, Self-Propelled	$457,234
23	89281	Paper And Paperboard Labels Of All Kinds, Whether Or Not Printed	$437,796
24	72329	Self-Propelled Mechanical Shovels, Excavators And Shovel-Loaders, N.E.S.	$435,750
25	88210	Chemicals Prepared For Photographic Use (Except Varnish, Glue, Etc.); Unmixed Products For Photo Use In Measured Portions Or Ready To Use Retail Packs	$428,774
ROMA	SUBTOTAL		$46,166,614
TEXAS TOP 25 TOTAL EXPORT ACTIVITY			$21,472,012,454

U.S. IMPORTS FROM MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$424,649,423
	2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$415,573,870
	3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$231,216,252
	4	76383	Sound Reproducing Apparatus, N.E.S.	$202,634,580
	5	93100	Special Transactions And Commodities Not Classified According To Kind	$173,483,553
	6	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$164,662,493
	7	77123	Ballasts For Discharge Lamps Or Tubes	$161,451,405
	8	77862	Tantalum Fixed Capacitors	$149,245,882
	9	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$129,143,041
	10	76212	Radiobroadcast Receivers, Not Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$120,345,736
	11	77121	Static Converters (E.G., Rectifiers)	$114,644,769
	12	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$97,432,941
	13	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$91,059,955
	14	3611	Shrimps And Prawns, Frozen	$82,349,388
	15	77119	Electric Transformers, N.E.S.	$80,968,419
	16	67553	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm Wide, Over 1 Mm But Under 3 Mm Thick	$75,476,079
	17	77834	Electrical Lighting And Signaling Equipment (Excluding Filament Discharge Or Arc Lamps); Windshield Wipers, Defrosters And Demisters For Cycles, Etc.	$72,508,396
	18	52236	Inorganic Acids, N.E.S.	$65,173,041
	19	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$61,698,514
	20	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$53,915,034
	21	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$45,916,443
	22	67554	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm, Not Under .5 Mm But Not Over 1 Mm Thick	$41,903,970
	23	77635	Thyristors, Diacs And Triacs (Excluding Photosensitive Devices)	$38,887,731
	24	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$38,689,014
	25	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$37,608,905
BROWNSVILLE	SUBTOTAL			$3,170,638,834

DEL RIO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$380,886,512
2	82119	Parts Of Seats, N.E.S.	$156,923,082
3	74319	Air Or Vacuum Pumps, N.E.S.	$64,934,778
4	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$61,706,699
5	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$58,387,872
6	77572	Food Grinders And Mixers; Fruit Or Vegetable Juice Extractors, Electromechanical, Domestic	$37,548,680
7	93100	Special Transactions And Commodities Not Classified According To Kind	$37,434,570
8	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$32,797,201
9	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$25,651,513
10	77884	Electric Sound Or Visual Signaling Apparatus, N.E.S., Including Sirens, Indicator Panels, Burglar And Fire Alarms	$22,434,794
11	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$21,994,574
12	85151	Footwear, N.E.S., With Outer Soles Of Rubber Or Plastics And Uppers Of Tex Tile Materials	$17,615,639
13	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$17,417,017
14	69129	Metal Structures And Parts N.E.S. Of Aluminum; Prepared Plates, Rods Etc. Of Aluminum For Use In Structures	$12,892,798
15	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$12,555,375
16	74720	Valves For Oleohydraulic Or Pneumatic Transmissions	$12,438,517
17	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$9,876,542
18	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$8,933,327
19	77589	Parts Of Electrothermic Appliances N.E.S.	$8,513,992
20	89969	Appliances N.E.S., Which Are Worn Or Carried, Or Implanted In The Body, To Compensate For A Physical Defect Or Disability	$7,366,164
21	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$7,277,002
22	89399	Articles Of Plastics, N.E.S.	$7,134,250
23	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$7,110,370
24	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$6,896,234
25	74710	Pressure-Reducing Valves	$6,875,802
DEL RIO	SUBTOTAL		$1,043,603,304

EAGLE PASS

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$1,155,265,344
2	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$426,383,331
3	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$235,388,370
4	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$220,257,252
5	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$207,449,520
6	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$186,946,776
7	69941	Springs And Leaves For Springs, Of Iron Or Steel	$112,233,311
8	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$109,501,566
9	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$63,625,928
10	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$57,011,582
11	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$47,087,066
12	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$45,047,101
13	84621	Panty Hose And Tights	$40,001,780
14	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$36,037,600
15	67413	Iron And Nonalloy Steel Flat-Rolled Products, Plated Etc. With Zinc, N.E.S., Not Under 600 Mm Wide	$32,331,876
16	93100	Special Transactions And Commodities Not Classified According To Kind	$30,325,114
17	77119	Electric Transformers, N.E.S.	$24,204,654
18	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$23,846,343
19	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$22,892,392
20	84151	Shirts Of Woven Cotton Materials, Men'S Or Boys'	$21,535,072
21	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$16,054,848
22	67650	Bars And Rods Of Iron Or Steel, N.E.S.	$15,948,082
23	68611	Zinc, Unwrought (Not Alloyed)	$15,026,776
24	67941	Iron And Steel Line Pipe Used For Oil Or Gas Pipelines, N.E.S.	$13,593,807
25	84119	Anoraks (Including Ski-Jackets), Windbreakers And Similar Articles Of Woven Textile Materials, Men'S Or Boys'	$12,757,300
EAGLE PASS	SUBTOTAL		$3,170,752,791

EL PASO					
		1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$2,166,705,689
		2	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$1,066,653,693
		3	82119	Parts Of Seats, N.E.S.	$878,636,678
		4	93100	Special Transactions And Commodities Not Classified According To Kind	$625,506,957
		5	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$434,151,699
		6	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$415,701,118
		7	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$380,437,664
		8	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$286,573,815
		9	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$277,512,888
		10	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$277,383,601
		11	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$261,841,130
		12	87325	Speedometers And Tachometers; Stroboscopes	$259,342,942
		13	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$247,486,919
		14	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$213,790,415
		15	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$196,657,909
		16	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$187,423,527
		17	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$176,282,396
		18	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$175,745,576
		19	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$151,365,591
		20	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$138,454,662
		21	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$137,140,098
		22	77123	Ballasts For Discharge Lamps Or Tubes	$136,525,995
		23	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$133,501,430
		24	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$120,093,305
		25	84521	Garments Made Up Of Felt Or Other Nonwoven Textile Fabrics, Whether Or Not Impregnated, Coated, Covered Or Laminated	$120,056,052
EL PASO	SUBTOTAL				$9,464,971,749

HIDALGO

	1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$501,466,800
	2	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$417,619,506
	3	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$379,471,856
	4	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$228,387,327
	5	87325	Speedometers And Tachometers; Stroboscopes	$141,534,378
	6	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$138,453,101
	7	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$123,895,788
	8	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$113,260,710
	9	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$104,447,275
	10	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$104,336,850
	11	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$99,696,523
	12	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$95,823,315
	13	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$85,283,450
	14	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$79,414,543
	15	93100	Special Transactions And Commodities Not Classified According To Kind	$60,927,697
	16	77121	Static Converters (E.G., Rectifiers)	$57,609,825
	17	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$53,926,954
	18	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$53,715,284
	19	5469	Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or Cooked By Steaming Or Boiling In Water), Frozen	$43,960,494
	20	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$41,990,291
	21	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$41,382,387
	22	89212	Children'S Picture, Drawing Or Coloring Books	$41,174,431
	23	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$40,997,624
	24	84482	Briefs And Panties, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$39,024,035
	25	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$35,047,060
HIDALGO	SUBTOTAL			$3,122,847,504

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$4,148,900,462
2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$3,343,917,457
3	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,531,700,323
4	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$729,100,976
5	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$676,262,742
6	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$408,195,390
7	7111	Coffee, Not Roasted, Not Decaffeinated	$395,172,407
8	93100	Special Transactions And Commodities Not Classified According To Kind	$380,885,925
9	76411	Telephone Sets	$301,554,728
10	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$263,971,357
11	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$248,857,778
12	69731	Domestic Cooking Appliances (Gas Ranges, Barbecues, Etc.) And Plate Warmers, Nonelectric, Of Iron Or Steel	$242,702,016
13	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$240,824,778
14	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$233,580,431
15	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$196,378,164
16	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$191,252,424
17	78410	Chassis Fitted With Engines, For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles N.E.S.	$176,406,916
18	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$160,587,480
19	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$158,134,725
20	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$146,684,534
21	68113	Silver (Including Gold And Platinum Plated Silver), Unwrought	$141,158,850
22	67413	Iron And Nonalloy Steel Flat-Rolled Products, Plated Etc. With Zinc, N.E.S., Not Under 600 Mm Wide	$140,005,153
23	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$131,831,280
24	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$120,546,926
25	89429	Toys, N.E.S.	$118,768,034
LAREDO SUBTOTAL			$14,827,381,256

PRESIDIO		1	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$37,335,758
		2	78520	Bicycles And Other Cycles (Including Delivery Tricycles), Not Motorized	$10,878,967
		3	5779	Edible Nuts (Excluding Mixtures), Fresh Or Dried, N.E.S., Whether Or Not Shelled Or Peeled	$3,578,039
		4	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$3,410,821
		5	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$3,172,675
		6	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$2,689,334
		7	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$2,507,434
		8	64176	Kraft Paper And Paperboard, Coated, Etc., Whether Or Not Serface-Colored Or Surface-Decorated, Etc. N,E,S,. In Rolls Or Sheets	$2,137,488
		9	22211	Groundnuts (Peanuts), Not Roasted Or Otherwise Cooked, In The Shell	$1,490,970
		10	93100	Special Transactions And Commodities Not Classified According To Kind	$1,484,738
		11	69969	Articles Of Iron Or Steel, N.E.S.	$1,391,573
		12	66122	Portland Cement	$1,245,692
		13	78629	Trailers And Semi-Trailers For The Transport Of Goods, N.E.S.	$962,854
		14	67959	Iron And Steel Tube And Pipe Fittings, N.E.S.	$740,607
		15	69979	Articles Of Aluminum, N.E.S.	$348,545
		16	5459	Vegetables, N.E.S. Fresh Or Chilled	$335,263
		17	5451	Onions And Shallots, Fresh Or Chilled	$225,803
		18	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$225,502
		19	7513	Fruits Of The Genus Capsicum Or Of The Genus Pimenta, Dried Or Crushed Or Ground	$205,025
		20	59811	Tall Oil, Refined Or Not	$202,924
		21	68272	Copper Tube And Pipe Fittings (E.G. Couplings, Elbows And Sleeves)	$181,374
		22	65759	Articles Of Artificial And Synthetic Textile Monofilaments, Strip, Etc., And Twine, Cordage Or Rope, N.E.S.	$154,121
		23	8113	Swedes, Mangolds, Fodder Roots, Clover, Sainfoin, Forage Kale, Lupines, Vetches And Similar Forage Products, Whether Or Not In Pellet Form	$148,220
		24	84151	Shirts Of Woven Cotton Materials, Men'S Or Boys'	$124,200
		25	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$119,300
PRESIDIO	SUBTOTAL				$75,297,227

PROGRESO		1	26320	Cotton Linters	$15,498,007
		2	76499	Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$12,885,612
		3	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$12,254,151
		4	76383	Sound Reproducing Apparatus, N.E.S.	$8,030,573
		5	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$4,293,834
		6	5451	Onions And Shallots, Fresh Or Chilled	$3,669,362
		7	5455	Carrots, Turnips, Salad Beetroot, Salsify, Celeriac, Radishes And Similar Edible Roots, Fresh Or Chilled	$1,351,615
		8	5791	Melons (Including Watermelons) And Papaws (Papayas), Fresh	$909,646
		9	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$689,515
		10	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$583,351
		11	87325	Speedometers And Tachometers; Stroboscopes	$520,161
		12	5459	Vegetables, N.E.S. Fresh Or Chilled	$466,462
		13	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$357,386
		14	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$293,452
		15	77834	Electrical Lighting And Signaling Equipment (Excluding Filament Discharge Or Arc Lamps); Windshield Wipers, Defrosters And Demisters For Cycles, Etc.	$279,142
		16	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$243,918
		17	79295	Parts Of Airplanes Or Helicopters, N.E.S.	$236,765
		18	93100	Special Transactions And Commodities Not Classified According To Kind	$216,587
		19	5729	Citrus Fruit, N.E.S., Fresh Or Dried	$208,465
		20	5721	Lemons And Limes, Fresh Or Dried	$187,287
		21	5453	Cabbage And Similar Edible Brassicas, Fresh Or Chilled	$129,079
		22	65612	Narrow Woven Fabrics, N.E.S., Containing 5% (Weight) Or More Elastomeric Yarn Or Rubber Thread	$127,873
		23	74916	Molds For Glass	$119,800
		24	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$116,683
		25	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$100,747
PROGRESO	SUBTOTAL				$63,769,473

RIO GRANDE

			Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals	
	1	89731	Clad With Precious Metals (Except Watches And Watch Cases)	$21,349,552
			Gold Waste And Scrap (Including Metal Clad With Gold But	
	2	97103	Excluding Sweepings Containing Other Precious Metals)	$11,069,625
			Inorganic Bases N.E.S.; Metal Oxides, Hydroxides And Peroxides,	
	3	52269	N.E.S.	$6,326,274
	4	5791	Melons (Including Watermelons) And Papaws (Papayas), Fresh	$3,314,006
	5	66331	Articles Of Plaster Or Of Compositions Based On Plaster	$3,229,884
	6	5459	Vegetables, N.E.S. Fresh Or Chilled	$2,443,253
			Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or	
	7	5469	Cooked By Steaming Or Boiling In Water), Frozen	$1,578,339
	8	5451	Onions And Shallots, Fresh Or Chilled	$1,463,409
			Wire Cloth (Including Endless Bands), Grill, Netting And Fencing,	
	9	69351	And Expanded Metal, Of Iron Or Steel	$958,462
	10	5730	Bananas (Including Plantains), Fresh Or Dried	$830,302
			Strawberries, Uncooked Or Cooked By Steaming Or Boiling In	
	11	5831	Water, Frozen, Whether Or Not Containing Other Sweetening Matter	$810,374
	12	5798	Fruit, Fresh, N.E.S.	$701,908
			Negligees, Bathrobes, Dressing Gowns And Similar Articles, Of	
	13	84489	Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$674,055
			Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed	
	14	66245	Ceramic Mosaic Cubes And The Like	$668,477
			Special Transactions And Commodities Not Classified According To	
	15	93100	Kind	$624,249
			Babies' Garments And Clothing Accessories Of Textile Fabrics, Not	
	16	84511	Knitted Or Crocheted	$533,060
	17	84240	Dresses Of Woven Textile Fabrics, Women'S Or Girls'	$527,463
			Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles;	
	18	66244	Unglazed Ceramic Mosaic Cubes And The Like	$510,318
	19	84581	Ski Suits, Not Knitted Or Crocheted	$503,036
			Parts And Accessories N.E.S. For Tractors, Motor Cars And Other	
			Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor	
	20	78439	Vehicles, N.E.S.	$463,802
			Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics,	
	21	84483	Women'S Or Girls'	$456,416
			Carrots, Turnips, Salad Beetroot, Salsify, Celeriac, Radishes And	
	22	5455	Similar Edible Roots, Fresh Or Chilled	$409,529
	23	69967	Articles Of Iron Or Steel Wire, N.E.S.	$405,262
			Singlets (Undershirts), Briefs, Panties, Negligees, Bathrobes,	
			Dressing Gowns And Similar Articles Of Woven Textile Fabrics,	
	24	84289	Women'S Or Girls'	$320,551
			Monumental Or Building Stone (Except Slate), N.E.S. And Articles	
			Thereof, Molded, Turned, Polished, Decorated, Carved Or	
	25	66139	Otherwise Worked	$292,994
RIO GRANDE	SUBTOTAL			$60,464,600

ROMA

1	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$25,224,247
2	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$14,270,971
3	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$6,720,343
4	93100	Special Transactions And Commodities Not Classified According To Kind	$1,823,711
5	29299	Vegetable Materials And Vegetable Products, N.E.S.	$1,502,687
6	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$1,306,367
7	66241	Ceramic Building Bricks, Flooring Blocks, Support Or Filler Tiles And The Like	$763,237
8	78431	Bumpers And Parts Thereof, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$749,302
9	66244	Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Unglazed Ceramic Mosaic Cubes And The Like	$732,074
10	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$558,778
11	83199	Binocular Cases, Camera Cases, Musical Instrument Cases, Etc. Of Leather, Plastic Sheeting, Textiles, Etc., N.E.S.	$550,743
12	89861	Magnetic Tapes, Recorded, Of A Width Not Exceeding 4 Mm, For Sound Or Image	$493,314
13	77119	Electric Transformers, N.E.S.	$400,489
14	28221	Waste And Scrap Of Stainless Steel	$304,358
15	66112	Slaked Lime	$177,803
16	89879	Recorded Media, N.E.S., Sound Or Similarly Recorded Phenomena	$90,984
17	69969	Articles Of Iron Or Steel, N.E.S.	$90,084
18	66139	Monumental Or Building Stone (Except Slate), N.E.S. And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$59,662
19	82112	Seats Of A Kind Used For Motor Vehicles	$52,210
20	6229	Sugar Confectionery (Including White Chocolate), Not Containing Cocoa, N.E.S.	$48,533
21	89471	Fishing Rods, Hooks, Other Tackle And Landing Nets; Butterfly Etc. Nets; Decoys (Not Collectors Items Or Decoy Calls); Hunting Etc. Requisites, N.E.S.	$44,062
22	53354	Glaziers' Putty; Grafting Putty; Resin Cement, Caulking Compounds And Other Mastics; Painters' Fillings; Nonrefractory Surfacing Preparations	$38,770
23	83112	Handbags With Outer Surface Of Sheeting Of Plastics Or Of Textile Materials	$38,037
24	66135	Monumental Or Building Stone (Except Slate), N.E.S., And Articles Thereof Simply Cut Or Sawn, With A Flat Or Even Surface	$36,706
25	5459	Vegetables, N.E.S. Fresh Or Chilled	$35,278
ROMA	SUBTOTAL		$116,577,350
TEXAS TOP 25 TOTAL IMPORT ACTIVITY			$35,055,839,488

TEXAS TOP 25 TOTAL U.S./MEXICO TRADE ACTIVITY **$56,527,851,942**

Last Updated on October 20 | 2003
By TCBEED
Source: U.S. Department of Commerce Bureau of the Census, Foreign Trade Division

Appendix A-2
Texas Center for Border Economic & Enterprise Development TOP 25 EXPORTS AND IMPORTS THROUGH TEXAS PORTS
U.S. / MEXICO TRADE ACTIVITY JAN - DEC 1998
U.S. EXPORTS TO MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	77867	Fixed Capacitors, N.E.S.	$292,877,936
	2	22220	Soybeans	$169,205,377
	3	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$166,359,002
	4	26310	Cotton (Other Than Linters), Not Carded Or Combed	$146,277,259
	5	77869	Parts Of Electrical Capacitors	$136,025,254
	6	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$127,706,211
	7	69969	Articles Of Iron Or Steel, N.E.S.	$101,643,553
	8	77129	Parts Of Electric Power Machinery (Other Than Rotating Electric Power Generating Machinery And Equipment), And Parts Thereof	$92,083,639
	9	76499	Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$74,488,108
	10	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$70,809,347
	11	77220	Printed Circuits	$70,492,824
	12	77641	Digital Monolithic Integrated Units	$63,375,470
	13	33452	Petroleum Lubricating Oils And Oils From Bituminous Materials; Preparations With These Oils As Basic Constituent, Except Condensate From Natural Gas	$54,090,481
	14	76383	Sound Reproducing Apparatus, N.E.S.	$52,728,671
	15	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$47,829,730
	16	71441	Turbojet Engines	$47,045,000
	17	59899	Chemical Products And Preparations, N.E.S.	$45,942,550
	18	77232	Fixed Electrical Resistors, N.E.S	$45,936,752
	19	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$45,623,721
	20	89399	Articles Of Plastics, N.E.S.	$44,763,118
	21	51614	Methyloxirane (Propylene Oxide)	$42,024,856
	22	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$38,832,556
	23	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$36,367,566
	24	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$33,575,465
	25	59896	Pickling Preparations For Metal Surfaces; Fluxes And Other Products For Soldering, Etc.; Products As Cores Or Coatings For Welding Electrodes Or Rods	$33,402,239
BROWNSVILLE	SUBTOTAL			$2,079,506,685

DEL RIO

1	82119	Parts Of Seats, N.E.S.	$79,967,641
2	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$60,226,349
3	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$57,995,353
4	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$54,940,815
5	89399	Articles Of Plastics, N.E.S.	$52,207,117
6	69312	Stranded Wire, Ropes, Cables, Etc. Of Copper, Not Electrically Insulated	$46,582,236
7	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$45,853,192
8	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$39,371,339
9	77821	Filament Lamps (Other Than Flashbulbs, Infrared And Ultraviolet Lamps And Sealed Beam Lamp Units)	$37,076,169
10	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$34,981,602
11	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$29,137,569
12	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$29,119,451
13	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$27,031,031
14	77311	Insulated Electric Winding Wire	$26,309,979
15	77254	Relays For Electrical Apparatus Used With Electrical Circuits Not Exceeding 1,000 Volts	$26,150,274
16	121	Sheep, Live	$24,101,665
17	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$22,507,737
18	77579	Parts Of Electromechanical Domestic Appliances With Self-Contained Electricmotor	$18,652,823
19	77328	Insulating Fittings For Electrical Machines, Appliances Or Equiptment, Of Plastic Materials, But Not Including The Insulators	$17,851,360
20	65343	Woven Fabrics, Under 85% (Weight) Synthetic Staple Fibers Mixed Mainly With Fibers Except Cotton, Wool, Etc., Or Manmade Filaments (No Pile Etc.)	$16,491,764
21	139	Swine Other Than Purebred Breeding Animals, Live	$15,664,362
22	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$15,016,116
23	58291	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Cellular	$12,769,208
24	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$11,190,050
25	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$10,184,110
DEL RIO	SUBTOTAL		$811,379,312

EAGLE PASS

			Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor	
	1	78439	Vehicles, N.E.S.	$340,707,491
	2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$302,532,777
	3	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$234,115,994
	4	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$203,721,495
	5	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$188,644,172
	6	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$180,813,028
	7	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$160,668,923
	8	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$142,028,233
	9	78434	Gear Boxes	$131,536,943
	10	22220	Soybeans	$82,273,183
	11	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$71,727,107
	12	32121	Bituminous Coal, Pulverized Or Not, But Not Agglomerated	$61,221,771
	13	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$49,263,293
	14	79199	Parts Of Railway Or Tramway Locomotives Or Rolling Stock Railway Vehicles; Parts Of Railway Or Tramway Coaches, Vans, Trucks, Service Vehicles, Etc.	$47,234,176
	15	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$41,488,748
	16	21111	Hides And Skins (Excluding Those Of Heading 211.2) Of Bovine Animals, Fresh Or Wet-Salted	$35,503,745
	17	67629	Alloy Steel N.E.S. Bars And Rods, N.E.S., Hot-Rolled, Hot-Drawn Or Hot-Extruded (Except High Speed Steel Or Silico-Manganese Steel)	$33,681,125
	18	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$33,204,995
	19	5423	Beans, Other Than Broad Beans And Horse Beans, Dried, Shelled	$29,809,873
	20	84621	Panty Hose And Tights	$26,770,310
	21	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$26,100,024
	22	69915	Mountings, Fittings And Similar Articles For Motor Vehicles, N.E.S., Of Base Metal	$25,647,616
	23	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$24,561,998
	24	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$24,379,239
	25	28239	Ferrous Waste And Scrap, N.E.S.	$23,985,429
EAGLE PASS	SUBTOTAL			$2,521,621,688

EL PASO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$566,665,991
2	89399	Articles Of Plastics, N.E.S.	$448,530,392
3	77611	Television Picture Tubes, Color	$434,439,245
4	77645	Hybrid Integrated Circuits	$386,223,426
5	82119	Parts Of Seats, N.E.S.	$362,193,270
6	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$305,110,956
7	69969	Articles Of Iron Or Steel, N.E.S.	$255,277,133
8	77621	Television Camera Tubes; Image Converters And Intensifiers; Other Photocathode Tubes	$231,490,179
9	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$225,024,417
10	77220	Printed Circuits	$178,683,878
11	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$176,395,328
12	77311	Insulated Electric Winding Wire	$175,444,074
13	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$172,369,593
14	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$167,779,226
15	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$158,488,498
16	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$143,770,685
17	65720	Nonwovens, Whether Or Not Impregnated, Coated, Covered Or Laminated, N.E.S.	$143,075,303
18	61142	Bovine Leather N.E.S. And Equine Leather (Without Hair), Parchment-Dressed Or Prepared After Tanning	$132,274,476
19	84619	Clothing Accessories N.E.S., Parts Of Garments Or Clothing (Other Than Brassieres, Girdles, Corsets, Suspenders Etc.), Not Knitted Or Crocheted	$130,031,674
20	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$128,450,948
21	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$123,680,796
22	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$114,119,969
23	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$99,255,066
24	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$97,623,191
25	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$96,023,043
EL PASO	SUBTOTAL		$5,452,420,757

FABENS

		1	77311	Insulated Electric Winding Wire	$3,213,469
		2	77869	Parts Of Electrical Capacitors	$1,494,536
		3	77129	Parts Of Electric Power Machinery (Other Than Rotating Electric Power Generating Machinery And Equipment), And Parts Thereof	$1,276,482
		4	69979	Articles Of Aluminum, N.E.S.	$299,677
		5	69969	Articles Of Iron Or Steel, N.E.S.	$197,179
		6	65191	Metallized Textile Yarn, Or Strip (Or Straw) Not Over 5 Mm Wide, Combined With Metal In The Form Of Thread, Strip Or Powder Or Covered With Metal	$195,306
		7	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$135,902
		8	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$114,862
		9	58211	Plates, Sheets, Film, Foil, Tape And Other Flat Shapes Of Plastics, Self-Adhesive, In Rolls Not Exceeding 20 Cm Wide	$91,569
		10	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$85,422
		11	69941	Springs And Leaves For Springs, Of Iron Or Steel	$77,732
		12	64147	Kraft Paper And Paperboard, Uncoated, N.E.S., Weighing Over 150 G/M2 And Under 225 G/M2, In Rolls Or Sheets	$66,258
		13	87443	Spectrometers, Spectrophotometers And Spectrographs Using Optical Radiations (Ultraviolet, Visible, Infrared)	$63,642
		14	87478	Instruments And Apparatus For Measuring Or Checking Electrical Quantities, N.E.S.	$60,002
		15	62999	Articles Of Unhardened Noncellular Vulcanized Rubber, N.E.S.	$58,134
		16	51229	Acyclic Alcohols, N.E.S.	$58,027
		17	77824	Ultraviolet Or Infrared Lamps; Arc Lamps	$54,767
		18	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$47,726
		19	89281	Paper And Paperboard Labels Of All Kinds, Whether Or Not Printed	$42,386
		20	51243	Phenols And Phenol-Alcohols, N.E.S.	$41,496
		21	77324	Electrical Insulators Of Material Other Than Glass Or Ceramics	$39,029
		22	72846	Machinery For Treating Metal (Including Electric Wire Coil-Winders), N.E.S.	$36,379
		23	64157	Paper And Paperboard, N.E.S., Uncoated, Weighing Not Over 150 G/M2, In Rolls Or Sheets	$35,150
		24	51221	Ethylene Glycol (Ethanediol)	$28,904
		25	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$27,621
FABENS	SUBTOTAL				$7,841,657

HIDALGO					
		1	77220	Printed Circuits	$158,608,285
		2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$154,765,962
		3	77611	Television Picture Tubes, Color	$143,617,173
		4	77649	Electronic Integrated Circuits And Microassemblies, N.E.S.	$143,003,281
		5	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$95,638,066
		6	89399	Articles Of Plastics, N.E.S.	$90,472,572
		7	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$80,001,948
		8	77869	Parts Of Electrical Capacitors	$67,031,592
		9	76491	Parts Of Electrical Apparatus For Line Telephony Or Line Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$60,521,127
		10	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$60,162,553
		11	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$59,765,946
		12	77631	Diodes, Not Photosensitive Nor Light Emitting Diodes	$54,746,300
		13	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$54,705,343
		14	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$50,474,895
		15	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$45,242,990
		16	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$42,406,825
		17	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$39,630,158
		18	72849	Machinery Having Individual Functions, N.E.S.	$39,194,277
		19	77311	Insulated Electric Winding Wire	$38,233,820
		20	76383	Sound Reproducing Apparatus, N.E.S.	$37,483,055
		21	87325	Speedometers And Tachometers; Stroboscopes	$36,851,581
		22	87425	Measuring Or Checking Instruments, Appliances And Machines, N.E.S.; Profile Projectors	$34,738,852
		23	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$32,949,715
		24	84619	Clothing Accessories N.E.S., Parts Of Garments Or Clothing (Other Than Brassieres, Girdles, Corsets, Suspenders Etc.), Not Knitted Or Crocheted	$31,980,369
		25	77232	Fixed Electrical Resistors, N.E.S	$31,835,067
HIDALGO	SUBTOTAL				$1,684,061,752

LAREDO					
		1	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,630,416,472
		2	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$825,385,378
		3	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$716,580,799
		4	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$690,915,643
		5	76491	Parts Of Electrical Apparatus For Line Telephony Or Line Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$446,542,003
		6	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$385,588,481
		7	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$378,476,519
		8	62520	New Pneumatic Rubber Tires, Of A Kind Used On Buses And Trucks	$372,325,432
		9	26310	Cotton (Other Than Linters), Not Carded Or Combed	$350,401,149
		10	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$312,274,242
		11	77643	Nondigital Monolithic Integrated Units	$309,002,463
		12	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$291,513,088
		13	82119	Parts Of Seats, N.E.S.	$272,325,056
		14	68423	Aluminum And Aluminum Alloy Plates, Sheets And Strip, Over .2 Mm Thick	$246,208,747
		15	71323	Compression-Ignition Engines (Diesel Or Semi-Diesel), For Road Vehicles, Etc.	$225,899,296
		16	62510	New Pneumatic Rubber Tires, Of A Kind Used On Motor Cars (Including Station Wagons And Racing Cars)	$222,199,236
		17	72849	Machinery Having Individual Functions, N.E.S.	$198,217,423
		18	89399	Articles Of Plastics, N.E.S.	$196,541,735
		19	88230	Photographic Film In Rolls, Sensitised, Unexposed, Except Of Paper, Paperboard Or Textiles; Instant Print Film In Rolls, Sensitised, Unexposed	$187,341,663
		20	78434	Gear Boxes	$183,713,251
		21	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$175,493,228
		22	57112	Polyethylene, Having A Specific Gravity Of 0.94 Or More, In Primary Forms	$171,971,472
		23	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$164,715,228
		24	1112	Meat Of Bovine Animals, Boneless, Fresh Or Chilled	$163,180,435
		25	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$156,667,519
LAREDO	SUBTOTAL				$9,273,895,958

PRESIDIO

		1	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$8,346,584
		2	68412	Aluminum Alloys, Unwrought	$6,650,149
		3	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$5,792,183
		4	29252	Seeds Of Forage Plants, Other Than Beet Seed	$5,651,399
		5	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$3,869,347
		6	72839	Parts Of Machinery For Sorting, Washing, Crushing Or Mixing Earth, Stone, Ores Etc., And For Shaping Solid Mineral Fuels, Ceramic Pastes Etc.	$2,560,614
		7	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$2,331,848
		8	89429	Toys, N.E.S.	$1,870,406
		9	89425	Toys Representing Animals Or Non-Human Creatures	$1,562,288
		10	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,438,695
		11	89424	Construction Sets And Constructional Toys	$1,364,254
		12	4120	Wheat (Including Spelt) And Meslin, Unmilled, N.E.S.	$1,310,564
		13	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$1,308,585
		14	72249	Wheeled Tractors, N.E.S.	$1,250,580
		15	89422	Dolls Representing Only Human Beings, Whether Or Not Dressed	$1,089,727
		16	53351	Prepared Pigments, Opacifiers And Colors, Vitrifiable Enamel Etc. Used In Ceramic, Enameling And Glass Industry; Glass Frit, Powder, Granules Or Flake	$959,506
		17	72122	Combine Harvester-Threshers	$933,075
		18	59226	Dextrins And Other Modified Starches	$926,630
		19	74564	Agricultural Or Horticultural Appliances For Projecting, Dispersing Or Spraying Liquids Or Powders	$911,177
		20	72123	Harvesting And Threshing Machinery, N.E.S.; Mowers, N.E.S. (Other Than Mowers For Lawns, Parks Or Sports Grounds)	$862,222
		21	56200	Fertilizers (Exports Include Group 272; Imports Exclude Group 272)	$819,268
		22	62542	New Pneumatic Rubber Tires, Of A Kind Used On Bicycles	$795,528
		23	72121	Mowers For Lawns, Parks Or Sports Grounds	$647,132
		24	62559	New Pneumatic Rubber Tires, N.E.S.	$604,075
		25	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$586,082
PRESIDIO	SUBTOTAL				$54,441,918

PROGRESO

1	4530	Grain Sorghum, Unmilled	$44,603,330
2	64169	Paper, Creped, Crinkled, Embossed Or Perforated, N.E.S., In Rolls Or Sheets	$9,502,737
3	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$8,128,421
4	4814	Worked Cereal Grains N.E.S. (E.G. Hulled, Pearled, Clipped, Sliced Or Kibbled), Except Semi-Milled Or Wholly Milled Rice	$6,502,539
5	5423	Beans, Other Than Broad Beans And Horse Beans, Dried, Shelled	$4,738,009
6	8133	Oil-Cake And Other Solid Residues (Except Dregs), Whether Ground Or In The Form Of Pellets, From The Extraction Of Fats Or Oils From Cottonseeds	$3,386,985
7	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$2,299,086
8	22230	Cottonseeds	$2,116,190
9	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$1,945,745
10	67941	Iron And Steel Line Pipe Used For Oil Or Gas Pipelines, N.E.S.	$1,739,815
11	65773	Textile Products And Articles, For Technical Uses	$1,388,356
12	8151	Residues Of Starch Manufacture And Similar Residues	$1,289,125
13	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$944,450
14	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$757,445
15	61181	Chamois (Including Combination Chamois) Leather	$737,153
16	53341	Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Ar Aqueous Medium	$698,316
17	59227	Glues Based On Starches, Dextrins Or Other Modified Starches	$662,130
18	61130	Whole Bovine Skin Leather (Without Hair), With A Surface Area Not Over 28 Sq. Ft, (2,6 M2), Not Specially Dressed Or Finished	$660,654
19	8129	Bran, Sharps And Other Residues Derived From The Sifting, Milling Or Other Working Of Cereals, N.E.S.	$631,944
20	64299	Articles Of Paper Pulp, Paper, Paperboard, Cellulose Wadding Or Webs Of Cellulose Fibers, N.E.S.	$599,801
21	58299	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Noncellular	$556,923
22	53329	Printing Ink, Other Than Black	$537,455
23	58221	Plates, Sheets, Film, Foil And Strip Of Polymers Of Ethylene, Not Self-Adhesive And Not Reinforced, Laminated, Etc.	$535,649
24	89399	Articles Of Plastics, N.E.S.	$502,673
25	65314	Woven Manmade Textile Fabrics, N.E.S., Not Under 85% (Weight) Filaments Of Nylon Or Other Polyamides (Other Than Pile, Chenille, Narrow Etc. Fabrics)	$462,360
PROGRESO	SUBTOTAL		$95,927,291

RIO GRANDE

			Gold (Including Gold Plated With Platinum), Nonmonetary,	
	1	97101	Unwrought Or In Semimanufactured Forms Or In Powder Form	$17,822,612
	2	4530	Grain Sorghum, Unmilled	$16,212,663
			Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of	
	3	25111	Corrugated Paper Of Paperboard	$11,135,371
			Synthetic Or Reconstructed Precious Or Semiprecious Stones,	
			N.E.S., Not Strung, Mounted, Or Set (Including Ungraded Stones	
	4	66749	Strung Only For Transport)	$5,323,693
			Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals	
	5	89731	Clad With Precious Metals (Except Watches And Watch Cases)	$5,110,811
	6	59899	Chemical Products And Preparations, N.E.S.	$3,755,669
			Ceramic Wares (Laboratory, Chemical Etc.) For Technical Use;	
			Ceramic Receptacles Used In Agriculture; Ceramic Containers For	
	7	66391	Transport Or Packing	$3,391,303
	8	28799	Base Metal Ores And Concentrates, N.E.S.	$1,568,035
	9	67942	Iron And Steel Casing And Tubing, Used In Drilling For Oil Or Gas	$1,367,528
			Export Shipments Valued Not Over $10,000 (Thru March 1998) And	
	10	99200	Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,300,263
			Mucilages And Thickeners (Whether Or Not Modified), Derived	
	11	29296	From Vegetable Products	$1,226,360
	12	64141	Kraft Paper, Uncoated, N.E.S., In Rolls Or Sheets	$1,160,825
			Waste And Scrap Of Paper And Paperboard, N.E.S. (Including	
	13	25119	Unsorted Waste And Scrap)	$1,112,233
			Babies' Garments And Clothing Accessories Of Textile Fabrics, Not	
	14	84511	Knitted Or Crocheted	$1,077,535
	15	78320	Road Tractors For Semi-Trailers	$1,016,501
			Parts Of Electrical Apparatus For Line Telephony Or Line	
	16	76491	Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$966,569
			Woven Pile And Chenille Fabrics, N.E.S., Of Textile Materials Other	
			Than Wool, Cotton And Manmade Fibers (Excluding Narrow	
	17	65495	Fabrics)	$908,022
	18	76383	Sound Reproducing Apparatus, N.E.S.	$885,120
	19	72344	Boring And Sinking Machinery, N.E.S., Not Self-Propelled	$860,000
	20	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$746,353
	21	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$653,966
			Singlets (Undershirts), Briefs, Panties, Negligees, Bathrobes,	
			Dressing Gowns And Similar Articles Of Woven Textile Fabrics,	
	22	84289	Women'S Or Girls'	$642,629
			Special Transactions And Commodities Not Classified According To	
	23	93100	Kind	$615,160
			Refractory Ceramic Goods (Retorts, Crucibles, Muffles, Nozzles,	
	24	66370	Plugs, Etc.), N.E.S.	$565,339
			Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics,	
	25	84483	Women'S Or Girls'	$450,299
RIO GRANDE	SUBTOTAL			$79,874,859

ROMA

1	65222	Cotton Woven Fabrics, N.E.S., Unbleached, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$14,634,478
2	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$10,180,797
3	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$8,050,582
4	65241	Cotton Woven Fabrics, N.E.S., Bleached, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$6,924,579
5	89431	Video Games Of A Kind Used With A Television Receiver	$3,318,587
6	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$2,142,828
7	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,985,107
8	71392	Parts, N.E.S., Suitable For Use Solely Or Principally With Compression-Ignition Internal Combustion Piston Engines	$1,447,182
9	74439	Derricks, Cranes, Etc. N.E.S., Not Self-Propelled	$1,426,303
10	11241	Whiskey	$1,323,243
11	81100	Prefabricated Buildings	$1,231,369
12	74832	Articulated Chain, N.E.S.	$1,212,712
13	76481	Reception Apparatus For Radiotelephony Or Radiotelegraphy, N.E.S.	$1,007,925
14	72329	Self-Propelled Mechanical Shovels, Excavators And Shovel-Loaders, N.E.S.	$992,826
15	65613	Narrow Woven Fabrics, N.E.S.	$890,955
16	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$853,067
17	88210	Chemicals Prepared For Photographic Use (Except Varnish, Glue, Etc.); Unmixed Products For Photo Use In Measured Portions Or Ready To Use Retail Packs	$765,289
18	1235	Poultry Cuts (Of Chickens, Ducks, Geese, Turkeys And Guineas) And Offal, Frozen	$749,376
19	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$702,095
20	73318	Presses For Working Metal Or Metal Carbides, N.E.S.	$695,500
21	78221	Mobile Cranes	$691,500
22	68711	Tin, Unwrought (Not Alloyed)	$688,708
23	72322	Mechanical Shovels, Excavators And Shovel Loaders With A 360 Degree Revolving Superstructure, Self-Propelled	$634,500
24	74155	Air Conditioning Machines, N.E.S.	$603,924
25	65359	Woven Fabrics Of Artificial Filament Yarn, N.E.S. (Other Than Pile Or Chenille And Narrow Or Special Fabrics)	$570,493
ROMA	**SUBTOTAL**		$63,723,925
TEXAS TOP 25 TOTAL EXPORT ACTIVITY			$22,124,695,802

U.S. IMPORTS FROM MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$364,350,677
	2	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$306,813,258
	3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$258,648,358
	4	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$211,055,232
	5	76383	Sound Reproducing Apparatus, N.E.S.	$206,960,838
	6	77123	Ballasts For Discharge Lamps Or Tubes	$189,702,855
	7	93100	Special Transactions And Commodities Not Classified According To Kind	$185,950,939
	8	77862	Tantalum Fixed Capacitors	$162,374,258
	9	77121	Static Converters (E.G., Rectifiers)	$151,506,420
	10	76212	Radiobroadcast Receivers, Not Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$128,326,647
	11	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$127,489,094
	12	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$105,732,448
	13	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$90,551,971
	14	3611	Shrimps And Prawns, Frozen	$82,239,021
	15	77119	Electric Transformers, N.E.S.	$72,288,410
	16	67553	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm Wide, Over 1 Mm But Under 3 Mm Thick	$72,024,557
	17	52236	Inorganic Acids, N.E.S.	$56,996,769
	18	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$53,858,703
	19	77635	Thyristors, Diacs And Triacs (Excluding Photosensitive Devices)	$52,821,874
	20	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$50,583,804
	21	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$49,537,241
	22	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$46,653,306
	23	23211	Styrene-Butadiene Rubber (Sbr); Carboxylated Styrene-Butadiene Rubber (Xsbr), In Primary Forms Or In Plates, Etc.	$40,795,877
	24	67554	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm, Not Under .5 Mm But Not Over 1 Mm Thick	$40,773,329
	25	89399	Articles Of Plastics, N.E.S.	$38,425,451
BROWNSVILLE	SUBTOTAL			$3,146,461,337

DEL RIO

			Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In	
	1	77313	Vehicles, Aircraft Or Ships	$342,421,465
	2	82119	Parts Of Seats, N.E.S.	$181,511,650
			Parts N.E.S. For Use Solely Or Principally With Electric Motors,	
	3	71690	Electric Generators, Electric Generating Sets And Rotary Converters	$67,148,336
	4	74319	Air Or Vacuum Pumps, N.E.S.	$49,523,371
			Special Transactions And Commodities Not Classified According To	
	5	93100	Kind	$44,056,420
			Other Parts And Accessories Of Motor Vehicle Bodies Of Headings	
	6	78432	8701 To 8705 (Including Cabs)	$43,243,339
			Food Grinders And Mixers; Fruit Or Vegetable Juice Extractors,	
	7	77572	Electromechanical, Domestic	$43,140,553
	8	74720	Valves For Oleohydraulic Or Pneumatic Transmissions	$34,343,172
			Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not	
	9	77259	Exceeding 1,000 V	$31,166,686
			Electric Sound Or Visual Signaling Apparatus, N.E.S., Including	
	10	77884	Sirens, Indicator Panels, Burglar And Fire Alarms	$28,065,805
			Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art;	
	11	85190	Gaiters, Etc Pts Thereof	$27,410,114
	12	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$23,815,894
			Footwear, N.E.S., With Outer Soles Of Rubber Or Plastics And	
	13	85151	Uppers Of Tex Tile Materials	$20,481,882
	14	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$14,072,629
			Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc.	
	15	72399	(Heading 744.3)	$13,654,160
			Metal Structures And Parts N.E.S. Of Aluminum; Prepared Plates,	
	16	69129	Rods Etc. Of Aluminum For Use In Structures	$13,036,794
	17	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$11,836,680
			Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of	
	18	65893	Textile Materials	$9,446,567
			Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And	
	19	77829	Arc Lamps	$9,285,798
	20	89963	Orthopedic Or Fracture Appliances, Including Artificial Joints	$9,101,577
	21	77119	Electric Transformers, N.E.S.	$8,774,346
	22	74492	Parts Of Lifting And Handling Machinery	$8,681,130
	23	89399	Articles Of Plastics, N.E.S.	$8,164,183
	24	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$7,093,342
			Parts Of Electric Power Machinery (Other Than Rotating Electric	
	25	77129	Power Generating Machinery And Equipment), And Parts Thereof	$6,988,554
DEL RIO	SUBTOTAL			$1,056,464,447

EAGLE PASS

	1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$897,654,091
	2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$363,814,351
	3	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$358,301,038
	4	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$261,376,179
	5	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$235,978,701
	6	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$224,903,768
	7	69941	Springs And Leaves For Springs, Of Iron Or Steel	$215,907,995
	8	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$153,249,719
	9	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$82,767,654
	10	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$56,479,836
	11	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$53,394,250
	12	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$52,845,039
	13	84621	Panty Hose And Tights	$50,332,354
	14	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$42,728,083
	15	79182	Railway Or Tramway Goods Vans And Wagons (Freight Cars) Not Self-Propelled	$38,155,794
	16	93100	Special Transactions And Commodities Not Classified According To Kind	$31,793,889
	17	77119	Electric Transformers, N.E.S.	$27,837,280
	18	67413	Iron And Nonalloy Steel Flat-Rolled Products, Plated Etc. With Zinc, N.E.S., Not Under 600 Mm Wide	$27,362,790
	19	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$24,965,946
	20	82119	Parts Of Seats, N.E.S.	$22,950,789
	21	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$20,187,182
	22	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$19,539,031
	23	84151	Shirts Of Woven Cotton Materials, Men'S Or Boys'	$17,877,373
	24	62920	Conveyor Or Transmission Belts Or Belting, Of Vulcanized Rubber	$13,270,084
	25	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$13,140,653
EAGLE PASS	SUBTOTAL			$3,306,813,869

EL PASO					
				Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or	
		1	76110	Reproducing Apparatus	$2,240,925,359
		2	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$2,198,608,383
		3	82119	Parts Of Seats, N.E.S.	$1,018,565,414
		4	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$896,629,632
		5	93100	Special Transactions And Commodities Not Classified According To Kind	$747,701,107
		6	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$487,312,743
		7	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$455,169,632
		8	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$383,861,270
		9	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$362,992,975
		10	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$358,567,626
		11	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$324,620,728
		12	87325	Speedometers And Tachometers; Stroboscopes	$323,808,952
		13	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$316,652,358
		14	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$204,306,322
		15	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$193,317,063
		16	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$189,014,230
		17	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$187,522,755
		18	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$163,644,503
		19	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$150,234,532
		20	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$140,556,703
		21	68212	Refined Copper	$134,412,966
		22	84521	Garments Made Up Of Felt Or Other Nonwoven Textile Fabrics, Whether Or Not Impregnated, Coated, Covered Or Laminated	$131,418,395
		23	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$130,847,764
		24	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$129,799,742
		25	77123	Ballasts For Discharge Lamps Or Tubes	$128,892,083
EL PASO	SUBTOTAL				$11,999,383,237

HIDALGO

		1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$511,071,973
		2	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$431,542,138
		3	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$420,188,003
		4	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$316,317,934
		5	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$207,914,616
		6	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$190,439,265
		7	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$143,702,243
		8	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$117,560,382
		9	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$101,948,059
		10	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$99,671,522
		11	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$93,555,917
		12	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$88,443,471
		13	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$73,619,492
		14	93100	Special Transactions And Commodities Not Classified According To Kind	$71,380,705
		15	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$70,858,502
		16	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$51,569,275
		17	87325	Speedometers And Tachometers; Stroboscopes	$51,130,014
		18	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$50,879,077
		19	77121	Static Converters (E.G., Rectifiers)	$49,639,846
		20	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$49,057,160
		21	5910	Orange Juice, Unfermented And Not Containing Added Spirit	$48,036,883
		22	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$47,707,561
		23	84482	Briefs And Panties, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$47,505,803
		24	89212	Children'S Picture, Drawing Or Coloring Books	$46,741,931
		25	76212	Radiobroadcast Receivers, Not Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$44,627,242
HIDALGO	SUBTOTAL				$3,425,109,014

LAREDO					
		1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$3,724,936,146
		2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$2,838,269,387
		3	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,282,506,039
		4	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$916,035,329
		5	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$696,980,199
		6	93100	Special Transactions And Commodities Not Classified According To Kind	$468,693,918
		7	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$451,482,685
		8	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$387,891,146
		9	76411	Telephone Sets	$376,642,976
		10	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$349,822,860
		11	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$338,526,808
		12	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$312,380,921
		13	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$305,564,110
		14	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$300,740,089
		15	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$288,545,584
		16	78410	Chassis Fitted With Engines, For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles N.E.S.	$270,368,013
		17	7111	Coffee, Not Roasted, Not Decaffeinated	$265,625,408
		18	69731	Domestic Cooking Appliances (Gas Ranges, Barbecues, Etc.) And Plate Warmers, Nonelectric, Of Iron Or Steel	$244,247,164
		19	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$230,457,276
		20	68113	Silver (Including Gold And Platinum Plated Silver), Unwrought	$229,174,818
		21	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$203,800,974
		22	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$180,433,477
		23	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$178,305,738
		24	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$176,336,124
		25	82119	Parts Of Seats, N.E.S.	$173,753,810
LAREDO	SUBTOTAL				$15,191,520,999

PRESIDIO

	1	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$44,998,531
	2	78520	Bicycles And Other Cycles (Including Delivery Tricycles), Not Motorized	$37,037,387
	3	5779	Edible Nuts (Excluding Mixtures), Fresh Or Dried, N.E.S., Whether Or Not Shelled Or Peeled	$16,767,454
	4	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$4,252,608
	5	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$3,866,279
	6	93100	Special Transactions And Commodities Not Classified According To Kind	$2,622,150
	7	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$2,126,811
	8	69969	Articles Of Iron Or Steel, N.E.S.	$1,585,580
	9	78629	Trailers And Semi-Trailers For The Transport Of Goods, N.E.S.	$894,429
	10	67959	Iron And Steel Tube And Pipe Fittings, N.E.S.	$796,016
	11	64176	Kraft Paper And Paperboard, Coated, Etc., Whether Or Not Serface-Colored Or Surface-Decorated, Etc. N,E,S,. In Rolls Or Sheets	$635,545
	12	66122	Portland Cement	$632,928
	13	22211	Groundnuts (Peanuts), Not Roasted Or Otherwise Cooked, In The Shell	$401,305
	14	5459	Vegetables, N.E.S. Fresh Or Chilled	$345,648
	15	53351	Prepared Pigments, Opacifiers And Colors, Vitrifiable Enamel Etc. Used In Ceramic, Enameling And Glass Industry; Glass Frit, Powder, Granules Or Flake	$332,802
	16	7513	Fruits Of The Genus Capsicum Or Of The Genus Pimenta, Dried Or Crushed Or Ground	$247,504
	17	56214	Fertilizers, Double Salts And Mixtures Of Calcium Nitrate And Ammonium Nitrate, (Imports Only)	$171,302
	18	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$146,252
	19	68272	Copper Tube And Pipe Fittings (E.G. Couplings, Elbows And Sleeves)	$138,509
	20	78320	Road Tractors For Semi-Trailers	$100,000
	21	65759	Articles Of Artificial And Synthetic Textile Monofilaments, Strip, Etc., And Twine, Cordage Or Rope, N.E.S.	$89,439
	22	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$80,291
	23	72230	Track-Laying Tractors	$62,305
	24	84250	Skirts And Divided Skirts Of Woven Textile Fabrics, Women'S Or Girls'	$61,016
	25	89311	Sacks And Bags (Including Cones) Of Plastics	$59,735
PRESIDIO	SUBTOTAL			$118,451,826

PROGRESO					
		1	76383	Sound Reproducing Apparatus, N.E.S.	$25,000,504
		2	76499	Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$17,640,656
		3	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$7,092,024
		4	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$3,979,557
		5	26320	Cotton Linters	$2,375,471
		6	5451	Onions And Shallots, Fresh Or Chilled	$837,334
		7	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$737,493
		8	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$731,020
		9	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$171,336
		10	87325	Speedometers And Tachometers; Stroboscopes	$158,452
		11	79295	Parts Of Airplanes Or Helicopters, N.E.S.	$145,163
		12	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$112,983
		13	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$86,033
		14	66595	Signalling Glassware And Optical Elements Of Glass (Other Than Elements For Spectacles) Not Optically Worked	$77,794
		15	5455	Carrots, Turnips, Salad Beetroot, Salsify, Celeriac, Radishes And Similar Edible Roots, Fresh Or Chilled	$57,020
		16	89311	Sacks And Bags (Including Cones) Of Plastics	$48,177
		17	89332	Tableware, Kitchenware, Other Household Articles And Toilet Articles Of Plastics	$45,558
		18	93100	Special Transactions And Commodities Not Classified According To Kind	$41,175
		19	77884	Electric Sound Or Visual Signaling Apparatus, N.E.S., Including Sirens, Indicator Panels, Burglar And Fire Alarms	$32,935
		20	76483	Radar Apparatus, Radio Navigational Aid Apparatus And Radio Remote Control Apparatus	$32,610
		21	5459	Vegetables, N.E.S. Fresh Or Chilled	$32,001
		22	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$29,573
		23	24502	Wood Charcoal (Including Shell Or Nut Charcoal), Whether Or Not Agglomerat Ed	$26,646
		24	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$22,058
		25	5453	Cabbage And Similar Edible Brassicas, Fresh Or Chilled	$19,090
PROGRESO	SUBTOTAL				$59,532,663

RIO GRANDE

			Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals	
	1	89731	Clad With Precious Metals (Except Watches And Watch Cases)	$23,632,822
			Gold Waste And Scrap (Including Metal Clad With Gold But	
	2	97103	Excluding Sweepings Containing Other Precious Metals)	$6,867,909
	3	66331	Articles Of Plaster Or Of Compositions Based On Plaster	$6,060,289
			Inorganic Bases N.E.S.; Metal Oxides, Hydroxides And Peroxides,	
	4	52269	N.E.S.	$5,047,953
			Wire Cloth (Including Endless Bands), Grill, Netting And Fencing,	
	5	69351	And Expanded Metal, Of Iron Or Steel	$3,215,054
			Babies' Garments And Clothing Accessories Of Textile Fabrics, Not	
	6	84511	Knitted Or Crocheted	$3,099,684
	7	5459	Vegetables, N.E.S. Fresh Or Chilled	$2,881,638
	8	5791	Melons (Including Watermelons) And Papaws (Papayas), Fresh	$2,361,286
			Singlets (Undershirts), Briefs, Panties, Negligees, Bathrobes,	
			Dressing Gowns And Similar Articles Of Woven Textile Fabrics,	
	9	84289	Women'S Or Girls'	$1,415,134
			Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed	
	10	66245	Ceramic Mosaic Cubes And The Like	$1,358,930
	11	5798	Fruit, Fresh, N.E.S.	$1,274,460
			Gold (Including Gold Plated With Platinum), Nonmonetary,	
	12	97101	Unwrought Or In Semimanufactured Forms Or In Powder Form	$877,576
			Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics,	
	13	84483	Women'S Or Girls'	$713,375
			Special Transactions And Commodities Not Classified According To	
	14	93100	Kind	$697,569
			Parts And Accessories N.E.S. For Tractors, Motor Cars And Other	
			Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor	
	15	78439	Vehicles, N.E.S.	$622,350
	16	5730	Bananas (Including Plantains), Fresh Or Dried	$593,716
			Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or	
	17	5469	Cooked By Steaming Or Boiling In Water), Frozen	$501,077
			Parts Of Television Receivers, Radiobroadcast Receivers,	
			Transmission Apparatus For Radio Telephony, Telegraphy,	
	18	76493	Broadcasting Or Television Etc.	$358,808
			Parts N.E.S., Of Lamps And Lighting Fittings, N.E.S., And Parts Of	
			Illuminated Signs And Nameplates, Etc., Of Materials Other Than	
	19	81399	Glass Or Plastics	$316,665
			Monumental Or Building Stone (Except Slate), N.E.S. And Articles	
			Thereof, Molded, Turned, Polished, Decorated, Carved Or	
	20	66139	Otherwise Worked	$314,027
	21	5451	Onions And Shallots, Fresh Or Chilled	$311,937
			Negligees, Bathrobes, Dressing Gowns And Similar Articles, Of	
	22	84489	Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$309,718
	23	67650	Bars And Rods Of Iron Or Steel, N.E.S.	$260,623
			Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And	
	24	84587	Boys'	$246,840
			Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles;	
	25	66244	Unglazed Ceramic Mosaic Cubes And The Like	$242,394
RIO GRANDE	SUBTOTAL			$63,581,834

ROMA

1	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$17,535,047
2	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$13,629,517
3	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$6,588,720
4	93100	Special Transactions And Commodities Not Classified According To Kind	$4,929,763
5	29299	Vegetable Materials And Vegetable Products, N.E.S.	$2,023,503
6	66241	Ceramic Building Bricks, Flooring Blocks, Support Or Filler Tiles And The Like	$1,105,006
7	83199	Binocular Cases, Camera Cases, Musical Instrument Cases, Etc. Of Leather, Plastic Sheeting, Textiles, Etc., N.E.S.	$894,241
8	66332	Building Blocks And Bricks, Tiles, Flagstones And Similar Articles Of Cement, Concrete Or Artificial Stone	$824,080
9	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$678,668
10	77119	Electric Transformers, N.E.S.	$596,452
11	66244	Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Unglazed Ceramic Mosaic Cubes And The Like	$559,066
12	89861	Magnetic Tapes, Recorded, Of A Width Not Exceeding 4 Mm, For Sound Or Image	$351,622
13	5459	Vegetables, N.E.S. Fresh Or Chilled	$324,121
14	78431	Bumpers And Parts Thereof, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$206,125
15	5798	Fruit, Fresh, N.E.S.	$193,610
16	67650	Bars And Rods Of Iron Or Steel, N.E.S.	$188,063
17	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$161,365
18	82112	Seats Of A Kind Used For Motor Vehicles	$148,501
19	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$140,693
20	69969	Articles Of Iron Or Steel, N.E.S.	$133,394
21	87461	Thermostats	$112,754
22	33419	Light Oils From Petroleum Or Bituminous Minerals (Other Than Crude), And Products Therefrom Containing 70% (By Wt) Or More Of These Light Oils, N.E.S.	$102,995
23	89471	Fishing Rods, Hooks, Other Tackle And Landing Nets; Butterfly Etc. Nets; Decoys (Not Collectors Items Or Decoy Calls); Hunting Etc. Requisites, N.E.S.	$102,230
24	6229	Sugar Confectionery (Including White Chocolate), Not Containing Cocoa, N.E.S.	$98,778
25	82159	Furniture, N.E.S., Of Wood, N.E.S. (Other Than Of A Kind Used In Offices, Kitchens, Or Bedrooms)	$90,524
ROMA	SUBTOTAL		$51,718,838
TEXAS TOP 25 TOTAL IMPORT ACTIVITY			$38,419,038,064

TEXAS TOP 25 TOTAL U.S./MEXICO TRADE ACTIVITY $60,543,733,866

Last Updated on October 20 | 2003
By TCBEED
Source: U.S. Department of Commerce Bureau of the Census, Foreign Trade Division

Appendix A-2

Texas Center for Border Economic & Enterprise Development TOP 25 EXPORTS AND IMPORTS THROUGH TEXAS PORTS
U.S./MEXICO TRADE ACTIVITY JAN-DEC-1999
U.S. EXPORTS TO MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	77869	Parts Of Electrical Capacitors	$273,893,739
	2	77867	Fixed Capacitors, N.E.S.	$256,125,182
	3	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$217,443,864
	4	69969	Articles Of Iron Or Steel, N.E.S.	$216,595,839
	5	77220	Printed Circuits	$179,891,788
	6	76383	Sound Reproducing Apparatus, N.E.S.	$169,336,045
	7	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$163,929,294
	8	89399	Articles Of Plastics, N.E.S.	$150,250,799
	9	22220	Soybeans	$144,164,954
	10	77645	Hybrid Integrated Circuits	$110,794,682
	11	77641	Digital Monolithic Integrated Units	$101,260,657
	12	77129	Parts Of Electric Power Machinery (Other Than Rotating Electric Power Generating Machinery And Equipment), And Parts Thereof	$81,559,146
	13	76499	Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$79,317,201
	14	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$72,622,845
	15	77631	Diodes, Not Photosensitive Nor Light Emitting Diodes	$63,177,065
	16	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$61,625,112
	17	33452	Petroleum Lubricating Oils And Oils From Bituminous Materials; Preparations With These Oils As Basic Constituent, Except Condensate From Natural Gas	$51,479,824
	18	26310	Cotton (Other Than Linters), Not Carded Or Combed	$50,432,192
	19	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$48,803,598
	20	34420	Gaseous Hydrocarbons, Liquefied, N.E.S.	$47,950,060
	21	77868	Variable Or Adjustable (Pre-Set) Capacitors	$47,779,038
	22	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$47,485,521
	23	51614	Methyloxirane (Propylene Oxide)	$45,415,612
	24	59899	Chemical Products And Preparations, N.E.S.	$44,361,900
	25	57111	Polyethylene, Having A Specific Gravity Of Less Than 0.94, In Primary Forms	$44,200,738
BROWNSVILLE				$2,769,896,695

DEL RIO				
	1	82119	Parts Of Seats, N.E.S.	$84,048,078
	2	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$59,151,980
	3	89399	Articles Of Plastics, N.E.S.	$58,116,632
	4	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$56,393,301
	5	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$51,727,749
	6	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$38,982,249
	7	77328	Insulating Fittings For Electrical Machines, Appliances Or Equiptment, Of Plastic Materials, But Not Including The Insulators	$38,801,984
	8	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$35,222,945
	9	77821	Filament Lamps (Other Than Flashbulbs, Infrared And Ultraviolet Lamps And Sealed Beam Lamp Units)	$32,277,393
	10	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$32,124,980
	11	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$32,107,567
	12	65343	Woven Fabrics, Under 85% (Weight) Synthetic Staple Fibers Mixed Mainly With Fibers Except Cotton, Wool, Etc., Or Manmade Filaments (No Pile Etc.)	$31,912,839
	13	69312	Stranded Wire, Ropes, Cables, Etc. Of Copper, Not Electrically Insulated	$27,805,160
	14	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$26,304,011
	15	77311	Insulated Electric Winding Wire	$24,924,158
	16	77254	Relays For Electrical Apparatus Used With Electrical Circuits Not Exceeding 1,000 Volts	$23,991,301
	17	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$23,110,378
	18	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$23,059,258
	19	65315	Woven Manmade Textile Fabrics, N.E.S., Not Under 85% (Weight) Textured Filaments Of Polyester (Other Than Pile Or Chenille And Narrow Etc. Fabrics)	$21,348,807
	20	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$19,856,264
	21	77579	Parts Of Electromechanical Domestic Appliances With Self-Contained Electricmotor	$18,071,444
	22	121	Sheep, Live	$18,013,453
	23	74492	Parts Of Lifting And Handling Machinery	$17,666,025
	24	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$16,727,476
	25	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$16,583,158
DEL RIO				$828,328,590

EAGLE PASS

1	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$297,333,666
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$286,594,167
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$245,585,754
4	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$220,243,838
5	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$192,352,013
6	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$172,739,813
7	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$97,644,832
8	79199	Parts Of Railway Or Tramway Locomotives Or Rolling Stock Railway Vehicles; Parts Of Railway Or Tramway Coaches, Vans, Trucks, Service Vehicles, Etc.	$91,014,148
9	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$82,884,129
10	34210	Propane, Liquefied	$59,969,168
11	78434	Gear Boxes	$59,068,328
12	32121	Bituminous Coal, Pulverized Or Not, But Not Agglomerated	$58,006,177
13	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$56,538,494
14	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$56,327,044
15	22220	Soybeans	$54,439,021
16	79121	Diesel-Electric Locomotives	$48,575,800
17	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$46,395,310
18	69915	Mountings, Fittings And Similar Articles For Motor Vehicles, N.E.S., Of Base Metal	$40,266,039
19	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$37,065,676
20	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$36,780,729
21	21111	Hides And Skins (Excluding Those Of Heading 211.2) Of Bovine Animals, Fresh Or Wet-Salted	$36,131,215
22	65243	Cotton Woven Fabrics, N.E.S., Denim, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$33,198,670
23	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$29,528,301
24	69969	Articles Of Iron Or Steel, N.E.S.	$26,828,593
25	84621	Panty Hose And Tights	$25,885,462
EAGLE PASS			$2,391,396,387

EL PASO

1	89399	Articles Of Plastics, N.E.S.	$606,292,698
2	77641	Digital Monolithic Integrated Units	$421,794,999
3	77611	Television Picture Tubes, Color	$395,791,331
4	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$363,167,620
5	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$266,587,355
6	69969	Articles Of Iron Or Steel, N.E.S.	$240,782,591
7	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$235,854,154
8	77645	Hybrid Integrated Circuits	$234,815,487
9	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$219,530,554
10	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$197,040,267
11	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$178,466,528
12	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$177,221,655
13	77621	Television Camera Tubes; Image Converters And Intensifiers; Other Photocathode Tubes	$168,795,093
14	72849	Machinery Having Individual Functions, N.E.S.	$161,633,309
15	77311	Insulated Electric Winding Wire	$158,386,326
16	77220	Printed Circuits	$157,674,964
17	61142	Bovine Leather N.E.S. And Equine Leather (Without Hair), Parchment-Dressed Or Prepared After Tanning	$140,354,482
18	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$139,788,203
19	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$131,075,441
20	82119	Parts Of Seats, N.E.S.	$129,184,049
21	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$128,428,493
22	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$120,538,345
23	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$119,911,792
24	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$118,427,765
25	65720	Nonwovens, Whether Or Not Impregnated, Coated, Covered Or Laminated, N.E.S.	$116,686,266
EL PASO			$5,328,229,767

FABENS				
	1	57292	Acrylonitrile-Butadiene-Styrene (Abs) Copolymers, In Primary Forms	$49,577
	2	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$15,477
	3	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$11,055
FABENS				$76,109
HIDALGO				
	1	75270	Storage Units, Whether Or Not Presented With The Rest Of The System For Data Processing	$226,419,194
	2	77611	Television Picture Tubes, Color	$198,386,464
	3	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$182,150,381
	4	77220	Printed Circuits	$174,278,661
	5	77649	Electronic Integrated Circuits And Microassemblies, N.E.S.	$149,664,475
	6	77643	Nondigital Monolithic Integrated Units	$134,391,496
	7	89399	Articles Of Plastics, N.E.S.	$125,809,696
	8	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$107,950,879
	9	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$97,914,925
	10	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$78,869,947
	11	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$78,592,529
	12	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$63,606,040
	13	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$58,455,291
	14	77869	Parts Of Electrical Capacitors	$55,836,890
	15	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$54,365,902
	16	76383	Sound Reproducing Apparatus, N.E.S.	$50,143,381
	17	74319	Air Or Vacuum Pumps, N.E.S.	$49,219,775
	18	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$48,772,414
	19	69969	Articles Of Iron Or Steel, N.E.S.	$46,512,847
	20	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$43,898,084
	21	33411	Gasoline Including Aviation (Except Jet) Fuel	$41,368,552
	22	77232	Fixed Electrical Resistors, N.E.S	$38,194,835
	23	72849	Machinery Having Individual Functions, N.E.S.	$36,310,931
	24	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$35,390,697
	25	65613	Narrow Woven Fabrics, N.E.S.	$34,210,117
HIDALGO				$2,210,714,403

LAREDO

1	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,918,956,193
2	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$1,493,231,919
3	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$707,444,717
4	71323	Compression-Ignition Engines (Diesel Or Semi-Diesel), For Road Vehicles, Etc.	$438,882,356
5	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$397,262,539
6	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$388,172,182
7	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$378,995,150
8	76491	Parts Of Electrical Apparatus For Line Telephony Or Line Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$359,264,541
9	77643	Nondigital Monolithic Integrated Units	$321,626,793
10	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$310,322,920
11	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$286,860,004
12	82119	Parts Of Seats, N.E.S.	$280,474,348
13	62520	New Pneumatic Rubber Tires, Of A Kind Used On Buses And Trucks	$258,346,968
14	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$221,901,098
15	72849	Machinery Having Individual Functions, N.E.S.	$220,162,112
16	62510	New Pneumatic Rubber Tires, Of A Kind Used On Motor Cars (Including Station Wagons And Racing Cars)	$219,823,483
17	89399	Articles Of Plastics, N.E.S.	$211,254,603
18	26310	Cotton (Other Than Linters), Not Carded Or Combed	$209,423,454
19	68423	Aluminum And Aluminum Alloy Plates, Sheets And Strip, Over .2 Mm Thick	$208,620,401
20	1112	Meat Of Bovine Animals, Boneless, Fresh Or Chilled	$207,225,287
21	88230	Photographic Film In Rolls, Sensitised, Unexposed, Except Of Paper, Paperboard Or Textiles; Instant Print Film In Rolls, Sensitised, Unexposed	$198,976,516
22	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$196,576,761
23	57112	Polyethylene, Having A Specific Gravity Of 0.94 Or More, In Primary Forms	$180,616,619
24	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$175,050,483
25	71392	Parts, N.E.S., Suitable For Use Solely Or Principally With Compression-Ignition Internal Combustion Piston Engines	$168,164,462
LAREDO			$9,957,635,909

PRESIDIO

1	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$19,784,589
2	29252	Seeds Of Forage Plants, Other Than Beet Seed	$4,866,565
3	89429	Toys, N.E.S.	$4,748,359
4	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$4,018,497
5	72839	Parts Of Machinery For Sorting, Washing, Crushing Or Mixing Earth, Stone, Ores Etc., And For Shaping Solid Mineral Fuels, Ceramic Pastes Etc.	$3,411,227
6	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$2,283,219
7	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$2,021,998
8	72122	Combine Harvester-Threshers	$1,970,200
9	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$1,593,156
10	53351	Prepared Pigments, Opacifiers And Colors, Vitrifiable Enamel Etc. Used In Ceramic, Enameling And Glass Industry; Glass Frit, Powder, Granules Or Flake	$1,586,331
11	85132	Footwear, N.E.S., With Outer Soles And Uppers Of Rubber Or Plastics, N.E.S. (Assembled By Stitching, Screwing, Etc.)	$1,489,846
12	72249	Wheeled Tractors, N.E.S.	$1,215,152
13	89311	Sacks And Bags (Including Cones) Of Plastics	$1,179,123
14	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$1,162,937
15	72121	Mowers For Lawns, Parks Or Sports Grounds	$1,050,741
16	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,028,532
17	76424	Headphones, Earphones And Combined Microphone/Speaker Sets	$1,003,352
18	72348	Machinery For Public Works, Building Or The Like, N.E.S.	$992,394
19	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$966,920
20	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$931,068
21	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$907,431
22	62542	New Pneumatic Rubber Tires, Of A Kind Used On Bicycles	$893,934
23	55320	Beauty Or Make-Up Skin Care Preparations, Including Sunscreen Or Suntan Preparations; Manicure And Pedicure Preparations	$859,811
24	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$786,565
25	75121	Electronic Calculators Capable Of Operation Without An External Source Of Power	$779,699
PRESIDIO			$61,531,646

PROGRESO

1	4530	Grain Sorghum, Unmilled	$56,897,695
2	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$20,108,997
3	5423	Beans, Other Than Broad Beans And Horse Beans, Dried, Shelled	$14,014,889
4	4814	Worked Cereal Grains N.E.S. (E.G. Hulled, Pearled, Clipped, Sliced Or Kibbled), Except Semi-Milled Or Wholly Milled Rice	$9,433,041
5	8133	Oil-Cake And Other Solid Residues (Except Dregs), Whether Ground Or In The Form Of Pellets, From The Extraction Of Fats Or Oils From Cottonseeds	$6,237,059
6	64169	Paper, Creped, Crinkled, Embossed Or Perforated, N.E.S., In Rolls Or Sheets	$5,875,243
7	22230	Cottonseeds	$5,216,113
8	8125	Bran, Sharps And Other Residues Derived From The Sifting, Milling Or Other Working Of Rice	$1,594,245
9	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,440,179
10	53351	Prepared Pigments, Opacifiers And Colors, Vitrifiable Enamel Etc. Used In Ceramic, Enameling And Glass Industry; Glass Frit, Powder, Granules Or Flake	$1,276,101
11	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$1,095,211
12	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$926,258
13	8151	Residues Of Starch Manufacture And Similar Residues	$914,832
14	59227	Glues Based On Starches, Dextrins Or Other Modified Starches	$874,064
15	26662	Synthetic Filament Tow Of Polyesters	$868,757
16	8129	Bran, Sharps And Other Residues Derived From The Sifting, Milling Or Other Working Of Cereals, N.E.S.	$704,904
17	64299	Articles Of Paper Pulp, Paper, Paperboard, Cellulose Wadding Or Webs Of Cellulose Fibers, N.E.S.	$702,428
18	53341	Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Ar Aqueous Medium	$684,317
19	53329	Printing Ink, Other Than Black	$502,445
20	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$489,900
21	65773	Textile Products And Articles, For Technical Uses	$470,955
22	141	Poultry, Live, Weighing Not Over 185 Grams (6.53 Oz.)	$444,018
23	76383	Sound Reproducing Apparatus, N.E.S.	$371,466
24	1252	Edible Offal Of Bovine Animals, Frozen	$331,531
25	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$331,501
PROGRESO			$131,806,149

RIO GRANDE

1	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$23,882,688
2	4530	Grain Sorghum, Unmilled	$17,450,372
3	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$8,631,157
4	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$7,410,849
5	66749	Synthetic Or Reconstructed Precious Or Semiprecious Stones, N.E.S., Not Strung, Mounted, Or Set (Including Ungraded Stones Strung Only For Transport)	$7,176,223
6	59899	Chemical Products And Preparations, N.E.S.	$6,118,067
7	76383	Sound Reproducing Apparatus, N.E.S.	$4,385,775
8	93100	Special Transactions And Commodities Not Classified According To Kind	$4,165,701
9	66391	Ceramic Wares (Laboratory, Chemical Etc.) For Technical Use; Ceramic Receptacles Used In Agriculture; Ceramic Containers For Transport Or Packing	$2,960,628
10	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$2,864,587
11	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$2,397,389
12	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$1,788,283
13	28799	Base Metal Ores And Concentrates, N.E.S.	$1,471,994
14	64141	Kraft Paper, Uncoated, N.E.S., In Rolls Or Sheets	$1,278,885
15	65659	Embroidery, N.E.S. (Including Applique And Other Embroidery With The Ground Retained After Embroidering)	$1,156,570
16	65495	Woven Pile And Chenille Fabrics, N.E.S., Of Textile Materials Other Than Wool, Cotton And Manmade Fibers (Excluding Narrow Fabrics)	$1,037,524
17	84483	Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$962,281
18	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$872,577
19	59221	Casein	$743,793
20	79319	Noninflatable Rowing Boats, Canoes And Vessels For Pleasure Or Sports, N.E.S.	$743,099
21	78320	Road Tractors For Semi-Trailers	$660,867
22	29294	Vegetable Saps And Extracts	$636,896
23	55310	Perfumes And Toilet Waters	$628,306
24	72249	Wheeled Tractors, N.E.S.	$617,984
25	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$478,500
RIO GRANDE			$100,520,995

ROMA				
	1	65222	Cotton Woven Fabrics, N.E.S., Unbleached, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$18,928,928
	2	65241	Cotton Woven Fabrics, N.E.S., Bleached, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$9,201,598
	3	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$8,140,348
	4	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$5,735,524
	5	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$5,252,569
	6	12220	Cigarettes Containing Tobacco	$4,433,083
	7	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$3,562,282
	8	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$3,329,609
	9	89431	Video Games Of A Kind Used With A Television Receiver	$2,362,098
	10	72329	Self-Propelled Mechanical Shovels, Excavators And Shovel-Loaders, N.E.S.	$2,249,351
	11	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$1,885,541
	12	81100	Prefabricated Buildings	$1,686,213
	13	78221	Mobile Cranes	$1,569,101
	14	11241	Whiskey	$1,547,558
	15	71392	Parts, N.E.S., Suitable For Use Solely Or Principally With Compression-Ignition Internal Combustion Piston Engines	$1,374,870
	16	74527	Packing Or Wrapping Machinery, N.E.S.	$1,264,998
	17	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$1,215,000
	18	55310	Perfumes And Toilet Waters	$1,155,956
	19	74439	Derricks, Cranes, Etc. N.E.S., Not Self-Propelled	$1,060,575
	20	79199	Parts Of Railway Or Tramway Locomotives Or Rolling Stock Railway Vehicles; Parts Of Railway Or Tramway Coaches, Vans, Trucks, Service Vehicles, Etc.	$1,025,879
	21	89399	Articles Of Plastics, N.E.S.	$1,023,334
	22	25119	Waste And Scrap Of Paper And Paperboard, N.E.S. (Including Unsorted Waste And Scrap)	$988,027
	23	74832	Articulated Chain, N.E.S.	$939,416
	24	88210	Chemicals Prepared For Photographic Use (Except Varnish, Glue, Etc.); Unmixed Products For Photo Use In Measured Portions Or Ready To Use Retail Packs	$818,239
	25	34210	Propane, Liquefied	$783,499
ROMA				$81,533,596
TEXAS TOP 25 TOTAL EXPORT ACTIVITY				$23,861,670,246

U.S. IMPORTS FROM MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$546,064,233
	2	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$374,018,290
	3	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$359,943,280
	4	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$244,966,871
	5	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$234,241,709
	6	77862	Tantalum Fixed Capacitors	$197,154,739
	7	77121	Static Converters (E.G., Rectifiers)	$196,840,057
	8	93100	Special Transactions And Commodities Not Classified According To Kind	$169,783,869
	9	77123	Ballasts For Discharge Lamps Or Tubes	$161,731,773
	10	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$115,916,767
	11	76383	Sound Reproducing Apparatus, N.E.S.	$96,992,438
	12	76212	Radiobroadcast Receivers, Not Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$93,334,545
	13	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$87,371,678
	14	52236	Inorganic Acids, N.E.S.	$72,140,726
	15	77635	Thyristors, Diacs And Triacs (Excluding Photosensitive Devices)	$70,896,151
	16	67553	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm Wide, Over 1 Mm But Under 3 Mm Thick	$68,730,251
	17	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$58,208,975
	18	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$57,739,695
	19	3611	Shrimps And Prawns, Frozen	$57,546,918
	20	77119	Electric Transformers, N.E.S.	$54,079,467
	21	67554	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm, Not Under .5 Mm But Not Over 1 Mm Thick	$51,831,798
	22	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$51,279,025
	23	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$50,811,953
	24	23211	Styrene-Butadiene Rubber (Sbr); Carboxylated Styrene-Butadiene Rubber (Xsbr), In Primary Forms Or In Plates, Etc.	$46,496,132
	25	89399	Articles Of Plastics, N.E.S.	$45,636,149
BROWNSVILLE				$3,563,757,489

DEL RIO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$324,698,619
2	82119	Parts Of Seats, N.E.S.	$238,419,754
3	74720	Valves For Oleohydraulic Or Pneumatic Transmissions	$54,478,008
4	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$54,029,696
5	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$52,435,998
6	74319	Air Or Vacuum Pumps, N.E.S.	$48,634,846
7	93100	Special Transactions And Commodities Not Classified According To Kind	$45,711,250
8	77572	Food Grinders And Mixers; Fruit Or Vegetable Juice Extractors, Electromechanical, Domestic	$44,468,226
9	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$32,924,352
10	77884	Electric Sound Or Visual Signaling Apparatus, N.E.S., Including Sirens, Indicator Panels, Burglar And Fire Alarms	$32,016,570
11	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$31,587,314
12	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$26,728,756
13	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$25,624,289
14	74412	Self-Propelled Trucks Fitted With Lifting Or Handling Equipment, N.E.S.	$19,273,227
15	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$17,670,429
16	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$16,770,261
17	85151	Footwear, N.E.S., With Outer Soles Of Rubber Or Plastics And Uppers Of Tex Tile Materials	$16,268,228
18	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$15,731,875
19	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$8,954,170
20	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$8,308,809
21	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$8,014,619
22	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$7,952,137
23	89963	Orthopedic Or Fracture Appliances, Including Artificial Joints	$6,652,027
24	77119	Electric Transformers, N.E.S.	$6,564,824
25	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$6,219,684
DEL RIO			$1,150,137,968

EAGLE PASS

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$590,809,506
2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$440,044,499
3	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$317,599,761
4	69941	Springs And Leaves For Springs, Of Iron Or Steel	$296,429,293
5	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$248,410,022
6	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$230,990,553
7	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$189,343,975
8	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$183,612,874
9	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$89,064,514
10	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$68,570,067
11	79182	Railway Or Tramway Goods Vans And Wagons (Freight Cars) Not Self-Propelled	$60,368,902
12	84621	Panty Hose And Tights	$50,210,943
13	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$49,022,810
14	82119	Parts Of Seats, N.E.S.	$47,027,095
15	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$44,202,001
16	93100	Special Transactions And Commodities Not Classified According To Kind	$37,188,348
17	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$36,901,602
18	77119	Electric Transformers, N.E.S.	$29,254,759
19	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$25,830,972
20	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$21,287,169
21	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$18,653,311
22	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$17,763,569
23	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$16,938,852
24	62920	Conveyor Or Transmission Belts Or Belting, Of Vulcanized Rubber	$16,873,564
25	69243	Metal Containers For Compressed Air Or Liquefied Gas, Of Iron Or Steel	$14,682,920
EAGLE PASS			$3,141,081,881

EL PASO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$2,410,329,376
2	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$1,652,710,536
3	82119	Parts Of Seats, N.E.S.	$1,254,306,169
4	93100	Special Transactions And Commodities Not Classified According To Kind	$926,607,594
5	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$860,758,892
6	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$525,967,340
7	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$507,614,013
8	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$481,773,389
9	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$443,521,880
10	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$402,963,064
11	87325	Speedometers And Tachometers; Stroboscopes	$400,722,743
12	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$391,382,694
13	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$384,512,835
14	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$370,248,689
15	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$276,956,545
16	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$261,241,060
17	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$247,776,477
18	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$214,732,411
19	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$205,210,678
20	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$182,200,092
21	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$171,014,417
22	76481	Reception Apparatus For Radiotelephony Or Radiotelegraphy, N.E.S.	$164,847,315
23	77125	Electrical Inductors, N.E.S.	$145,455,636
24	77123	Ballasts For Discharge Lamps Or Tubes	$140,953,921
25	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$139,948,443
EL PASO			$13,163,756,209

FABENS				
	1	93100	Special Transactions And Commodities Not Classified According To Kind	$12,885
	2	89449	Entertainment Articles, N.E.S., Including Festive, Carnival Or Other Entertainment Articles, Except Christmas Tree Lights And Other Christmas Articles	$4,422
FABENS				$17,307
HIDALGO				
	1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$488,000,157
	2	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$343,468,019
	3	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$249,673,936
	4	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$237,815,610
	5	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$227,500,703
	6	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$218,298,165
	7	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$200,260,260
	8	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$149,748,937
	9	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$142,110,937
	10	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$126,715,822
	11	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$104,815,303
	12	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$102,036,188
	13	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$91,044,912
	14	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$87,209,997
	15	93100	Special Transactions And Commodities Not Classified According To Kind	$86,539,637
	16	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$76,229,267
	17	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$58,078,721
	18	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$55,201,620
	19	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$54,967,597
	20	76423	Loudspeakers Not Mounted In Their Enclosures	$53,427,221
	21	76418	Apparatus, N.E.S., For Carrier-Current Or Digital Line Systems	$50,188,826
	22	5469	Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or Cooked By Steaming Or Boiling In Water), Frozen	$48,795,930
	23	76212	Radiobroadcast Receivers, Not Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$47,552,869
	24	84482	Briefs And Panties, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$46,944,758
	25	5721	Lemons And Limes, Fresh Or Dried	$46,203,119
HIDALGO				$3,392,828,511

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$5,829,301,060
2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$3,646,952,730
3	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,453,732,347
4	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$993,846,842
5	78320	Road Tractors For Semi-Trailers	$873,805,478
6	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$811,389,605
7	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$718,575,004
8	93100	Special Transactions And Commodities Not Classified According To Kind	$617,324,527
9	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$605,239,463
10	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$559,140,294
11	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$437,150,458
12	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$430,564,828
13	76411	Telephone Sets	$423,818,718
14	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$418,584,476
15	78410	Chassis Fitted With Engines, For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles N.E.S.	$370,157,924
16	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$356,075,345
17	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$328,084,773
18	79121	Diesel-Electric Locomotives	$322,209,422
19	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$317,435,318
20	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$293,614,596
21	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$257,002,183
22	69731	Domestic Cooking Appliances (Gas Ranges, Barbecues, Etc.) And Plate Warmers, Nonelectric, Of Iron Or Steel	$241,379,858
23	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$235,823,132
24	82119	Parts Of Seats, N.E.S.	$231,530,647
25	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$187,923,342
LAREDO			$20,960,662,370

PRESIDIO

1	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$54,179,948
2	78520	Bicycles And Other Cycles (Including Delivery Tricycles), Not Motorized	$43,552,933
3	5779	Edible Nuts (Excluding Mixtures), Fresh Or Dried, N.E.S., Whether Or Not Shelled Or Peeled	$7,126,715
4	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$3,720,493
5	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$3,482,099
6	93100	Special Transactions And Commodities Not Classified According To Kind	$1,921,589
7	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,666,543
8	69969	Articles Of Iron Or Steel, N.E.S.	$1,402,724
9	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$1,084,815
10	78629	Trailers And Semi-Trailers For The Transport Of Goods, N.E.S.	$862,532
11	67959	Iron And Steel Tube And Pipe Fittings, N.E.S.	$824,748
12	78689	Parts Of Trailers And Semi-Trailers, For Housing Or Camping, Transport Of Goods, Trailers, N.E.S. And Vehicles Not Mechanically Propelled, N.E.S.	$746,506
13	69979	Articles Of Aluminum, N.E.S.	$396,799
14	56214	Fertilizers, Double Salts And Mixtures Of Calcium Nitrate And Ammonium Nitrate, (Imports Only)	$262,643
15	7513	Fruits Of The Genus Capsicum Or Of The Genus Pimenta, Dried Or Crushed Or Ground	$180,466
16	89449	Entertainment Articles, N.E.S., Including Festive, Carnival Or Other Entertainment Articles, Except Christmas Tree Lights And Other Christmas Articles	$169,926
17	5671	Vegetables, Fruit, Nuts And Other Edible Parts Of Plants, Prepared Or Preserved By Vinegar Or Acetic Acid	$134,014
18	82159	Furniture, N.E.S., Of Wood, N.E.S. (Other Than Of A Kind Used In Offices, Kitchens, Or Bedrooms)	$119,066
19	84692	Gloves, N.E.S., Mittens And Mitts, Knitted Or Crocheted	$108,155
20	53351	Prepared Pigments, Opacifiers And Colors, Vitrifiable Enamel Etc. Used In Ceramic, Enameling And Glass Industry; Glass Frit, Powder, Granules Or Flake	$105,938
21	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$93,797
22	68272	Copper Tube And Pipe Fittings (E.G. Couplings, Elbows And Sleeves)	$89,535
23	89521	Ball Point Pens; Felt Tipped Or Other Porous-Tipped Pens And Markers; Fountain Pens, Stylograph And Other Pens; Propelling Or Sliding Pencils, Etc.	$89,053
24	5459	Vegetables, N.E.S. Fresh Or Chilled	$82,583
25	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$49,641
PRESIDIO			$122,453,261

PROGRESO

		Parts Of The Apparatus For Sound Recorders Or Reproducers And	
1	76499	Parts Of Television Image And Sound Recorders Or Reproducers	$14,728,180
2	76383	Sound Reproducing Apparatus, N.E.S.	$9,240,310
3	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$6,909,496
		Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art;	
4	85190	Gaiters, Etc Pts Thereof	$4,173,629
5	64213	Paper Sacks And Bags, With A Base Of 40 Cm Or Over In Width	$2,526,968
6	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$454,658
		Other Parts And Accessories Of Motor Vehicle Bodies Of Headings	
7	78432	8701 To 8705 (Including Cabs)	$345,556
8	76423	Loudspeakers Not Mounted In Their Enclosures	$341,683
		Electric Motors Of An Output Exceeding 37.5 W (Including	
9	71631	Universal Ac/Dc Motors), Ac	$245,889
		Switches For Electrical Apparatus, N.E.S., For Voltages Not	
10	77255	Exceeding 1,000 Volts	$199,204
		Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000	
11	77261	Volts	$182,354
		Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor	
12	78433	Cars And Other Motor Vehicles, Etc.	$163,249
		Special Transactions And Commodities Not Classified According To	
13	93100	Kind	$150,372
		Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor	
14	78439	Vehicles, N.E.S.	$146,832
15	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$118,912
		T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments,	
16	84540	Of Knitted Or Crocheted Textile Fabrics	$117,996
17	77641	Digital Monolithic Integrated Units	$110,759
		Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In	
18	77313	Vehicles, Aircraft Or Ships	$61,192
19	62999	Articles Of Unhardened Noncellular Vulcanized Rubber, N.E.S.	$59,865
		Parts Of Electrical Apparatus For Switching Or Protecting Electrical	
20	77282	Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$56,266
21	5451	Onions And Shallots, Fresh Or Chilled	$55,172
		Instruments And Appliances Used In Medical, Surgical Or	
22	87229	Veterinary Sciences, N.E.S.	$52,658
23	77121	Static Converters (E.G., Rectifiers)	$49,593
		Parts N.E.S. For Use Solely Or Principally With Electric Motors,	
24	71690	Electric Generators, Electric Generating Sets And Rotary Converters	$47,821
25	89212	Children'S Picture, Drawing Or Coloring Books	$45,123
PROGRESO			$40,583,737

RIO GRANDE

1	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$34,698,001
2	66331	Articles Of Plaster Or Of Compositions Based On Plaster	$11,219,268
3	97103	Gold Waste And Scrap (Including Metal Clad With Gold But Excluding Sweepings Containing Other Precious Metals)	$8,499,939
4	52269	Inorganic Bases N.E.S.; Metal Oxides, Hydroxides And Peroxides, N.E.S.	$4,708,194
5	69351	Wire Cloth (Including Endless Bands), Grill, Netting And Fencing, And Expanded Metal, Of Iron Or Steel	$3,585,943
6	5791	Melons (Including Watermelons) And Papaws (Papayas), Fresh	$3,346,129
7	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$2,720,660
8	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$1,967,518
9	5459	Vegetables, N.E.S. Fresh Or Chilled	$1,947,771
10	84483	Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$1,620,301
11	84511	Babies' Garments And Clothing Accessories Of Textile Fabrics, Not Knitted Or Crocheted	$1,591,178
12	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$1,221,310
13	5798	Fruit, Fresh, N.E.S.	$1,123,256
14	93100	Special Transactions And Commodities Not Classified According To Kind	$1,103,130
15	66139	Monumental Or Building Stone (Except Slate), N.E.S. And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$1,029,174
16	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$956,973
17	84289	Singlets (Undershirts), Briefs, Panties, Negligees, Bathrobes, Dressing Gowns And Similar Articles Of Woven Textile Fabrics, Women'S Or Girls'	$861,851
18	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$763,015
19	5730	Bananas (Including Plantains), Fresh Or Dried	$748,514
20	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$684,723
21	84119	Anoraks (Including Ski-Jackets), Windbreakers And Similar Articles Of Woven Textile Materials, Men'S Or Boys'	$425,458
22	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$421,055
23	5469	Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or Cooked By Steaming Or Boiling In Water), Frozen	$419,292
24	66739	Precious And Semiprecious Stones (No Diamonds) Worked, But Not Strung, Mounted Or Set (Including Ungraded Stones Temporarily Strung For Transport)	$395,782
25	81399	Parts N.E.S., Of Lamps And Lighting Fittings, N.E.S., And Parts Of Illuminated Signs And Nameplates, Etc., Of Materials Other Than Glass Or Plastics	$351,596
RIO GRANDE			$86,410,031

ROMA

1	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$25,874,417
2	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$20,581,823
3	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$3,979,718
4	66332	Building Blocks And Bricks, Tiles, Flagstones And Similar Articles Of Cement, Concrete Or Artificial Stone	$3,918,984
5	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$3,149,022
6	29299	Vegetable Materials And Vegetable Products, N.E.S.	$2,916,959
7	93100	Special Transactions And Commodities Not Classified According To Kind	$1,999,830
8	77119	Electric Transformers, N.E.S.	$1,245,065
9	83199	Binocular Cases, Camera Cases, Musical Instrument Cases, Etc. Of Leather, Plastic Sheeting, Textiles, Etc., N.E.S.	$1,028,336
10	67650	Bars And Rods Of Iron Or Steel, N.E.S.	$725,504
11	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$505,398
12	89861	Magnetic Tapes, Recorded, Of A Width Not Exceeding 4 Mm, For Sound Or Image	$418,650
13	66244	Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Unglazed Ceramic Mosaic Cubes And The Like	$417,088
14	5459	Vegetables, N.E.S. Fresh Or Chilled	$391,839
15	82112	Seats Of A Kind Used For Motor Vehicles	$334,136
16	78683	Trailers And Semi-Trailers, N.E.S.	$273,209
17	67684	Iron And Nonalloy Steel Angles, Shapes And Sections, Cold-Formed Or Cold-Finished	$141,796
18	28221	Waste And Scrap Of Stainless Steel	$121,520
19	89471	Fishing Rods, Hooks, Other Tackle And Landing Nets; Butterfly Etc. Nets; Decoys (Not Collectors Items Or Decoy Calls); Hunting Etc. Requisites, N.E.S.	$111,084
20	66112	Slaked Lime	$99,120
21	89879	Recorded Media, N.E.S., Sound Or Similarly Recorded Phenomena	$67,875
22	5798	Fruit, Fresh, N.E.S.	$66,476
23	69782	Statuettes And Other Ornaments, Of Base Metal; Photograph, Picture Or Similar Frames, Of Base Metal; Mirrors, Of Base Metal	$47,988
24	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$44,637
25	6229	Sugar Confectionery (Including White Chocolate), Not Containing Cocoa, N.E.S.	$43,020
ROMA			$68,503,494

TEXAS TOP 25 TOTAL IMPORT ACTIVITY $45,690,192,258

TEXAS TOP 25 TOTAL U.S./MEXICO TRADE ACTIVITY **$69,551,862,504**

Appendix A-2

Texas Center for Border Economic & Enterprise Development TOP 25 EXPORTS AND IMPORTS THROUGH TEXAS PORTS

U.S. / MEXICO TRADE ACTIVITY JAN - DEC 2000

U.S. EXPORTS TO MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	77867	Fixed Capacitors, N.E.S.	$358,362,339
	2	77869	Parts Of Electrical Capacitors	$326,584,383
	3	69969	Articles Of Iron Or Steel, N.E.S.	$280,244,545
	4	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$230,677,100
	5	33542	Petroleum Coke	$206,761,553
	6	89399	Articles Of Plastics, N.E.S.	$191,172,231
	7	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$157,029,535
	8	22220	Soybeans	$145,257,222
	9	26310	Cotton (Other Than Linters), Not Carded Or Combed	$135,104,635
	10	77220	Printed Circuits	$134,414,556
	11	65529	Knitted Or Crocheted Fabrics, N.E.S.	$120,012,592
	12	77641	Digital Monolithic Integrated Units	$102,716,048
	13	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$88,201,264
	14	77129	Parts Of Electric Power Machinery (Other Than Rotating Electric Power Generating Machinery And Equipment), And Parts Thereof	$78,862,573
	15	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$77,488,869
	16	33452	Petroleum Lubricating Oils And Oils From Bituminous Materials, Preparations With These Oils As Basic Constituent, Except Condensate From Natural Gas	$75,887,528
	17	57111	Polyethylene, Having A Specific Gravity Of Less Than 0.94, In Primary Forms	$56,921,043
	18	74918	Injection Or Compression Types Of Molds For Rubber Or Plastics	$52,930,183
	19	77579	Parts Of Electromechanical Domestic Appliances With Self-Contained Electricmotor	$52,443,610
	20	57419	Polyether Resins, Other Than Polyacetals, In Primary Forms	$51,633,210
	21	72849	Machinery Having Individual Functions, N.E.S.	$51,524,138
	22	51614	Methyloxirane (Propylene Oxide)	$50,461,283
	23	33440	Fuel Oils, N.E.S.	$43,599,736
	24	77688	Parts Of Diodes, Transistors And Similar Semiconductor Devices (Including Photosensitive), Light Emitting Diodes And Mounted Piezoelectric Crystals	$42,002,364
	25	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$41,150,295
BROWNSVILLE				$3,151,442,835

DEL RIO

1	82119	Parts Of Seats, N.E.S.	$110,954,478
2	65315	Woven Manmade Textile Fabrics, N.E.S., Not Under 85% (Weight) Textured Filaments Of Polyester (Other Than Pile Or Chenille And Narrow Etc. Fabrics)	$67,666,352
3	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$59,877,996
4	77328	Insulating Fittings For Electrical Machines, Appliances Or Equiptment, Of Plastic Materials, But Not Including The Insulators	$46,951,131
5	89399	Articles Of Plastics, N.E.S.	$45,394,107
6	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$43,319,300
7	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$39,445,589
8	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$38,369,860
9	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$35,056,416
10	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$34,676,650
11	65343	Woven Fabrics, Under 85% (Weight) Synthetic Staple Fibers Mixed Mainly With Fibers Except Cotton, Wool, Etc., Or Manmade Filaments (No Pile Etc.)	$34,633,143
12	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$32,948,556
13	69312	Stranded Wire, Ropes, Cables, Etc. Of Copper, Not Electrically Insulated	$32,642,722
14	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$28,774,042
15	77579	Parts Of Electromechanical Domestic Appliances With Self-Contained Electricmotor	$21,968,815
16	77254	Relays For Electrical Apparatus Used With Electrical Circuits Not Exceeding 1,000 Volts	$20,296,098
17	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$19,730,945
18	74492	Parts Of Lifting And Handling Machinery	$19,719,957
19	77311	Insulated Electric Winding Wire	$18,955,449
20	58291	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Cellular	$18,300,665
21	121	Sheep, Live	$17,211,591
22	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$16,206,191
23	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$15,939,868
24	69969	Articles Of Iron Or Steel, N.E.S.	$14,674,421
25	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$12,761,680
DEL RIO			$846,476,022

EAGLE PASS

1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$419,653,050
2	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$336,417,832
3	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$229,320,380
4	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$227,494,470
5	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$177,850,048
6	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$174,494,762
7	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$165,594,245
8	34210	Propane, Liquefied	$134,323,968
9	79199	Parts Of Railway Or Tramway Locomotives Or Rolling Stock Railway Vehicles; Parts Of Railway Or Tramway Coaches, Vans, Trucks, Service Vehicles, Etc.	$93,845,203
10	65243	Cotton Woven Fabrics, N.E.S., Denim, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$82,172,534
11	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$80,737,953
12	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$72,445,804
13	22220	Soybeans	$62,526,240
14	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$53,986,539
15	69915	Mountings, Fittings And Similar Articles For Motor Vehicles, N.E.S., Of Base Metal	$50,444,587
16	21111	Hides And Skins (Excluding Those Of Heading 211.2) Of Bovine Animals, Fresh Or Wet-Salted	$48,419,917
17	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$39,389,392
18	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$34,094,216
19	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$34,061,495
20	69421	Screws, Bolts, Nuts, Screw Hooks, Rivets, Washers And Similar Articles, Threaded, Of Iron Or Steel	$33,892,613
21	62999	Articles Of Unhardened Noncellular Vulcanized Rubber, N.E.S.	$33,481,663
22	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$31,368,287
23	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$30,980,001
24	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$30,716,088
25	32121	Bituminous Coal, Pulverized Or Not, But Not Agglomerated	$30,629,711
EAGLE PASS			$2,708,340,998

EL PASO

1	77641	Digital Monolithic Integrated Units	$961,790,123
2	89399	Articles Of Plastics, N.E.S.	$787,038,596
3	77611	Television Picture Tubes, Color	$569,807,291
4	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$477,000,498
5	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$448,300,587
6	69969	Articles Of Iron Or Steel, N.E.S.	$437,302,567
7	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$380,221,220
8	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$358,813,483
9	77645	Hybrid Integrated Circuits	$344,950,818
10	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$310,501,114
11	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$278,572,965
12	77220	Printed Circuits	$243,548,257
13	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$242,981,102
14	77643	Nondigital Monolithic Integrated Units	$225,332,676
15	76491	Parts Of Electrical Apparatus For Line Telephony Or Line Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$190,708,550
16	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$186,093,431
17	33411	Gasoline Including Aviation (Except Jet) Fuel	$162,584,139
18	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$160,075,884
19	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$158,692,582
20	75270	Storage Units, Whether Or Not Presented With The Rest Of The System For Data Processing	$154,639,407
21	61142	Bovine Leather N.E.S. And Equine Leather (Without Hair), Parchment-Dressed Or Prepared After Tanning	$149,115,940
22	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$145,021,140
23	82119	Parts Of Seats, N.E.S.	$134,307,682
24	65359	Woven Fabrics Of Artificial Filament Yarn, N.E.S. (Other Than Pile Or Chenille And Narrow Or Special Fabrics)	$127,962,984
25	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$126,188,597
EL PASO			$7,761,551,663

FABENS

1	76426	Electric Sound Amplifier Sets	$198,690
2	77631	Diodes, Not Photosensitive Nor Light Emitting Diodes	$183,774
3	77220	Printed Circuits	$181,490
4	77645	Hybrid Integrated Circuits	$129,351
5	29193	Guts, Bladders And Stomachs Of Animals (Other Than Fish), Whole And Pieces Thereof	$41,964
6	77637	Photosensitive Semiconductor Devices; Light Emitting Diodes	$39,228
7	77868	Variable Or Adjustable (Pre-Set) Capacitors	$34,177
8	77831	Electrical Ignition Or Starting Equipment Used For Spark-Ignition Or Compression-Ignition Internal Combustion Engines; Generators And Cut-Outs, Etc.	$14,401
9	87469	Parts And Accessories For Automatic Regulating Or Controlling Instruments And Apparatus	$9,925
10	77635	Thyristors, Diacs And Triacs (Excluding Photosensitive Devices)	$7,142
11	34210	Propane, Liquefied	$6,970
12	65621	Woven Labels, Badges And Similar Articles Of Textile Materials, In The Piece Or Strips, Etc., Not Embroidered	$6,541
13	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$6,314
14	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$5,800
15	77681	Piezoelectric Crystals, Mounted	$4,810
16	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$4,127
17	77235	Variable Electrical Resistors (Including Reostats And Potentiometers), N.E.S.	$4,060
18	69969	Articles Of Iron Or Steel, N.E.S.	$3,547
FABENS			$882,311

HIDALGO

1	75270	Storage Units, Whether Or Not Presented With The Rest Of The System For Data Processing	$288,137,108
2	77643	Nondigital Monolithic Integrated Units	$277,962,296
3	77649	Electronic Integrated Circuits And Microassemblies, N.E.S.	$191,708,715
4	77611	Television Picture Tubes, Color	$190,036,170
5	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$173,887,178
6	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$160,343,425
7	89399	Articles Of Plastics, N.E.S.	$147,103,493
8	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$116,685,984
9	77220	Printed Circuits	$112,181,667
10	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$105,794,045
11	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$103,597,810
12	76383	Sound Reproducing Apparatus, N.E.S.	$94,511,893
13	77867	Fixed Capacitors, N.E.S.	$94,300,381
14	34310	Natural Gas, Liquefied	$89,281,691
15	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$85,340,981
16	69969	Articles Of Iron Or Steel, N.E.S.	$73,555,992
17	76499	Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$67,262,758
18	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$62,989,717
19	77689	Parts Of Electronic Integrated Circuits And Microassembles	$61,931,947
20	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$61,455,689
21	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$60,252,038
22	77311	Insulated Electric Winding Wire	$59,700,822
23	87490	Parts And Accessories For Machines, Appliances, Instruments And Apparatus, N.E.S., Measuring, Checking, Analysing Or Controlling, N.E.S.	$58,908,077
24	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$58,081,457
25	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$57,381,468
HIDALGO			$2,852,392,802

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$2,322,408,838
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$1,699,202,046
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,535,598,148
4	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$714,577,812
5	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$708,701,928
6	71323	Compression-Ignition Engines (Diesel Or Semi-Diesel), For Road Vehicles, Etc.	$663,034,227
7	78434	Gear Boxes	$580,889,758
8	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$542,489,882
9	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$540,628,279
10	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$466,449,812
11	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$433,167,107
12	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$422,774,275
13	77643	Nondigital Monolithic Integrated Units	$417,645,142
14	82119	Parts Of Seats, N.E.S.	$413,833,614
15	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$403,805,113
16	89399	Articles Of Plastics, N.E.S.	$355,325,343
17	26310	Cotton (Other Than Linters), Not Carded Or Combed	$329,265,430
18	88230	Photographic Film In Rolls, Sensitised, Unexposed, Except Of Paper, Paperboard Or Textiles; Instant Print Film In Rolls, Sensitised, Unexposed	$298,594,642
19	1112	Meat Of Bovine Animals, Boneless, Fresh Or Chilled	$288,312,254
20	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$271,517,854
21	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$267,236,343
22	57112	Polyethylene, Having A Specific Gravity Of 0.94 Or More, In Primary Forms	$239,355,825
23	62520	New Pneumatic Rubber Tires, Of A Kind Used On Buses And Trucks	$237,751,019
24	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$234,523,320
25	62510	New Pneumatic Rubber Tires, Of A Kind Used On Motor Cars (Including Station Wagons And Racing Cars)	$232,048,078
LAREDO			$14,619,136,089

PRESIDIO

1	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$13,499,504
2	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$4,966,190
3	29252	Seeds Of Forage Plants, Other Than Beet Seed	$4,679,245
4	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$4,353,428
5	85132	Footwear, N.E.S., With Outer Soles And Uppers Of Rubber Or Plastics, N.E.S. (Assembled By Stitching, Screwing, Etc.)	$4,132,156
6	78689	Parts Of Trailers And Semi-Trailers, For Housing Or Camping, Transport Of Goods, Trailers, N.E.S. And Vehicles Not Mechanically Propelled, N.E.S.	$3,300,194
7	72123	Harvesting And Threshing Machinery, N.E.S.; Mowers, N.E.S. (Other Than Mowers For Lawns, Parks Or Sports Grounds)	$2,624,051
8	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$2,473,828
9	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$2,260,172
10	89425	Toys Representing Animals Or Non-Human Creatures	$2,091,573
11	89429	Toys, N.E.S.	$2,005,324
12	78436	Non-Driving Axles And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$1,796,708
13	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$1,700,835
14	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$1,673,611
15	88572	Clocks With Watch Movements (Excluding Instrument Panel Clocks), Battery Powered	$1,352,561
16	72249	Wheeled Tractors, N.E.S.	$1,352,481
17	55320	Beauty Or Make-Up Skin Care Preparations, Including Sunscreen Or Suntan Preparations; Manicure And Pedicure Preparations	$1,342,837
18	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$1,312,790
19	89989	Combs, Hair-Slides And The Like; Hairpins, Curling Pins, Curling Grips, Hair Curlers And The Like (Except Electric), And Parts Thereof	$1,195,243
20	72122	Combine Harvester-Threshers	$1,158,787
21	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$1,054,632
22	64212	Folding Cartons, Boxes And Cases Of Noncorrugated Paper Or Paperboard	$981,817
23	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$979,602
24	76424	Headphones, Earphones And Combined Microphone/Speaker Sets	$918,476
25	62542	New Pneumatic Rubber Tires, Of A Kind Used On Bicycles	$892,437
PRESIDIO			$64,098,482

PROGRESO

1	4530	Grain Sorghum, Unmilled	$33,882,359
2	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$21,081,795
3	4814	Worked Cereal Grains N.E.S. (E.G. Hulled, Pearled, Clipped, Sliced Or Kibbled), Except Semi-Milled Or Wholly Milled Rice	$15,837,086
4	22230	Cottonseeds	$13,292,827
5	64169	Paper, Creped, Crinkled, Embossed Or Perforated, N.E.S., In Rolls Or Sheets	$8,446,831
6	8133	Oil-Cake And Other Solid Residues (Except Dregs), Whether Ground Or In The Form Of Pellets, From The Extraction Of Fats Or Oils From Cottonseeds	$6,455,798
7	5423	Beans, Other Than Broad Beans And Horse Beans, Dried, Shelled	$4,972,678
8	75270	Storage Units, Whether Or Not Presented With The Rest Of The System For Data Processing	$1,904,750
9	8125	Bran, Sharps And Other Residues Derived From The Sifting, Milling Or Other Working Of Rice	$1,579,943
10	59227	Glues Based On Starches, Dextrins Or Other Modified Starches	$1,410,983
11	26662	Synthetic Filament Tow Of Polyesters	$1,146,214
12	64110	Newsprint In Rolls Or Sheets	$1,110,512
13	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$982,793
14	64299	Articles Of Paper Pulp, Paper, Paperboard, Cellulose Wadding Or Webs Of Cellulose Fibers, N.E.S.	$944,206
15	22220	Soybeans	$942,751
16	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$935,226
17	55310	Perfumes And Toilet Waters	$907,087
18	53341	Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Ar Aqueous Medium	$876,467
19	53329	Printing Ink, Other Than Black	$826,222
20	8151	Residues Of Starch Manufacture And Similar Residues	$767,744
21	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$704,771
22	8141	Flours, Meals And Pellets, Of Meat Or Meat Offal (Including Tankage), Unfit For Human Consumption; Greaves	$629,115
23	74489	Lifting, Handling, Loading Or Unloading Machinery, N.E.S.	$560,000
24	78320	Road Tractors For Semi-Trailers	$510,181
25	64161	Kraft Sack Paper, Creped Or Crinkled, Whether Or Not Embossed Or Perforated, In Rolls Or Sheets	$408,547

PROGRESO $121,116,886

RIO GRANDE

1	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$31,456,499
2	4530	Grain Sorghum, Unmilled	$16,062,425
3	66749	Synthetic Or Reconstructed Precious Or Semiprecious Stones, N.E.S., Not Strung, Mounted, Or Set (Including Ungraded Stones Strung Only For Transport)	$11,218,292
4	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$9,723,375
5	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$7,770,949
6	59899	Chemical Products And Preparations, N.E.S.	$4,470,383
7	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$3,801,497
8	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$3,038,554
9	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$2,021,692
10	89841	Magnetic Tapes For Sound Recording Or Similar Recording Of Other Phenomena, Of A Width Not Exceeding 4 Mm	$1,506,282
11	12220	Cigarettes Containing Tobacco	$1,129,441
12	25119	Waste And Scrap Of Paper And Paperboard, N.E.S. (Including Unsorted Waste And Scrap)	$1,109,667
13	65659	Embroidery, N.E.S. (Including Applique And Other Embroidery With The Ground Retained After Embroidering)	$1,086,904
14	71651	Electric Generating Sets With Internal Combustion Piston Engines	$960,002
15	79319	Noninflatable Rowing Boats, Canoes And Vessels For Pleasure Or Sports, N.E.S.	$926,114
16	84289	Singlets (Undershirts), Briefs, Panties, Negligees, Bathrobes, Dressing Gowns And Similar Articles Of Woven Textile Fabrics, Women'S Or Girls'	$915,703
17	74527	Packing Or Wrapping Machinery, N.E.S.	$856,101
18	65523	Knitted Fabrics, N.E.S., Not Impregnated, Coated, Etc., Warp Knit (Including Those Made On Galloon Knitting Machines)	$745,434
19	72832	Machinery For Crushing Or Grinding Earth, Stone, Ores Or Other Mineral Substances In Solid (Including Powder Or Paste) Form	$684,343
20	74240	Reciprocating Positive Displacement Pumps, N.E.S.	$600,000
21	84511	Babies' Garments And Clothing Accessories Of Textile Fabrics, Not Knitted Or Crocheted	$572,497
22	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$564,253
23	84483	Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$553,418
24	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$476,717
25	27719	Industrial Diamonds, Worked (Other Than Simply Sawn, Cleaved Or Bruted), N.E.S.	$460,414
RIO GRANDE			$102,710,956

ROMA

1	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$9,681,101
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$7,068,826
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$6,155,738
4	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$4,525,349
5	25119	Waste And Scrap Of Paper And Paperboard, N.E.S. (Including Unsorted Waste And Scrap)	$3,676,740
6	12220	Cigarettes Containing Tobacco	$3,603,997
7	72329	Self-Propelled Mechanical Shovels, Excavators And Shovel-Loaders, N.E.S.	$3,106,519
8	89431	Video Games Of A Kind Used With A Television Receiver	$2,066,804
9	74439	Derricks, Cranes, Etc. N.E.S., Not Self-Propelled	$1,876,875
10	81100	Prefabricated Buildings	$1,784,702
11	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,522,471
12	71392	Parts, N.E.S., Suitable For Use Solely Or Principally With Compression-Ignition Internal Combustion Piston Engines	$1,502,316
13	89399	Articles Of Plastics, N.E.S.	$1,253,496
14	76424	Headphones, Earphones And Combined Microphone/Speaker Sets	$1,172,548
15	55310	Perfumes And Toilet Waters	$1,102,154
16	77812	Electric Accumulators (Storage Batteries)	$996,324
17	74832	Articulated Chain, N.E.S.	$917,884
18	72321	Front-End Shovel-Loaders, Self-Propelled	$855,705
19	68711	Tin, Unwrought (Not Alloyed)	$836,239
20	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$745,524
21	72322	Mechanical Shovels, Excavators And Shovel Loaders With A 360 Degree Revolving Superstructure, Self-Propelled	$686,561
22	58226	Plates, Sheets, Film, Foil And Strip Of Polycarbonates, Alkyd Resins Or Other Polyesters, Not Self-Adhesive And Not Reinforced, Laminated, Etc.	$671,834
23	67956	Stainless Steel Tube And Pipe Fittings, N.E.S.	$661,004
24	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$660,735
25	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$592,776
ROMA			$57,724,222

TEXAS TOP 25 TOTAL EXPORT ACTIVITY	$32,285,873,236

U.S. IMPORTS FROM MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$891,366,930
	2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$417,188,729
	3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$346,712,431
	4	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$326,574,715
	5	77121	Static Converters (E.G., Rectifiers)	$223,960,131
	6	77862	Tantalum Fixed Capacitors	$205,426,040
	7	76383	Sound Reproducing Apparatus, N.E.S.	$198,055,711
	8	93100	Special Transactions And Commodities Not Classified According To Kind	$191,203,979
	9	77123	Ballasts For Discharge Lamps Or Tubes	$176,234,800
	10	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$159,471,748
	11	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$107,106,961
	12	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$81,656,827
	13	66492	Glass Multiple Walled Insulating Units	$77,226,392
	14	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$76,237,964
	15	77252	Automatic Circuit Breakers For A Voltage Not Exceeding 1,000 Volts	$74,865,122
	16	52236	Inorganic Acids, N.E.S.	$73,425,358
	17	77635	Thyristors, Diacs And Triacs (Excluding Photosensitive Devices)	$67,025,674
	18	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$66,606,137
	19	77637	Photosensitive Semiconductor Devices; Light Emitting Diodes	$65,526,455
	20	23211	Styrene-Butadiene Rubber (Sbr); Carboxylated Styrene-Butadiene Rubber (Xsbr), In Primary Forms Or In Plates, Etc.	$63,804,536
	21	67553	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm Wide, Over 1 Mm But Under 3 Mm Thick	$63,618,279
	22	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$58,266,813
	23	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$57,799,358
	24	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$54,540,143
	25	77119	Electric Transformers, N.E.S.	$53,190,237
BROWNSVILLE				$4,177,091,470

DEL RIO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$312,967,107
2	82119	Parts Of Seats, N.E.S.	$234,254,488
3	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$62,362,748
4	77572	Food Grinders And Mixers; Fruit Or Vegetable Juice Extractors, Electromechanical, Domestic	$57,247,195
5	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$54,813,539
6	74720	Valves For Oleohydraulic Or Pneumatic Transmissions	$49,785,102
7	93100	Special Transactions And Commodities Not Classified According To Kind	$30,242,507
8	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$29,435,037
9	74319	Air Or Vacuum Pumps, N.E.S.	$28,825,074
10	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$27,953,602
11	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$25,381,352
12	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$24,256,271
13	74412	Self-Propelled Trucks Fitted With Lifting Or Handling Equipment, N.E.S.	$20,047,123
14	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$18,806,697
15	85151	Footwear, N.E.S., With Outer Soles Of Rubber Or Plastics And Uppers Of Tex Tile Materials	$17,515,659
16	77884	Electric Sound Or Visual Signaling Apparatus, N.E.S., Including Sirens, Indicator Panels, Burglar And Fire Alarms	$16,782,506
17	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$12,051,712
18	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$11,681,754
19	69129	Metal Structures And Parts N.E.S. Of Aluminum; Prepared Plates, Rods Etc. Of Aluminum For Use In Structures	$9,978,106
20	65859	Furnishing Articles, N.E.S. Of Textile Materials	$9,357,413
21	77821	Filament Lamps (Other Than Flashbulbs, Infrared And Ultraviolet Lamps And Sealed Beam Lamp Units)	$9,193,944
22	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$8,635,644
23	82129	Articles Of Bedding, N.E.S., Including Cushions, Quilts And Pillows	$7,860,284
24	77119	Electric Transformers, N.E.S.	$7,677,120
25	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$7,172,087
DEL RIO			$1,094,284,071

EAGLE PASS

1	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$373,465,172
2	69941	Springs And Leaves For Springs, Of Iron Or Steel	$294,968,801
3	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$247,654,729
4	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$232,167,653
5	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$215,128,652
6	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$199,605,376
7	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$119,857,825
8	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$102,395,496
9	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$101,114,667
10	82119	Parts Of Seats, N.E.S.	$52,447,696
11	68211	Unrefined Copper (Including Blister Copper But Excluding Cement Copper); Copper Anodes For Electrolytic Refining	$46,463,179
12	93100	Special Transactions And Commodities Not Classified According To Kind	$44,982,388
13	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$43,774,026
14	84621	Panty Hose And Tights	$43,728,795
15	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$43,466,771
16	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$40,333,021
17	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$39,374,317
18	77119	Electric Transformers, N.E.S.	$32,632,933
19	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$31,526,265
20	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$27,305,421
21	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$26,107,755
22	79182	Railway Or Tramway Goods Vans And Wagons (Freight Cars) Not Self-Propelled	$25,340,089
23	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$24,484,789
24	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$23,697,187
25	77111	Liquid Dielectric Transformers	$22,283,858
EAGLE PASS			$2,454,306,861

EL PASO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$2,457,235,075
2	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$1,623,944,314
3	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$1,397,299,507
4	82119	Parts Of Seats, N.E.S.	$1,314,908,001
5	93100	Special Transactions And Commodities Not Classified According To Kind	$1,169,682,466
6	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$923,599,077
7	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$573,754,467
8	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$525,488,341
9	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$495,178,748
10	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$485,325,394
11	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$454,063,812
12	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$450,172,576
13	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$424,341,790
14	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$379,440,005
15	87325	Speedometers And Tachometers; Stroboscopes	$371,417,323
16	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$369,303,829
17	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$343,623,941
18	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$335,915,403
19	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$295,408,307
20	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$272,383,912
21	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$257,804,597
22	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$223,348,628
23	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$192,717,414
24	77125	Electrical Inductors, N.E.S.	$159,307,857
25	87229	Instruments And Appliances Used In Medical, Surgical Or Veterinary Sciences, N.E.S.	$151,698,556
EL PASO			$15,647,363,340

HIDALGO

1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$500,015,622
2	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$497,490,036
3	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$328,791,448
4	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$279,921,773
5	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$270,551,043
6	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$241,909,918
7	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$237,405,061
8	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$217,961,533
9	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$193,152,748
10	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$144,814,593
11	76418	Apparatus, N.E.S., For Carrier-Current Or Digital Line Systems	$140,217,829
12	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$131,490,712
13	76483	Radar Apparatus, Radio Navigational Aid Apparatus And Radio Remote Control Apparatus	$128,629,233
14	93100	Special Transactions And Commodities Not Classified According To Kind	$128,170,438
15	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$118,379,484
16	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$116,226,342
17	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$84,377,876
18	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$71,753,390
19	76423	Loudspeakers Not Mounted In Their Enclosures	$71,585,861
20	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$69,160,854
21	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$64,284,015
22	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$56,492,883
23	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$51,312,900
24	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$48,942,880
25	77571	Vacuum Cleaners And Floor Polishers, Electromechanical, Domestic With Self-Contained Electric Motor	$48,861,828
HIDALGO			$4,241,900,300

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$10,821,772,361
2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$4,618,228,805
3	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,570,886,900
4	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$1,017,683,961
5	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$883,606,214
6	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$818,003,061
7	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$800,160,195
8	93100	Special Transactions And Commodities Not Classified According To Kind	$791,588,625
9	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$740,789,706
10	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$602,022,174
11	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$526,262,481
12	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$480,975,717
13	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$453,612,514
14	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$452,403,146
15	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$438,285,715
16	75290	Data Processing Equipment, N.E.S.	$426,347,222
17	82119	Parts Of Seats, N.E.S.	$359,026,915
18	76411	Telephone Sets	$310,143,569
19	79121	Diesel-Electric Locomotives	$294,689,590
20	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$271,315,264
21	69731	Domestic Cooking Appliances (Gas Ranges, Barbecues, Etc.) And Plate Warmers, Nonelectric, Of Iron Or Steel	$268,741,231
22	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$264,523,511
23	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$259,562,931
24	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$246,248,120
25	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$243,798,582
LAREDO			$27,690,678,510

PRESIDIO

1	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$87,041,618
2	78520	Bicycles And Other Cycles (Including Delivery Tricycles), Not Motorized	$18,826,089
3	5779	Edible Nuts (Excluding Mixtures), Fresh Or Dried, N.E.S., Whether Or Not Shelled Or Peeled	$16,808,904
4	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$5,728,779
5	93100	Special Transactions And Commodities Not Classified According To Kind	$4,336,607
6	78689	Parts Of Trailers And Semi-Trailers, For Housing Or Camping, Transport Of Goods, Trailers, N.E.S. And Vehicles Not Mechanically Propelled, N.E.S.	$4,174,892
7	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$3,667,442
8	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$2,902,617
9	69969	Articles Of Iron Or Steel, N.E.S.	$1,443,265
10	69979	Articles Of Aluminum, N.E.S.	$936,233
11	67959	Iron And Steel Tube And Pipe Fittings, N.E.S.	$844,162
12	78629	Trailers And Semi-Trailers For The Transport Of Goods, N.E.S.	$673,407
13	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$466,358
14	78537	Parts And Accessories For Bicycles And Other Cycles (Except Motorcycles And Mopeds), N.E.S.	$434,460
15	56214	Fertilizers, Double Salts And Mixtures Of Calcium Nitrate And Ammonium Nitrate, (Imports Only)	$374,390
16	84692	Gloves, N.E.S., Mittens And Mitts, Knitted Or Crocheted	$325,609
17	69782	Statuettes And Other Ornaments, Of Base Metal; Photograph, Picture Or Similar Frames, Of Base Metal; Mirrors, Of Base Metal	$271,734
18	82159	Furniture, N.E.S., Of Wood, N.E.S. (Other Than Of A Kind Used In Offices, Kitchens, Or Bedrooms)	$239,953
19	68272	Copper Tube And Pipe Fittings (E.G. Couplings, Elbows And Sleeves)	$218,821
20	5470	Vegetables Provisionally Preserved (E.G., By Sulphur Dioxide Gas, In Brine, In Sulphur Water Or Other Preservative Solutions), Inedible In That State	$209,105
21	89449	Entertainment Articles, Except Christmas Tree Lights And Other Christmas Articles	$196,742
22	69119	Metal Structures And Parts, N.E.S., Of Iron Or Steel	$150,288
23	53351	Prepared Pigments, Opacifiers And Colors, Vitrifiable Enamel Etc. Used In Ceramic, Enameling And Glass Industry; Glass Frit, Powder, Granules Or Flake	$124,583
24	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$98,547
25	89521	Ball Point Pens; Felt Tipped Or Other Porous-Tipped Pens And Markers; Fountain Pens, Stylograph And Other Pens; Propelling Or Sliding Pencils, Etc.	$85,163
PRESIDIO			$150,569,768

PROGRESO

	1	64214 Paper Sacks And Bags (Including Cones), N.E.S.	$6,227,744
	2	64213 Paper Sacks And Bags, With A Base Of 40 Cm Or Over In Width	$6,188,264
	3	85190 Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$1,359,127
	4	76499 Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$1,338,414
	5	57990 Waste, Parings And Scrap, Of Plastics, N.E.S.	$75,560
	6	89311 Sacks And Bags (Including Cones) Of Plastics	$29,962
	7	93100 Special Transactions And Commodities Not Classified According To Kind	$25,826
	8	5459 Vegetables, N.E.S. Fresh Or Chilled	$20,359
	9	26902 Used Or New Rags, Scrap Twine, Cordage, Rope And Cables And Worn Out Articles Of Twine, Cordage, Rope Or Cables Of Textile Materials	$17,905
	10	77261 Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$17,397
	11	28826 Tin Waste And Scrap	$14,814
	12	89591 Writing Or Drawing Ink And Other Inks (Except Printing Ink), Whether Or Not Concentrated Or Solid	$5,672
	13	89281 Paper And Paperboard Labels Of All Kinds, Whether Or Not Printed	$4,931
	14	74145 Refrigerating Or Freezing Equipment, N.E.S.; Heat Pumps	$4,297
	15	74291 Parts Of Pumps For Liquids	$3,600
	16	53341 Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Ar Aqueous Medium	$3,258
	17	27827 Bentonite	$3,182
	18	5798 Fruit, Fresh, N.E.S.	$3,050
	19	74591 Calendering Or Other Rolling Machines (Other Than For Metal Or Glass)	$3,040
	20	84813 Belts And Bandoliers Of Leather Or Composition Leather	$780
PROGRESO			$15,347,182

RIO GRANDE

1	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$45,942,891
2	97103	Gold Waste And Scrap (Including Metal Clad With Gold But Excluding Sweepings Containing Other Precious Metals)	$11,570,004
3	66331	Articles Of Plaster Or Of Compositions Based On Plaster	$8,260,860
4	52269	Inorganic Bases N.E.S.; Metal Oxides, Hydroxides And Peroxides, N.E.S.	$5,634,446
5	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$4,125,473
6	5459	Vegetables, N.E.S. Fresh Or Chilled	$4,063,893
7	5791	Melons (Including Watermelons) And Papaws (Papayas), Fresh	$3,914,282
8	69351	Wire Cloth (Including Endless Bands), Grill, Netting And Fencing, And Expanded Metal, Of Iron Or Steel	$3,808,005
9	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$2,957,457
10	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$2,591,787
11	5798	Fruit, Fresh, N.E.S.	$1,885,077
12	84511	Babies' Garments And Clothing Accessories Of Textile Fabrics, Not Knitted Or Crocheted	$1,570,202
13	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$1,553,217
14	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$1,485,202
15	5831	Strawberries, Uncooked Or Cooked By Steaming Or Boiling In Water, Frozen, Whether Or Not Containing Other Sweetening Matter	$1,464,376
16	84289	Singlets (Undershirts), Briefs, Panties, Negligees, Bathrobes, Dressing Gowns And Similar Articles Of Woven Textile Fabrics, Women'S Or Girls'	$1,350,428
17	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$1,194,585
18	84599	Garments, Knitted Or Crocheted, N.E.S.	$1,135,178
19	93100	Special Transactions And Commodities Not Classified According To Kind	$1,095,931
20	66139	Monumental Or Building Stone (Except Slate), N.E.S. And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$1,045,413
21	84483	Nightdresses And Pajamas, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$1,026,075
22	5469	Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or Cooked By Steaming Or Boiling In Water), Frozen	$821,159
23	84119	Anoraks (Including Ski-Jackets), Windbreakers And Similar Articles Of Woven Textile Materials, Men'S Or Boys'	$694,736
24	84489	Negligees, Bathrobes, Dressing Gowns And Similar Articles, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$694,582
25	66136	Marble, Travertine And Alabaster And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$691,586
RIO GRANDE			$110,576,845

ROMA

1	29299	Vegetable Materials And Vegetable Products, N.E.S.	$3,646,496
2	66332	Building Blocks And Bricks, Tiles, Flagstones And Similar Articles Of Cement, Concrete Or Artificial Stone	$3,547,266
3	83199	Binocular Cases, Camera Cases, Musical Instrument Cases, Etc. Of Leather, Plastic Sheeting, Textiles, Etc., N.E.S.	$1,394,147
4	77119	Electric Transformers, N.E.S.	$1,189,254
5	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$923,891
6	93100	Special Transactions And Commodities Not Classified According To Kind	$837,479
7	66244	Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Unglazed Ceramic Mosaic Cubes And The Like	$668,259
8	67650	Bars And Rods Of Iron Or Steel, N.E.S.	$618,334
9	82112	Seats Of A Kind Used For Motor Vehicles	$491,169
10	78683	Trailers And Semi-Trailers, N.E.S.	$227,366
11	89879	Recorded Media, N.E.S., Sound Or Similarly Recorded Phenomena	$219,257
12	88210	Chemicals Prepared For Photographic Use (Except Varnish, Glue, Etc.); Unmixed Products For Photo Use In Measured Portions Or Ready To Use Retail Packs	$204,763
13	89861	Magnetic Tapes, Recorded, Of A Width Not Exceeding 4 Mm, For Sound Or Image	$199,993
14	89471	Fishing Rods, Hooks, Other Tackle And Landing Nets; Butterfly Etc. Nets; Decoys (Not Collectors Items Or Decoy Calls); Hunting Etc. Requisites, N.E.S.	$190,405
15	67684	Iron And Nonalloy Steel Angles, Shapes And Sections, Cold-Formed Or Cold-Finished	$189,246
16	67944	Iron And Steel Welded Tubing And Pipe, Of Noncircular Cross-Section, N.E.S.	$154,744
17	5459	Vegetables, N.E.S. Fresh Or Chilled	$147,341
18	83122	Trunks, Suitcases, Vanity Cases, Executive Cases, Briefcases, School Satchels Etc., With Outer Surface Of Plastics Or Of Textile Materials	$137,171
19	66139	Monumental Or Building Stone (Except Slate), N.E.S. And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$90,718
20	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$72,677
21	83191	Articles (Wallets And Other Cases) Of A Kind Normally Carried In The Pocket Or Handbag	$68,679
22	89972	Brooms, Brushes (Including Brushes Which Are Parts Of Machines, Etc. Or Vehicles), Mops And Feather Dusters; Prepared Knots And Tufts; Paint Pads Etc.	$49,916
23	66112	Slaked Lime	$48,555
24	69782	Statuettes And Other Ornaments, Of Base Metal; Photograph, Picture Or Similar Frames, Of Base Metal; Mirrors, Of Base Metal	$48,396
25	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$44,532
ROMA			$15,410,054

TEXAS TOP 25 TOTAL IMPORT ACTIVITY $55,867,538,401

TEXAS TOP 25
TOTAL
U.S./MEXICO
TRADE ACTIVITY **$88,153,411,637**

Last Updated on October 24 | 2003
By TCBEED
Source: U.S. Department of Commerce Bureau of the Census, Foreign Trade Division

Appendix A-2

Texas Center for Border Economic & Enterprise Development TOP 25 EXPORTS AND IMPORTS THROUGH TEXAS PORTS

U.S. / MEXICO TRADE ACTIVITY JAN - DEC 2001

U.S. EXPORTS TO MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$441,075,899
	2	77649	Electronic Integrated Circuits And Microassemblies, N.E.S.	$354,928,090
	3	77129	Parts Of Electric Power Machinery (Other Than Rotating Electric Power Generating Machinery And Equipment), And Parts Thereof	$301,986,860
	4	89399	Articles Of Plastics, N.E.S.	$216,302,744
	5	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$209,720,212
	6	69969	Articles Of Iron Or Steel, N.E.S.	$187,810,004
	7	22220	Soybeans	$164,515,221
	8	33542	Petroleum Coke	$154,108,091
	9	26310	Cotton (Other Than Linters), Not Carded Or Combed	$132,224,621
	10	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$129,450,686
	11	33452	Petroleum Lubricating Oils And Oils From Bituminous Materials; Preparations With These Oils As Basic Constituent, Except Condensate From Natural Gas	$91,979,419
	12	65529	Knitted Or Crocheted Fabrics, N.E.S.	$76,608,491
	13	33440	Fuel Oils, N.E.S.	$72,758,645
	14	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$70,837,919
	15	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$61,802,782
	16	77869	Parts Of Electrical Capacitors	$56,337,331
	17	77688	Parts Of Diodes, Transistors And Similar Semiconductor Devices (Including Photosensitive), Light Emitting Diodes And Mounted Piezoelectric Crystals	$55,502,047
	18	77867	Fixed Capacitors, N.E.S.	$54,579,978
	19	57111	Polyethylene, Having A Specific Gravity Of Less Than 0.94, In Primary Forms	$53,037,144
	20	72849	Machinery Having Individual Functions, N.E.S.	$50,924,539
	21	87490	Parts And Accessories For Machines, Appliances, Instruments And Apparatus, N.E.S., Measuring, Checking, Analysing Or Controlling, N.E.S.	$45,627,257
	22	57419	Polyether Resins, Other Than Polyacetals, In Primary Forms	$43,023,177
	23	57112	Polyethylene, Having A Specific Gravity Of 0.94 Or More, In Primary Forms	$40,467,057
	24	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$38,911,944
	25	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$37,172,004
BROWNSVILLE				$3,141,692,162

DEL RIO

1	82119	Parts Of Seats, N.E.S.	$151,840,293
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$82,229,845
3	65315	Woven Manmade Textile Fabrics, N.E.S., Not Under 85% (Weight) Textured Filaments Of Polyester (Other Than Pile Or Chenille And Narrow Etc. Fabrics)	$77,780,900
4	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$72,041,251
5	77328	Insulating Fittings For Electrical Machines, Appliances Or Equiptment, Of Plastic Materials, But Not Including The Insulators	$47,025,096
6	89399	Articles Of Plastics, N.E.S.	$41,032,038
7	77579	Parts Of Electromechanical Domestic Appliances With Self-Contained Electricmotor	$39,879,729
8	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$37,812,106
9	65343	Woven Fabrics, Under 85% (Weight) Synthetic Staple Fibers Mixed Mainly With Fibers Except Cotton, Wool, Etc., Or Manmade Filaments (No Pile Etc.)	$37,795,691
10	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$35,326,764
11	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$34,539,166
12	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$34,338,272
13	69312	Stranded Wire, Ropes, Cables, Etc. Of Copper, Not Electrically Insulated	$29,646,172
14	67629	Alloy Steel N.E.S. Bars And Rods, N.E.S., Hot-Rolled, Hot-Drawn Or Hot-Extruded (Except High Speed Steel Or Silico-Manganese Steel)	$29,340,557
15	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$22,706,793
16	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$22,043,387
17	77311	Insulated Electric Winding Wire	$21,958,198
18	74492	Parts Of Lifting And Handling Machinery	$21,437,743
19	121	Sheep, Live	$18,442,453
20	77254	Relays For Electrical Apparatus Used With Electrical Circuits Not Exceeding 1,000 Volts	$17,670,808
21	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$16,424,648
22	58291	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Cellular	$15,812,986
23	58299	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Noncellular	$14,650,890
24	65613	Narrow Woven Fabrics, N.E.S.	$12,566,216
25	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$11,984,095
DEL RIO			$946,326,097

EAGLE PASS

1	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$495,269,343
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$324,693,112
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$304,828,172
4	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$190,981,231
5	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$127,142,267
6	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$110,221,046
7	34210	Propane, Liquefied	$98,269,025
8	79199	Parts Of Railway Or Tramway Locomotives Or Rolling Stock Railway Vehicles; Parts Of Railway Or Tramway Coaches, Vans, Trucks, Service Vehicles, Etc.	$96,178,622
9	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$83,824,940
10	65243	Cotton Woven Fabrics, N.E.S., Denim, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$79,637,583
11	22220	Soybeans	$69,476,651
12	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$52,119,566
13	69915	Mountings, Fittings And Similar Articles For Motor Vehicles, N.E.S., Of Base Metal	$44,597,018
14	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$44,389,629
15	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$43,401,887
16	77831	Electrical Ignition Or Starting Equipment Used For Spark-Ignition Or Compression-Ignition Internal Combustion Engines; Generators And Cut-Outs, Etc.	$42,427,865
17	21111	Hides And Skins (Excluding Those Of Heading 211.2) Of Bovine Animals, Fresh Or Wet-Salted	$37,854,891
18	4530	Grain Sorghum, Unmilled	$36,475,894
19	62999	Articles Of Unhardened Noncellular Vulcanized Rubber, N.E.S.	$35,082,216
20	74315	Compressors Of A Kind Used In Refrigerating Equipment	$35,057,677
21	4410	Maize (Corn) Seed	$34,441,297
22	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$32,749,048
23	66481	Rear-View Mirrors For Vehicles	$32,019,562
24	32121	Bituminous Coal, Pulverized Or Not, But Not Agglomerated	$28,143,572
25	74155	Air Conditioning Machines, N.E.S.	$26,411,227
EAGLE PASS			$2,505,693,341

EDINBURGH AIRPORT				
	1	55423	Surface-Active Washing Or Cleaning Preparations, N.E.S., Not Put Up For Retail Sale	$9,280
EL PASO				
	1	77641	Digital Monolithic Integrated Units	$1,057,346,448
	2	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$722,405,875
	3	89399	Articles Of Plastics, N.E.S.	$609,550,873
	4	77611	Television Picture Tubes, Color	$477,783,675
	5	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$393,092,554
	6	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$380,768,795
	7	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$339,337,169
	8	69969	Articles Of Iron Or Steel, N.E.S.	$318,456,430
	9	75270	Storage Units, Whether Or Not Presented With The Rest Of The System For Data Processing	$279,411,147
	10	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$246,440,914
	11	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$205,035,826
	12	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$196,431,679
	13	82119	Parts Of Seats, N.E.S.	$193,681,455
	14	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$184,650,373
	15	77643	Nondigital Monolithic Integrated Units	$180,708,141
	16	77220	Printed Circuits	$178,937,033
	17	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$166,590,638
	18	77258	Electric Plugs And Sockets, For Voltages Not Exceeding 1,000 Volts	$166,100,276
	19	76491	Parts Of Electrical Apparatus For Line Telephony Or Line Telegraphy (Including Apparatus For Carrier-Current Line Systems)	$162,052,183
	20	77645	Hybrid Integrated Circuits	$146,303,577
	21	87229	Instruments And Appliances Used In Medical, Surgical Or Veterinary Sciences, N.E.S.	$136,365,279
	22	77311	Insulated Electric Winding Wire	$129,270,484
	23	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$127,607,638
	24	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$126,137,853
	25	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$118,850,536
EL PASO				$7,243,316,851

FABENS				
			Punching Or Notching Machines, N.E.S. (Including Presses), Including Combined Punching And Shearing Machines (Not	
	1	73317	Numerically Controlled)	$67,000
	2	89429	Toys, N.E.S.	$40,011
	3	64154	Multi-Ply Paper And Paperboard, Uncoated, In Rolls Or Sheets	$35,788
FABENS				$142,799
HIDALGO				
	1	77643	Nondigital Monolithic Integrated Units	$215,939,752
	2	34310	Natural Gas, Liquefied	$178,211,220
	3	77867	Fixed Capacitors, N.E.S.	$171,569,026
			Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy,	
	4	76493	Broadcasting Or Television Etc.	$170,353,557
			Parts N.E.S. For Use Solely Or Principally With Electric Motors,	
	5	71690	Electric Generators, Electric Generating Sets And Rotary Converters	$153,715,552
	6	89399	Articles Of Plastics, N.E.S.	$150,042,351
			Other Parts And Accessories Of Motor Vehicle Bodies Of Headings	
	7	78432	8701 To 8705 (Including Cabs)	$129,752,478
			Storage Units, Whether Or Not Presented With The Rest Of The	
	8	75270	System For Data Processing	$122,666,469
	9	75290	Data Processing Equipment, N.E.S.	$109,294,831
	10	77611	Television Picture Tubes, Color	$96,324,591
			Variable Electrical Resistors (Including Reostats And	
	11	77235	Potentiometers), N.E.S.	$95,601,362
	12	77220	Printed Circuits	$87,992,267
			Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not	
	13	77259	Exceeding 1,000 V	$85,389,290
			Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And	
	14	75997	Processing Data N.E.S.	$80,460,633
			Articles For The Conveyance Or Packing Of Goods, N.E.S., Of	
	15	89319	Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$73,244,181
	16	77649	Electronic Integrated Circuits And Microassemblies, N.E.S.	$71,174,761
	17	69969	Articles Of Iron Or Steel, N.E.S.	$68,930,432
	18	77641	Digital Monolithic Integrated Units	$65,879,455
	19	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$61,096,130
	20	71491	Parts For Turbojets Or Turbopropellers	$58,475,114
			Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-	
	21	71391	Ignition Internal Combustion Piston Engines	$57,092,671
			Parts Of Electrical Apparatus For Switching Or Protecting Electrical	
	22	77282	Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$55,782,156
			Parts Of The Apparatus For Sound Recorders Or Reproducers And	
	23	76499	Parts Of Television Image And Sound Recorders Or Reproducers	$55,205,920
	24	77232	Fixed Electrical Resistors, N.E.S	$51,955,373
	25	77311	Insulated Electric Winding Wire	$50,342,729
HIDALGO				$2,516,492,301

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$3,039,600,085
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$1,582,466,153
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,384,521,132
4	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$551,492,203
5	78434	Gear Boxes	$544,366,407
6	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$527,368,868
7	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$521,820,941
8	71323	Compression-Ignition Engines (Diesel Or Semi-Diesel), For Road Vehicles, Etc.	$486,117,091
9	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$394,794,260
10	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$350,315,878
11	82119	Parts Of Seats, N.E.S.	$330,204,287
12	26310	Cotton (Other Than Linters), Not Carded Or Combed	$323,682,216
13	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$301,815,893
14	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$299,356,475
15	1112	Meat Of Bovine Animals, Boneless, Fresh Or Chilled	$285,198,467
16	77643	Nondigital Monolithic Integrated Units	$278,500,591
17	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$267,806,019
18	88230	Photographic Film In Rolls, Sensitised, Unexposed, Except Of Paper, Paperboard Or Textiles; Instant Print Film In Rolls, Sensitised, Unexposed	$266,409,448
19	62510	New Pneumatic Rubber Tires, Of A Kind Used On Motor Cars (Including Station Wagons And Racing Cars)	$255,166,138
20	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$254,451,120
21	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$240,380,818
22	78436	Non-Driving Axles And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$226,614,461
23	8195	Dog Or Cat Food, Put Up For Retail Sale	$223,308,097
24	62520	New Pneumatic Rubber Tires, Of A Kind Used On Buses And Trucks	$219,185,638
25	57112	Polyethylene, Having A Specific Gravity Of 0.94 Or More, In Primary Forms	$213,591,750
LAREDO			$13,368,534,436

PRESIDIO

1	26310	Cotton (Other Than Linters), Not Carded Or Combed	$9,398,681
2	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$9,178,325
3	29252	Seeds Of Forage Plants, Other Than Beet Seed	$5,650,596
4	72123	Harvesting And Threshing Machinery, N.E.S.; Mowers, N.E.S. (Other Than Mowers For Lawns, Parks Or Sports Grounds)	$4,798,549
5	51131	Vinyl Chloride (Chloroethylene)	$2,884,575
6	74291	Parts Of Pumps For Liquids	$2,661,340
7	25151	Chemical Wood Pulp, Coniferous, Soda Or Sulfate, Semibleached Or Bleached (Other Than Dissolving Grades)	$2,593,754
8	74564	Agricultural Or Horticultural Appliances For Projecting, Dispersing Or Spraying Liquids Or Powders	$2,083,847
9	78689	Parts Of Trailers And Semi-Trailers, For Housing Or Camping, Transport Of Goods, Trailers, N.E.S. And Vehicles Not Mechanically Propelled, N.E.S.	$1,932,106
10	89425	Toys Representing Animals Or Non-Human Creatures	$1,683,432
11	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,434,942
12	72249	Wheeled Tractors, N.E.S.	$1,392,385
13	72122	Combine Harvester-Threshers	$1,185,943
14	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$1,161,494
15	67681	Iron And Nonalloy Steel U, I, H, L And T Sections, Under 80 Mm High, Hot-Rolled, Hot-Drawn Or Extruded	$1,143,259
16	62559	New Pneumatic Rubber Tires, N.E.S.	$754,975
17	69969	Articles Of Iron Or Steel, N.E.S.	$713,014
18	68423	Aluminum And Aluminum Alloy Plates, Sheets And Strip, Over .2 Mm Thick	$669,643
19	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$662,353
20	22212	Groundnuts (Peanuts), Not Roasted Or Cooked, Shelled	$655,576
21	85131	Footwear, N.E.S., With Outer Soles And Uppers Of Rubber Or Plastics Assembled By Other Than Stitching, Screwing, Riveting Or Similar Processes	$625,768
22	72127	Machines For Cleaning, Sorting Or Grading Seed, Grain Or Dried Leguminous Vegetables N.E.S. (Not Including Milling Machinery)	$594,825
23	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$566,949
24	85125	Tennis Shoes, Basketball Shoes, Gym Shoes, Training Shoes And The Like And Other Sports Footwear With Outer Soles Of Rubber Or Plastics, N.E.S.	$566,603
25	72121	Mowers For Lawns, Parks Or Sports Grounds	$556,764
PRESIDIO			$55,549,698

PROGRESO

1	4530	Grain Sorghum, Unmilled	$31,633,475
2	4814	Worked Cereal Grains N.E.S. (E.G. Hulled, Pearled, Clipped, Sliced Or Kibbled), Except Semi-Milled Or Wholly Milled Rice	$27,061,551
3	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$14,237,265
4	22230	Cottonseeds	$14,099,155
5	8133	Oil-Cake And Other Solid Residues (Except Dregs), Whether Ground Or In The Form Of Pellets, From The Extraction Of Fats Or Oils From Cottonseeds	$7,539,860
6	64110	Newsprint In Rolls Or Sheets	$5,529,330
7	5423	Beans, Other Than Broad Beans And Horse Beans, Dried, Shelled	$4,038,402
8	64169	Paper, Creped, Crinkled, Embossed Or Perforated, N.E.S., In Rolls Or Sheets	$3,596,383
9	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,756,801
10	8125	Bran, Sharps And Other Residues Derived From The Sifting, Milling Or Other Working Of Rice	$1,516,396
11	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,467,602
12	76383	Sound Reproducing Apparatus, N.E.S.	$919,496
13	64299	Articles Of Paper Pulp, Paper, Paperboard, Cellulose Wadding Or Webs Of Cellulose Fibers, N.E.S.	$875,084
14	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$846,741
15	78535	Parts And Accessories For Motorcycles (Including Mopeds)	$713,000
16	59227	Glues Based On Starches, Dextrins Or Other Modified Starches	$632,623
17	26662	Synthetic Filament Tow Of Polyesters	$602,575
18	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$589,900
19	4520	Oats, Unmilled	$470,210
20	64161	Kraft Sack Paper, Creped Or Crinkled, Whether Or Not Embossed Or Perforated, In Rolls Or Sheets	$467,218
21	53341	Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Ar Aqueous Medium	$405,598
22	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$393,442
23	8151	Residues Of Starch Manufacture And Similar Residues	$362,743
24	4410	Maize (Corn) Seed	$362,063
25	8199	Preparations Of A Kind Used For Animal Food, N.E.S.	$351,898
PROGRESO			$120,468,811

RIO GRANDE

1	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$38,950,016
2	4530	Grain Sorghum, Unmilled	$12,599,613
3	66749	Synthetic Or Reconstructed Precious Or Semiprecious Stones, N.E.S., Not Strung, Mounted, Or Set (Including Ungraded Stones Strung Only For Transport)	$9,546,208
4	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$7,858,478
5	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$4,939,382
6	59899	Chemical Products And Preparations, N.E.S.	$4,607,384
7	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$4,045,332
8	84119	Anoraks (Including Ski-Jackets), Windbreakers And Similar Articles Of Woven Textile Materials, Men'S Or Boys'	$3,247,687
9	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$1,893,457
10	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,831,807
11	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$1,501,100
12	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$1,352,818
13	59149	Rodenticides And Similar Products Put Up Or Packed For Retail Sale Or As Preparations Or Articles	$1,271,160
14	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$1,027,126
15	66391	Ceramic Wares (Laboratory, Chemical Etc.) For Technical Use; Ceramic Receptacles Used In Agriculture; Ceramic Containers For Transport Or Packing	$943,167
16	29294	Vegetable Saps And Extracts	$777,040
17	65495	Woven Pile And Chenille Fabrics, N.E.S., Of Textile Materials Other Than Wool, Cotton And Manmade Fibers (Excluding Narrow Fabrics)	$691,238
18	55310	Perfumes And Toilet Waters	$553,670
19	89431	Video Games Of A Kind Used With A Television Receiver	$551,237
20	76333	Record Players, N.E.S. (Other Than Coin- Or Disc-Operated), Not Incorporating A Sound Recording Device	$537,548
21	59897	Prepared Additives For Cements, Mortars Or Concretes	$439,946
22	76422	Loudspeakers, Mounted In Their Enclosures	$419,102
23	66122	Portland Cement	$346,705
24	65612	Narrow Woven Fabrics, N.E.S., Containing 5% (Weight) Or More Elastomeric Yarn Or Rubber Thread	$308,450
25	54162	Glands, Other Organs, Dried And/Or Extracts Of Glands Etc. And Other Human Or Animal Products N.E.S. For Organo-Therapeutic Use; Heparin And Its Salts	$303,514
RIO GRANDE			$100,543,185

ROMA				
	1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$9,025,457
	2	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$7,612,943
	3	76424	Headphones, Earphones And Combined Microphone/Speaker Sets	$6,269,706
	4	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$4,964,990
	5	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$4,888,450
	6	89439	Articles For Funfair, Table And Parlor Games, N.E.S.	$4,832,959
	7	12220	Cigarettes Containing Tobacco	$4,473,869
	8	76333	Record Players, N.E.S. (Other Than Coin- Or Disc-Operated), Not Incorporating A Sound Recording Device	$3,468,600
	9	55310	Perfumes And Toilet Waters	$3,263,807
	10	89431	Video Games Of A Kind Used With A Television Receiver	$2,982,279
	11	72329	Self-Propelled Mechanical Shovels, Excavators And Shovel-Loaders, N.E.S.	$2,947,835
	12	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$2,464,729
	13	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$1,603,952
	14	81100	Prefabricated Buildings	$1,331,391
	15	71392	Parts, N.E.S., Suitable For Use Solely Or Principally With Compression-Ignition Internal Combustion Piston Engines	$1,269,440
	16	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$1,175,961
	17	74494	Parts Of Lifting, Handling, Loading Or Unloading Machinery, N.E.S.	$1,156,656
	18	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$1,025,124
	19	58226	Plates, Sheets, Film, Foil And Strip Of Polycarbonates, Alkyd Resins Or Other Polyesters, Not Self-Adhesive And Not Reinforced, Laminated, Etc.	$939,954
	20	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$898,808
	21	74439	Derricks, Cranes, Etc. N.E.S., Not Self-Propelled	$842,873
	22	77812	Electric Accumulators (Storage Batteries)	$831,256
	23	89425	Toys Representing Animals Or Non-Human Creatures	$772,230
	24	89399	Articles Of Plastics, N.E.S.	$764,141
	25	88121	Cinematographic Cameras	$762,468
ROMA				$70,569,878
TEXAS TOP 25 TOTAL EXPORT ACTIVITY				$30,069,338,839

U.S. IMPORTS FROM MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$768,697,904
	2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$427,474,085
	3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$355,929,890
	4	93100	Special Transactions And Commodities Not Classified According To Kind	$221,666,890
	5	77121	Static Converters (E.G., Rectifiers)	$186,139,807
	6	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$179,039,947
	7	77123	Ballasts For Discharge Lamps Or Tubes	$172,328,044
	8	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$147,807,905
	9	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$89,819,641
	10	77862	Tantalum Fixed Capacitors	$87,355,517
	11	66492	Glass Multiple Walled Insulating Units	$86,758,597
	12	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$82,721,577
	13	23211	Styrene-Butadiene Rubber (Sbr); Carboxylated Styrene-Butadiene Rubber (Xsbr), In Primary Forms Or In Plates, Etc.	$78,014,071
	14	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$70,797,975
	15	77637	Photosensitive Semiconductor Devices; Light Emitting Diodes	$69,113,580
	16	52236	Inorganic Acids, N.E.S.	$60,734,913
	17	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$54,277,703
	18	67553	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm Wide, Over 1 Mm But Under 3 Mm Thick	$51,314,361
	19	77252	Automatic Circuit Breakers For A Voltage Not Exceeding 1,000 Volts	$44,859,586
	20	77688	Parts Of Diodes, Transistors And Similar Semiconductor Devices (Including Photosensitive), Light Emitting Diodes And Mounted Piezoelectric Crystals	$43,815,867
	21	77587	Electrothermic Domestic Appliances, N.E.S.	$43,713,112
	22	67554	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm, Not Under .5 Mm But Not Over 1 Mm Thick	$41,676,409
	23	76212	Radiobroadcast Receivers, Not Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$39,244,666
	24	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$37,338,574
	25	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$35,656,790
BROWNSVILLE				$3,476,297,411

DEL RIO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$258,503,858
2	82119	Parts Of Seats, N.E.S.	$229,718,654
3	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$83,582,805
4	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$67,023,029
5	77572	Food Grinders And Mixers; Fruit Or Vegetable Juice Extractors, Electromechanical, Domestic	$62,815,563
6	74720	Valves For Oleohydraulic Or Pneumatic Transmissions	$40,024,857
7	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$34,486,109
8	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$28,693,587
9	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$27,014,324
10	93100	Special Transactions And Commodities Not Classified According To Kind	$22,795,754
11	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$20,118,623
12	85151	Footwear, N.E.S., With Outer Soles Of Rubber Or Plastics And Uppers Of Tex Tile Materials	$19,798,292
13	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$18,828,904
14	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$17,607,460
15	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$16,869,259
16	77589	Parts Of Electrothermic Appliances N.E.S.	$13,682,513
17	74412	Self-Propelled Trucks Fitted With Lifting Or Handling Equipment, N.E.S.	$12,910,875
18	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$9,296,813
19	77821	Filament Lamps (Other Than Flashbulbs, Infrared And Ultraviolet Lamps And Sealed Beam Lamp Units)	$8,829,880
20	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$7,869,323
21	77884	Electric Sound Or Visual Signaling Apparatus, N.E.S., Including Sirens, Indicator Panels, Burglar And Fire Alarms	$7,767,952
22	74319	Air Or Vacuum Pumps, N.E.S.	$7,436,074
23	82129	Articles Of Bedding, N.E.S., Including Cushions, Quilts And Pillows	$7,180,437
24	77119	Electric Transformers, N.E.S.	$7,010,648
25	89478	Articles And Equipment For General Physical Exercise, Gymnastics Or Athletics	$6,989,156
DEL RIO			$1,036,854,749

EAGLE PASS

1	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$339,229,841
2	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$287,893,554
3	69941	Springs And Leaves For Springs, Of Iron Or Steel	$254,938,781
4	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$230,450,118
5	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$202,386,503
6	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$182,043,152
7	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$158,572,223
8	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$106,362,680
9	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$88,916,859
10	68211	Unrefined Copper (Including Blister Copper But Excluding Cement Copper); Copper Anodes For Electrolytic Refining	$74,028,594
11	82119	Parts Of Seats, N.E.S.	$59,655,543
12	93100	Special Transactions And Commodities Not Classified According To Kind	$49,739,823
13	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$48,804,762
14	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$38,054,921
15	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$36,080,465
16	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$34,684,238
17	84621	Panty Hose And Tights	$28,247,808
18	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$26,960,837
19	82129	Articles Of Bedding, N.E.S., Including Cushions, Quilts And Pillows	$26,883,927
20	77119	Electric Transformers, N.E.S.	$26,431,345
21	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$22,935,144
22	68611	Zinc, Unwrought (Not Alloyed)	$21,134,984
23	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$19,416,155
24	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$18,774,713
25	74145	Refrigerating Or Freezing Equipment, N.E.S.; Heat Pumps	$18,558,871
EAGLE PASS			$2,401,185,841

EDINBURGH AIRPORT				
	1	84482	Briefs And Panties, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$4,660
EL PASO				
	1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$2,187,906,525
	2	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$1,515,305,434
	3	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$1,425,898,682
	4	82119	Parts Of Seats, N.E.S.	$1,337,039,601
	5	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,130,613,760
	6	93100	Special Transactions And Commodities Not Classified According To Kind	$1,017,972,003
	7	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$995,931,512
	8	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$735,953,052
	9	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$670,831,444
	10	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$438,689,982
	11	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$422,190,966
	12	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$401,612,130
	13	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$399,570,257
	14	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$393,130,931
	15	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$385,845,889
	16	87325	Speedometers And Tachometers; Stroboscopes	$350,056,976
	17	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$323,531,580
	18	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$291,896,151
	19	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$280,221,018
	20	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$273,646,831
	21	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$268,371,766
	22	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$220,033,726
	23	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$216,770,445
	24	87229	Instruments And Appliances Used In Medical, Surgical Or Veterinary Sciences, N.E.S.	$198,882,261
	25	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$193,648,989
EL PASO				$16,075,551,911

FABENS				
	1	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$2,741,744
FABENS				$2,741,744
HIDALGO				
	1	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$707,082,744
	2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$386,663,993
	3	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$321,193,065
	4	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$289,166,985
	5	76483	Radar Apparatus, Radio Navigational Aid Apparatus And Radio Remote Control Apparatus	$258,503,025
	6	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$255,748,780
	7	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$226,902,176
	8	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$168,771,775
	9	93100	Special Transactions And Commodities Not Classified According To Kind	$163,559,410
	10	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$137,286,646
	11	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$136,340,192
	12	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$118,139,465
	13	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$117,842,478
	14	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$114,956,450
	15	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$106,048,585
	16	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$95,342,483
	17	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$94,970,043
	18	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$85,310,763
	19	87325	Speedometers And Tachometers; Stroboscopes	$83,727,601
	20	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$79,657,633
	21	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$72,412,689
	22	76423	Loudspeakers Not Mounted In Their Enclosures	$70,085,399
	23	84629	Hosiery, N.E.S.	$65,350,797
	24	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$62,197,659
	25	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$56,455,064
HIDALGO				$4,273,715,900

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$9,602,677,705
2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$6,101,271,173
3	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,143,568,584
4	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$1,085,328,267
5	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$956,256,962
6	93100	Special Transactions And Commodities Not Classified According To Kind	$880,109,617
7	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$819,010,717
8	75290	Data Processing Equipment, N.E.S.	$768,636,325
9	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$724,869,023
10	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$633,454,079
11	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$569,103,846
12	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$539,145,236
13	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$527,510,086
14	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$500,424,837
15	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$481,824,936
16	77521	Refrigerators, Household Type (Electric Or Other), Whether Or Not Containing A Deep-Freezer Compartment	$428,782,130
17	82119	Parts Of Seats, N.E.S.	$411,650,234
18	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$382,779,920
19	81311	Chandeliers And Other Electric Ceiling And Wall Lighting Fittings (Except Those For Lighting Of Public Open Spaces And Thoroughfares)	$367,862,283
20	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$339,831,867
21	69731	Domestic Cooking Appliances (Gas Ranges, Barbecues, Etc.) And Plate Warmers, Nonelectric, Of Iron Or Steel	$274,991,368
22	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$270,706,956
23	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$266,156,970
24	77812	Electric Accumulators (Storage Batteries)	$262,302,539
25	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$221,887,017
LAREDO			$28,560,142,677

PRESIDIO				
	1	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$83,081,403
	2	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$9,691,493
	3	5779	Edible Nuts (Excluding Mixtures), Fresh Or Dried, N.E.S., Whether Or Not Shelled Or Peeled	$8,539,833
	4	78689	Parts Of Trailers And Semi-Trailers, For Housing Or Camping, Transport Of Goods, Trailers, N.E.S. And Vehicles Not Mechanically Propelled, N.E.S.	$4,582,900
	5	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$1,960,464
	6	93100	Special Transactions And Commodities Not Classified According To Kind	$1,738,901
	7	69969	Articles Of Iron Or Steel, N.E.S.	$1,672,818
	8	69979	Articles Of Aluminum, N.E.S.	$1,487,042
	9	67959	Iron And Steel Tube And Pipe Fittings, N.E.S.	$839,075
	10	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$664,789
	11	78629	Trailers And Semi-Trailers For The Transport Of Goods, N.E.S.	$659,412
	12	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$319,438
	13	5470	Vegetables Provisionally Preserved (E.G., By Sulphur Dioxide Gas, In Brine, In Sulphur Water Or Other Preservative Solutions), Inedible In That State	$280,409
	14	7513	Fruits Of The Genus Capsicum Or Of The Genus Pimenta, Dried Or Crushed Or Ground	$251,453
	15	89449	Entertainment Articles, N.E.S., Including Festive, Carnival Or Other Entertainment Articles, Except Christmas Tree Lights And Other Christmas Articles	$215,346
	16	56214	Fertilizers, Double Salts And Mixtures Of Calcium Nitrate And Ammonium Nitrate, (Imports Only)	$186,922
	17	65759	Articles Of Artificial And Synthetic Textile Monofilaments, Strip, Etc., And Twine, Cordage Or Rope, N.E.S.	$136,784
	18	8113	Swedes, Mangolds, Fodder Roots, Clover, Sainfoin, Forage Kale, Lupines, Vetches And Similar Forage Products, Whether Or Not In Pellet Form	$115,500
	19	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$110,194
	20	82159	Furniture, N.E.S., Of Wood, N.E.S. (Other Than Of A Kind Used In Offices, Kitchens, Or Bedrooms)	$103,804
	21	84692	Gloves, N.E.S., Mittens And Mitts, Knitted Or Crocheted	$70,590
	22	58160	Tubes, Pipes And Hoses Of Plastics, N.E.S.	$63,617
	23	89521	Ball Point Pens; Felt Tipped Or Other Porous-Tipped Pens And Markers; Fountain Pens, Stylograph And Other Pens; Propelling Or Sliding Pencils, Etc.	$57,299
	24	72722	Machinery, N.E.S., For The Industrial Preparation Or Manufacture Of Food Or Drink	$54,453
	25	89650	Collections And Collectors' Pieces Of Zoological, Botanical, Mineralogical, Anatomical, Historical, Archaeological, Numismatic, Etc. Interest	$45,330
PRESIDIO				$116,929,269

PROGRESO

1	64213	Paper Sacks And Bags, With A Base Of 40 Cm Or Over In Width	$3,794,811
2	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$2,970,306
3	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$500,916
4	89963	Orthopedic Or Fracture Appliances, Including Artificial Joints	$74,990
5	89332	Tableware, Kitchenware, Other Household Articles And Toilet Articles Of Plastics	$21,856
6	89311	Sacks And Bags (Including Cones) Of Plastics	$20,554
7	57990	Waste, Parings And Scrap, Of Plastics, N.E.S.	$19,402
8	87219	Dental Instruments And Appliances, N.E.S.	$10,131
9	53341	Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Aqueous Medium	$7,668
10	28826	Tin Waste And Scrap	$7,407
11	26902	Used Or New Rags, Scrap Twine, Cordage, Rope And Cables And Worn Out Articles Of Twine, Cordage, Rope Or Cables Of Textile Materials	$5,613
12	5459	Vegetables, N.E.S. Fresh Or Chilled	$4,899
13	89281	Paper And Paperboard Labels Of All Kinds, Whether Or Not Printed	$2,657
14	93100	Special Transactions And Commodities Not Classified According To Kind	$2,048
15	89929	Artificial Flowers, Foliage Or Fruit And Articles And Parts Thereof, Of Materials Other Than Plastics	$1,059

PROGRESO $7,444,317

RIO GRANDE

1	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$49,134,751
2	28929	Waste And Scrap Of Precious Metals N.E.S., Or Of Metals Clad With Precious Metal Other Than Gold Or Platinum	$15,740,703
3	66331	Articles Of Plaster Or Of Compositions Based On Plaster	$6,010,342
4	5459	Vegetables, N.E.S. Fresh Or Chilled	$4,873,421
5	5791	Melons (Including Watermelons) And Papaws (Papayas), Fresh	$4,124,356
6	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$3,469,913
7	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$3,351,759
8	69351	Wire Cloth (Including Endless Bands), Grill, Netting And Fencing, And Expanded Metal, Of Iron Or Steel	$3,161,773
9	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$3,123,792
10	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$2,287,951
11	66136	Marble, Travertine And Alabaster And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$1,853,348
12	5798	Fruit, Fresh, N.E.S.	$1,776,621
13	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$1,745,239
14	5469	Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or Cooked By Steaming Or Boiling In Water), Frozen	$1,051,691
15	84511	Babies' Garments And Clothing Accessories Of Textile Fabrics, Not Knitted Or Crocheted	$1,043,967
16	97103	Gold Waste And Scrap (Including Metal Clad With Gold But Excluding Sweepings Containing Other Precious Metals)	$1,016,511
17	93100	Special Transactions And Commodities Not Classified According To Kind	$879,501
18	66139	Monumental Or Building Stone (Except Slate), N.E.S. And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$847,707
19	84512	Babies' Garments And Clothing Accessories Of Textile Fabrics, Knitted Or Crocheted	$846,727
20	84119	Anoraks (Including Ski-Jackets), Windbreakers And Similar Articles Of Woven Textile Materials, Men'S Or Boys'	$822,946
21	84599	Garments, Knitted Or Crocheted, N.E.S.	$753,044
22	5831	Strawberries, Uncooked Or Cooked By Steaming Or Boiling In Water, Frozen, Whether Or Not Containing Other Sweetening Matter	$750,512
23	81399	Parts N.E.S., Of Lamps And Lighting Fittings, N.E.S., And Parts Of Illuminated Signs And Nameplates, Etc., Of Materials Other Than Glass Or Plastics	$630,071
24	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$628,707
25	29299	Vegetable Materials And Vegetable Products, N.E.S.	$494,333
RIO GRANDE			$110,419,686

ROMA

1	29299	Vegetable Materials And Vegetable Products, N.E.S.	$4,086,283
2	66332	Building Blocks And Bricks, Tiles, Flagstones And Similar Articles Of Cement, Concrete Or Artificial Stone	$2,952,629
3	67650	Bars And Rods Of Iron Or Steel, N.E.S.	$2,607,175
4	83199	Binocular Cases, Camera Cases, Musical Instrument Cases, Etc. Of Leather, Plastic Sheeting, Textiles, Etc., N.E.S.	$973,616
5	77119	Electric Transformers, N.E.S.	$902,804
6	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$646,790
7	66244	Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Unglazed Ceramic Mosaic Cubes And The Like	$526,805
8	78683	Trailers And Semi-Trailers, N.E.S.	$339,085
9	93100	Special Transactions And Commodities Not Classified According To Kind	$320,618
10	82112	Seats Of A Kind Used For Motor Vehicles	$292,555
11	67684	Iron And Nonalloy Steel Angles, Shapes And Sections, Cold-Formed Or Cold-Finished	$272,932
12	61290	Articles Of Leather Or Of Composition Leather, N.E.S.	$247,840
13	83122	Trunks, Suitcases, Vanity Cases, Executive Cases, Briefcases, School Satchels Etc., With Outer Surface Of Plastics Or Of Textile Materials	$209,357
14	89471	Fishing Rods, Hooks, Other Tackle And Landing Nets; Butterfly Etc. Nets; Decoys (Not Collectors Items Or Decoy Calls); Hunting Etc. Requisites, N.E.S.	$168,164
15	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$140,214
16	71899	Parts Of Reaction Engines (Except Turbojet), Linear Acting Hydraulic And Pneumatic Power Engines And Motors, And Parts Of Engines And Motors N.E.S.	$132,908
17	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$121,809
18	67944	Iron And Steel Welded Tubing And Pipe, Of Noncircular Cross-Section, N.E.S.	$121,020
19	89879	Recorded Media, N.E.S., Sound Or Similarly Recorded Phenomena	$119,477
20	89972	Brooms, Brushes (Including Brushes Which Are Parts Of Machines, Etc. Or Vehicles), Mops And Feather Dusters; Prepared Knots And Tufts; Paint Pads Etc.	$92,324
21	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$78,774
22	72113	Scarifiers, Cultivators, Weeders, Hoes And Harrows (Other Than Hand Tools)	$75,436
23	69211	Metal Reservoirs, Tanks, Vats And Similar Containers With A Capacity Of Over 300 Liters, Of Iron Or Steel	$54,902
24	5459	Vegetables, N.E.S. Fresh Or Chilled	$54,291
25	53354	Glaziers' Putty; Grafting Putty; Resin Cement, Caulking Compounds And Other Mastics; Painters' Fillings; Nonrefractory Surfacing Preparations	$45,897
ROMA			$15,583,705

TEXAS TOP 25 TOTAL IMPORT ACTIVITY $56,076,871,870

TEXAS TOP 25 TOTAL U.S./MEXICO TRADE ACTIVITY **$86,146,210,709**

Last Updated on October 17 | 2003
By TCBEED
Source: U.S. Department of Commerce Bureau of the Census, Foreign Trade Division

Appendix A-2

Texas Center for Border Economic & Enterprise Development TOP 25 EXPORTS AND IMPORTS THROUGH TEXAS PORTS
U.S. / MEXICO TRADE ACTIVITY JAN - DEC 2002
U.S. EXPORTS TO MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$401,753,961
	2	77869	Parts Of Electrical Capacitors	$259,598,076
	3	69969	Articles Of Iron Or Steel, N.E.S.	$182,547,860
	4	22220	Soybeans	$170,941,891
	5	89399	Articles Of Plastics, N.E.S.	$144,646,182
	6	77641	Digital Monolithic Integrated Units	$105,200,778
	7	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$98,928,316
	8	88111	Photographic (Other Than Cinematographic) Cameras	$95,900,625
	9	71652	Electric Generating Sets, N.E.S	$93,469,685
	10	26310	Cotton (Other Than Linters), Not Carded Or Combed	$89,994,991
	11	33468	Lubricating Oils And Greases, With Or Without Additives, Except Waste	$87,783,198
	12	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$79,759,275
	13	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$75,300,993
	14	72849	Machinery Having Individual Functions, N.E.S.	$67,268,966
	15	65529	Knitted Or Crocheted Fabrics, N.E.S.	$66,062,250
	16	77645	Hybrid Integrated Circuits	$55,497,478
	17	84619	Clothing Accessories N.E.S., Parts Of Garments Or Clothing (Other Than Brassieres, Girdles, Corsets, Suspenders Etc.), Not Knitted Or Crocheted	$53,688,237
	18	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$51,281,179
	19	57111	Polyethylene, Having A Specific Gravity Of Less Than 0.94, In Primary Forms	$50,905,092
	20	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$42,869,800
	21	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$42,616,424
	22	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$42,148,412
	23	57419	Polyether Resins, Other Than Polyacetals, In Primary Forms	$41,822,475
	24	59899	Chemical Products And Preparations, N.E.S.	$41,003,016
	25	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$40,374,224
BROWNSVILLE				$2,481,363,384

DEL RIO

1	82119	Parts Of Seats, N.E.S.	$187,564,118
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$117,262,001
3	65315	Woven Manmade Textile Fabrics, N.E.S., Not Under 85% (Weight) Textured Filaments Of Polyester (Other Than Pile Or Chenille And Narrow Etc. Fabrics)	$72,797,282
4	77328	Insulating Fittings For Electrical Machines, Appliances Or Equiptment, Of Plastic Materials, But Not Including The Insulators	$54,188,950
5	65343	Woven Fabrics, Under 85% (Weight) Synthetic Staple Fibers Mixed Mainly With Fibers Except Cotton, Wool, Etc., Or Manmade Filaments (No Pile Etc.)	$43,220,059
6	89399	Articles Of Plastics, N.E.S.	$42,936,339
7	77821	Filament Lamps (Other Than Flashbulbs, Infrared And Ultraviolet Lamps And Sealed Beam Lamp Units)	$42,446,944
8	74380	Parts For Air Or Vacuum Pumps, Air Or O+D18ther Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$42,346,370
9	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$41,696,696
10	69312	Stranded Wire, Ropes, Cables, Etc. Of Copper, Not Electrically Insulated	$40,072,504
11	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$38,361,354
12	77579	Parts Of Electromechanical Domestic Appliances With Self-Contained Electricmotor	$35,479,076
13	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$35,145,367
14	58299	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Noncellular	$29,011,693
15	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$27,707,584
16	77311	Insulated Electric Winding Wire	$26,412,741
17	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$25,180,407
18	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$23,416,117
19	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$19,620,348
20	121	Sheep, Live	$19,497,403
21	77254	Relays For Electrical Apparatus Used With Electrical Circuits Not Exceeding 1,000 Volts	$17,615,543
22	65613	Narrow Woven Fabrics, N.E.S.	$16,404,863
23	58291	Plates, Sheets, Film, Foil And Strip Of Plastics, N.E.S., Cellular	$13,478,287
24	69969	Articles Of Iron Or Steel, N.E.S.	$13,274,539
25	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$11,983,354
DEL RIO			$1,037,119,939

EAGLE PASS

1	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$247,866,590
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$241,392,743
3	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$215,786,950
4	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$174,285,378
5	22220	Soybeans	$166,505,987
6	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$149,536,001
7	71489	Gas Turbines, N.E.S.	$96,178,788
8	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$96,175,688
9	65243	Cotton Woven Fabrics, N.E.S., Denim, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$67,733,436
10	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$65,656,473
11	67629	Alloy Steel N.E.S. Bars And Rods, N.E.S., Hot-Rolled, Hot-Drawn Or Hot-Extruded (Except High Speed Steel Or Silico-Manganese Steel)	$47,490,466
12	34210	Propane, Liquefied	$42,515,536
13	29252	Seeds Of Forage Plants, Other Than Beet Seed	$40,658,651
14	79199	Parts Of Railway Or Tramway Locomotives Or Rolling Stock Railway Vehicles; Parts Of Railway Or Tramway Coaches, Vans, Trucks, Service Vehicles, Etc.	$39,872,110
15	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$39,001,489
16	89399	Articles Of Plastics, N.E.S.	$36,129,586
17	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$34,967,245
18	4530	Grain Sorghum, Unmilled	$33,939,055
19	78435	Drive Axles With Differential, Whether Or Not Provided With Other Transmission Components, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$32,656,136
20	4814	Worked Cereal Grains N.E.S. (E.G. Hulled, Pearled, Clipped, Sliced Or Kibbled), Except Semi-Milled Or Wholly Milled Rice	$32,419,113
21	65242	Cotton Woven Fabrics, N.E.S., Dyed, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$32,046,217
22	32121	Bituminous Coal, Pulverized Or Not, But Not Agglomerated	$31,633,377
23	21111	Hides And Skins (Excluding Those Of Heading 211.2) Of Bovine Animals, Fresh Or Wet-Salted	$28,032,050
24	69915	Mountings, Fittings And Similar Articles For Motor Vehicles, N.E.S., Of Base Metal	$27,806,905
25	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$24,861,172
EAGLE PASS			$2,045,147,142

EL PASO

1	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$1,176,507,104
2	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$1,018,746,392
3	89399	Articles Of Plastics, N.E.S.	$596,543,137
4	77641	Digital Monolithic Integrated Units	$545,754,907
5	77611	Television Picture Tubes, Color	$500,313,898
6	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$419,080,219
7	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$356,499,728
8	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$311,525,661
9	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$296,370,480
10	69969	Articles Of Iron Or Steel, N.E.S.	$262,255,981
11	77643	Nondigital Monolithic Integrated Units	$238,601,474
12	77220	Printed Circuits	$233,864,022
13	65732	Textile Fabrics Impregnated, Coated, Covered Or Laminated With Plastics, Other Than Tire Cord Fabric	$220,512,092
14	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$193,960,283
15	87229	Instruments And Appliances Used In Medical, Surgical Or Veterinary Sciences, N.E.S.	$188,798,517
16	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$174,783,652
17	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$164,090,060
18	82119	Parts Of Seats, N.E.S.	$159,111,031
19	87329	Parts And Accessories Of Revolution And Production Counters, Odometers, Pedometers, Speedometers, Tachometers, Strobescopes, Etc.	$153,645,087
20	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$153,002,578
21	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$149,687,439
22	61142	Bovine Leather N.E.S. And Equine Leather (Without Hair), Parchment-Dressed Or Prepared After Tanning	$145,305,076
23	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$137,971,124
24	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$131,039,492
25	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$124,204,424
EL PASO			$8,052,173,858

FABENS				
	1	5673	Tomatoes, Prepared Or Preserved Otherwise Than By Vinegar Or Acetic Acid, N.E.S.	$47,421
	2	53311	Pigments And Preparations Based On Titanium Dioxide	$39,981
	3	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$10,299
FABENS				$97,701
HIDALGO				
	1	34310	Natural Gas, Liquefied	$458,559,562
	2	77641	Digital Monolithic Integrated Units	$206,830,250
	3	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$161,703,155
	4	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$152,700,526
	5	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$140,504,274
	6	75270	Storage Units, Whether Or Not Presented With The Rest Of The System For Data Processing	$124,355,779
	7	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$117,322,431
	8	89399	Articles Of Plastics, N.E.S.	$105,219,927
	9	77643	Nondigital Monolithic Integrated Units	$100,845,338
	10	77282	Parts Of Electrical Apparatus For Switching Or Protecting Electrical Circuits For Making Connections To Or In Electrical Circuits, N.E.S.	$100,739,126
	11	77645	Hybrid Integrated Circuits	$91,257,597
	12	77611	Television Picture Tubes, Color	$87,568,327
	13	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$79,951,119
	14	76499	Parts Of The Apparatus For Sound Recorders Or Reproducers And Parts Of Television Image And Sound Recorders Or Reproducers	$77,100,599
	15	74790	Parts For Taps, Cocks, Valves And Similar Appliances For Pipes, Boiler Shells, Tanks, Etc.	$75,389,093
	16	77220	Printed Circuits	$72,231,077
	17	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$69,557,977
	18	87490	Parts And Accessories For Machines, Appliances, Instruments And Apparatus, N.E.S., Measuring, Checking, Analysing Or Controlling, N.E.S.	$64,759,980
	19	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$58,991,993
	20	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$57,524,799
	21	72393	Parts For Boring Or Sinking Machinery	$55,513,983
	22	87229	Instruments And Appliances Used In Medical, Surgical Or Veterinary Sciences, N.E.S.	$50,865,961
	23	84629	Hosiery, N.E.S.	$50,181,254
	24	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$48,387,815
	25	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$47,408,532
HIDALGO				$2,655,470,474

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$2,802,171,838
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$1,653,414,987
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,348,986,945
4	71323	Compression-Ignition Engines (Diesel Or Semi-Diesel), For Road Vehicles, Etc.	$724,562,424
5	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$682,160,179
6	78434	Gear Boxes	$570,630,221
7	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$499,591,359
8	77643	Nondigital Monolithic Integrated Units	$386,590,418
9	1112	Meat Of Bovine Animals, Boneless, Fresh Or Chilled	$370,005,558
10	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$362,088,160
11	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$316,219,365
12	89319	Articles For The Conveyance Or Packing Of Goods, N.E.S., Of Plastics; Stoppers, Lids, Caps And Other Closures, Of Plastics	$297,643,909
13	82119	Parts Of Seats, N.E.S.	$260,167,531
14	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$257,610,024
15	88230	Photographic Film In Rolls, Sensitised, Unexposed, Except Of Paper, Paperboard Or Textiles; Instant Print Film In Rolls, Sensitised, Unexposed	$256,202,546
16	78433	Brakes And Servo-Brakes And Parts Thereof For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$241,464,258
17	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$237,121,235
18	26310	Cotton (Other Than Linters), Not Carded Or Combed	$223,733,675
19	62520	New Pneumatic Rubber Tires, Of A Kind Used On Buses And Trucks	$222,288,745
20	62510	New Pneumatic Rubber Tires, Of A Kind Used On Motor Cars (Including Station Wagons And Racing Cars)	$221,231,266
21	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$207,606,179
22	77259	Electrical Apparatus For Switching Or Protecting Electrical Circuits Or Making Connections To Or In Electrical Circuits, N.E.S., Not Exceeding 1,000 V	$206,030,959
23	89399	Articles Of Plastics, N.E.S.	$203,955,488
24	29193	Guts, Bladders And Stomachs Of Animals (Other Than Fish), Whole And Pieces Thereof	$198,250,991
25	57112	Polyethylene, Having A Specific Gravity Of 0.94 Or More, In Primary Forms	$192,332,460
LAREDO			$12,942,060,720

PRESIDIO

		Switches For Electrical Apparatus, N.E.S., For Voltages Not	
1	77255	Exceeding 1,000 Volts	$8,606,905
2	26310	Cotton (Other Than Linters), Not Carded Or Combed	$4,449,621
3	29252	Seeds Of Forage Plants, Other Than Beet Seed	$4,120,011
		Aluminum And Aluminum Alloy Plates, Sheets And Strip, Over .2	
4	68423	Mm Thick	$4,108,685
		Chemical Wood Pulp, Coniferous, Soda Or Sulfate, Semibleached Or	
5	25151	Bleached (Other Than Dissolving Grades)	$4,070,690
		Parts Of Trailers And Semi-Trailers, For Housing Or Camping,	
		Transport Of Goods, Trailers, N.E.S. And Vehicles Not	
6	78689	Mechanically Propelled, N.E.S.	$3,781,704
		Harvesting And Threshing Machinery, N.E.S.; Mowers, N.E.S.	
7	72123	(Other Than Mowers For Lawns, Parks Or Sports Grounds)	$3,625,700
8	51544	Methionine	$3,296,000
9	8199	Preparations Of A Kind Used For Animal Food, N.E.S.	$2,174,970
		Agricultural Or Horticultural Appliances For Projecting, Dispersing	
10	74564	Or Spraying Liquids Or Powders	$1,984,529
11	69969	Articles Of Iron Or Steel, N.E.S.	$1,914,675
12	72249	Wheeled Tractors, N.E.S.	$1,889,268
		Parts For Electric Laser, Other Light Or Photon Beam, Ultrasonic	
		Etc. Soldering, Brazing Or Welding Machines And Apparatus For	
13	73739	Hot Metal Etc. Spraying	$1,798,406
14	89879	Recorded Media, N.E.S., Sound Or Similarly Recorded Phenomena	$1,749,477
		Export Shipments Valued Not Over $10,000 (Thru March 1998) And	
15	99200	Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,670,069
16	52237	Silicon Dioxide	$1,595,364
		Plates, Sheets, Film, Foil And Strip Of Polymers Of Propylene, Not	
17	58222	Self-Adhesive And Not Reinforced, Laminated, Etc.	$1,239,010
		Chemical Wood Pulp, Nonconiferous, Soda Or Sulfate, Other Than	
18	25142	Dissolving Grades, Unbleached	$1,134,915
		Digital Processng Units Whether Or Not Presented With The Rest Of	
		The System Which May Contain Storage Units, Input Units Or	
19	75230	Output Units	$985,807
20	72122	Combine Harvester-Threshers	$879,650
		Overcoats, Car Coats, Capes, Cloaks, Anoraks (Including Ski-	
		Jackets), Windbreakers, Etc., Knitted Or Crocheted Textile Fabrics,	
21	84310	Men'S Or Boys'	$845,402
22	89429	Toys, N.E.S.	$827,015
23	82119	Parts Of Seats, N.E.S.	$783,188
		Aluminum And Aluminum Alloy Foil (Whether Or Not Printed O	
		Backed With Material) Not Over .2 Mm Thick (Excluding Any	
24	68424	Backing)	$769,653
25	55421	Organic Surface-Active Agents, Put Up For Retail Sale Or Not	$767,627
PRESIDIO			$59,068,341

PROGRESO

1	4814	Worked Cereal Grains N.E.S. (E.G. Hulled, Pearled, Clipped, Sliced Or Kibbled), Except Semi-Milled Or Wholly Milled Rice	$33,914,556
2	4530	Grain Sorghum, Unmilled	$24,235,040
3	4490	Maize (Not Including Sweet Corn) Unmilled, Except Seed	$20,315,226
4	22230	Cottonseeds	$17,637,370
5	5423	Beans, Other Than Broad Beans And Horse Beans, Dried, Shelled	$9,382,841
6	64169	Paper, Creped, Crinkled, Embossed Or Perforated, N.E.S., In Rolls Or Sheets	$5,804,058
7	22390	Flours And Meals Of Oil Seeds Or Oleaginous Fruits (Excluding Mustard Flour), Whether Or Not Defatted And/Or Refatted With Their Original Oils	$5,170,795
8	8125	Bran, Sharps And Other Residues Derived From The Sifting, Milling Or Other Working Of Rice	$3,295,931
9	8133	Oil-Cake And Other Solid Residues (Except Dregs), Whether Ground Or In The Form Of Pellets, From The Extraction Of Fats Or Oils From Cottonseeds	$2,859,940
10	64110	Newsprint In Rolls Or Sheets	$2,164,083
11	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$1,178,988
12	8199	Preparations Of A Kind Used For Animal Food, N.E.S.	$934,417
13	59227	Glues Based On Starches, Dextrins Or Other Modified Starches	$781,688
14	26662	Synthetic Filament Tow Of Polyesters	$722,170
15	64299	Articles Of Paper Pulp, Paper, Paperboard, Cellulose Wadding Or Webs Of Cellulose Fibers, N.E.S.	$685,552
16	4721	Groats And Meal Of Maize (Corn)	$553,427
17	4520	Oats, Unmilled	$548,355
18	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$522,436
19	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$502,071
20	64161	Kraft Sack Paper, Creped Or Crinkled, Whether Or Not Embossed Or Perforated, In Rolls Or Sheets	$491,185
21	8151	Residues Of Starch Manufacture And Similar Residues	$349,723
22	53341	Paints And Varnishes (Including Enamels And Lacquers) Based On Synthetic Polymers Or Chemically Modified Natural Polymers, In Ar Aqueous Medium	$341,090
23	89879	Recorded Media, N.E.S., Sound Or Similarly Recorded Phenomena	$289,527
24	8119	Vegetable Residues And By-Products, Vegetable Materials And Waste, Whether Or Not In Pellet Form, Of A Kind Used For Animal Food, N.E.S.	$266,769
25	53329	Printing Ink, Other Than Black	$207,223
PROGRESO			$133,154,461

RIO GRANDE

1	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$26,364,363
2	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$7,484,936
3	4530	Grain Sorghum, Unmilled	$6,252,666
4	25111	Waste And Scrap Of Unbleached Kraft Paper Or Paperboard Or Of Corrugated Paper Of Paperboard	$6,040,554
5	66749	Synthetic Or Reconstructed Precious Or Semiprecious Stones, N.E.S., Not Strung, Mounted, Or Set (Including Ungraded Stones Strung Only For Transport)	$4,809,901
6	84699	Clothing Accessories, N.E.S., Knitted Or Crocheted; Parts Of Garments Or Of Clothing Accessories, Knitted Or Crocheted	$2,543,023
7	59899	Chemical Products And Preparations, N.E.S.	$2,458,224
8	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$1,495,789
9	64211	Cartons, Boxes And Cases Of Corrugated Paper Or Paperboard	$1,450,061
10	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$1,256,384
11	85125	Tennis Shoes, Basketball Shoes, Gym Shoes, Training Shoes And The Like And Other Sports Footwear With Outer Soles Of Rubber Or Plastics, N.E.S.	$1,108,170
12	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$1,009,600
13	55310	Perfumes And Toilet Waters	$946,170
14	27719	Industrial Diamonds, Worked (Other Than Simply Sawn, Cleaved Or Bruted), N.E.S.	$934,597
15	66391	Ceramic Wares (Laboratory, Chemical Etc.) For Technical Use; Ceramic Receptacles Used In Agriculture; Ceramic Containers For Transport Or Packing	$889,679
16	59149	Rodenticides And Similar Products Put Up Or Packed For Retail Sale Or As Preparations Or Articles	$844,575
17	72311	Bulldozers And Angledozers, Self-Propelled	$824,000
18	76383	Sound Reproducing Apparatus, N.E.S.	$790,471
19	93100	Special Transactions And Commodities Not Classified According To Kind	$783,050
20	26901	Worn Clothing And Other Worn Textile Articles Traded In Bulk Or In Bales, Sacks Or Similar Bulk Packings	$622,935
21	66122	Portland Cement	$533,011
22	29296	Mucilages And Thickeners (Whether Or Not Modified), Derived From Vegetable Products	$494,160
23	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$445,019
24	111	Purebred Bovine Breeding Animals	$426,625
25	59897	Prepared Additives For Cements, Mortars Or Concretes	$420,574
RIO GRANDE			$71,228,537

ROMA

1	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$10,047,942
2	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$6,436,917
3	85125	Tennis Shoes, Basketball Shoes, Gym Shoes, Training Shoes And The Like And Other Sports Footwear With Outer Soles Of Rubber Or Plastics, N.E.S.	$5,025,013
4	12220	Cigarettes Containing Tobacco	$4,581,986
5	76383	Sound Reproducing Apparatus, N.E.S.	$4,552,975
6	89439	Articles For Funfair, Table And Parlor Games, N.E.S.	$4,442,546
7	99200	Export Shipments Valued Not Over $10,000 (Thru March 1998) And Not Over $20,000 (Effective April 1998), Not Identified By Kind	$3,771,418
8	76333	Record Players, N.E.S. (Other Than Coin- Or Disc-Operated), Not Incorporating A Sound Recording Device	$3,725,431
9	55310	Perfumes And Toilet Waters	$3,625,754
10	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$3,602,436
11	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$3,514,369
12	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$2,736,188
13	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$2,312,313
14	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$2,125,603
15	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$1,753,225
16	89431	Video Games Of A Kind Used With A Television Receiver	$1,717,297
17	72329	Self-Propelled Mechanical Shovels, Excavators And Shovel-Loaders, N.E.S.	$1,648,191
18	88121	Cinematographic Cameras	$1,518,949
19	89429	Toys, N.E.S.	$1,430,831
20	74494	Parts Of Lifting, Handling, Loading Or Unloading Machinery, N.E.S.	$1,424,422
21	81100	Prefabricated Buildings	$1,399,714
22	71392	Parts, N.E.S., Suitable For Use Solely Or Principally With Compression-Ignition Internal Combustion Piston Engines	$1,385,476
23	75122	Calculating Machines, N.E.S.	$1,320,478
24	11241	Whiskey	$1,314,342
25	84270	Blouses, Shirts And Shirt-Blouses Of Woven Textile Fabrics, Women'S Or Girls'	$1,211,874
ROMA			$76,625,690

TEXAS TOP 25 TOTAL EXPORT ACTIVITY $29,553,510,247

U.S. IMPORTS FROM MEXICO

CITY	RANK	SITC	PRODUCT DESCRIPTION	TRADE VALUE
BROWNSVILLE				
	1	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$582,210,738
	2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$486,602,781
	3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$460,584,379
	4	77121	Static Converters (E.G., Rectifiers)	$271,697,638
	5	77123	Ballasts For Discharge Lamps Or Tubes	$168,327,429
	6	93100	Special Transactions And Commodities Not Classified According To Kind	$150,788,067
	7	77865	Ceramic Dielectric Fixed Capacitors, Multilayer	$142,011,379
	8	77835	Parts Of Electrical Lighting And Signaling Equipment (Excluding Filament, Discharge Or Arc Lamps); Parts Of Windshield Wipers, Defrosters Or Demisters	$134,165,726
	9	23211	Styrene-Butadiene Rubber (Sbr); Carboxylated Styrene-Butadiene Rubber (Xsbr), In Primary Forms Or In Plates, Etc.	$84,663,660
	10	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$80,866,254
	11	77862	Tantalum Fixed Capacitors	$74,045,205
	12	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$68,956,976
	13	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$67,410,174
	14	66492	Glass Multiple Walled Insulating Units	$64,534,736
	15	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$63,496,352
	16	52236	Inorganic Acids, N.E.S.	$60,565,403
	17	71620	Electric Motors Of An Output Exceeding 37.5 W And Generators, Dc	$59,833,531
	18	74425	Winches, N.E.S.; Capstans	$47,108,275
	19	67554	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm, Not Under .5 Mm But Not Over 1 Mm Thick	$46,764,049
	20	84589	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Women'S And Girls'	$39,780,414
	21	67553	Stainless Steel Flat-Rolled Products, Cold-Rolled, Not Under 600 Mm Wide, Over 1 Mm But Under 3 Mm Thick	$38,634,068
	22	77587	Electrothermic Domestic Appliances, N.E.S.	$38,018,079
	23	77635	Thyristors, Diacs And Triacs (Excluding Photosensitive Devices)	$36,747,526
	24	69913	Hinges, Of Base Metal	$36,427,587
	25	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$36,280,876
BROWNSVILLE				$3,340,521,302

DEL RIO				
	1	82119	Parts Of Seats, N.E.S.	$357,063,228
	2	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$282,667,954
	3	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$136,919,090
	4	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$76,386,049
	5	77572	Food Grinders And Mixers; Fruit Or Vegetable Juice Extractors, Electromechanical, Domestic	$61,162,256
	6	74720	Valves For Oleohydraulic Or Pneumatic Transmissions	$50,188,120
	7	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$32,620,086
	8	93100	Special Transactions And Commodities Not Classified According To Kind	$27,716,083
	9	85190	Parts Of Footwear (Includ Uppers, Wheth R Nt Attachd To Soles Oth Th Outer Soles); Removbl Insoles, Heel Cushions & Sim Art; Gaiters, Etc Pts Thereof	$27,616,469
	10	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$25,057,029
	11	77589	Parts Of Electrothermic Appliances N.E.S.	$23,193,491
	12	77829	Parts Of Electric Filament Or Discharge Lamps (Including Parts Of Sealed Beam Lamp Units And Ultraviolet Or Infrared Lamps) And Arc Lamps	$19,505,103
	13	74369	Filters And Purifying Machinery And Apparatus For Gases, N.E.S.	$18,259,803
	14	72399	Parts N.E.S., Of Civil Engineering Etc. Machinery, Including Mining And Public Works Machinery Parts (Heading 723) And Cranes Etc. (Heading 744.3)	$15,489,744
	15	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$14,694,982
	16	85151	Footwear, N.E.S., With Outer Soles Of Rubber Or Plastics And Uppers Of Tex Tile Materials	$13,738,511
	17	74319	Air Or Vacuum Pumps, N.E.S.	$13,490,289
	18	77311	Insulated Electric Winding Wire	$11,296,168
	19	77314	Electric Conductors, For A Voltage Not Exceeding 80 Volts, N.E.S.	$10,890,716
	20	74412	Self-Propelled Trucks Fitted With Lifting Or Handling Equipment, N.E.S.	$9,375,235
	21	69129	Metal Structures And Parts N.E.S. Of Aluminum; Prepared Plates, Rods Etc. Of Aluminum For Use In Structures	$8,763,506
	22	89478	Articles And Equipment For General Physical Exercise, Gymnastics Or Athletics	$7,716,021
	23	74395	Parts Of Filtering Or Purifying Machinery And Apparatus	$7,483,355
	24	89332	Tableware, Kitchenware, Other Household Articles And Toilet Articles Of Plastics	$5,365,622
	25	77884	Electric Sound Or Visual Signaling Apparatus, N.E.S., Including Sirens, Indicator Panels, Burglar And Fire Alarms	$5,357,281
DEL RIO				$1,262,016,191

EAGLE PASS

1	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$312,973,778
2	69941	Springs And Leaves For Springs, Of Iron Or Steel	$270,172,393
3	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$232,877,572
4	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$232,024,623
5	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$223,873,920
6	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$117,789,199
7	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$112,519,062
8	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$111,744,194
9	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$75,541,112
10	82119	Parts Of Seats, N.E.S.	$69,945,446
11	67390	Flat-Rolled Products Of Iron Or Non-Alloy Steel, Not Clad, Plated Or Coated And Not Further Worked Than Hot-Rolled Or Cold-Rolled (Cold-Reduced)	$62,577,607
12	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$57,764,658
13	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$51,745,272
14	93100	Special Transactions And Commodities Not Classified According To Kind	$39,490,784
15	68211	Unrefined Copper (Including Blister Copper But Excluding Cement Copper); Copper Anodes For Electrolytic Refining	$36,595,534
16	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$30,825,922
17	71610	Electric Motors Of An Output Not Exceedng 37.5 W	$29,807,556
18	82129	Articles Of Bedding, N.E.S., Including Cushions, Quilts And Pillows	$27,177,949
19	65243	Cotton Woven Fabrics, N.E.S., Denim, Not Under 85% (Weight) Cotton, Weighing Over 200 G/M2	$27,059,816
20	84621	Panty Hose And Tights	$26,828,302
21	84587	Articles Of Apparel, Not Knitted Or Crocheted, N.E.S., Men'S And Boys'	$24,950,069
22	77251	Fuses For Electrical Apparatus Used With Circuits Not Exceeding 1,000 Volts	$24,812,587
23	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$23,780,244
24	84426	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$23,588,507
25	74145	Refrigerating Or Freezing Equipment, N.E.S.; Heat Pumps	$19,568,592
EAGLE PASS			$2,266,034,698

EL PASO

1	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$2,398,020,651
2	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$1,639,279,897
3	82119	Parts Of Seats, N.E.S.	$1,585,446,706
4	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$1,326,109,860
5	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$1,167,515,940
6	93100	Special Transactions And Commodities Not Classified According To Kind	$1,085,980,634
7	76431	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Not Incorporating Reception Apparatus	$988,065,938
8	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$704,608,876
9	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$525,411,899
10	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$471,825,984
11	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$414,330,245
12	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$399,075,653
13	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$393,680,382
14	87325	Speedometers And Tachometers; Stroboscopes	$353,205,265
15	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$337,075,729
16	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$316,613,830
17	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$309,814,300
18	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$297,769,706
19	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$283,836,056
20	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$274,920,693
21	87229	Instruments And Appliances Used In Medical, Surgical Or Veterinary Sciences, N.E.S.	$270,118,210
22	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$257,910,364
23	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$251,833,365
24	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$244,061,836
25	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$208,825,813
EL PASO			$16,505,337,832

HIDALGO

1	76432	Transmission Apparatus For Radiotelephony, Radiotelegraphy, Radiobroadcasting Or Television, Incorporating Reception Apparatus	$483,664,569
2	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$396,701,601
3	76211	Radiobroadcast Receivers, Combined With Sound Recording Or Reproducing Apparatus, Operating With An External Power Source As In Motor Vehicles	$362,704,653
4	71631	Electric Motors Of An Output Exceeding 37.5 W (Including Universal Ac/Dc Motors), Ac	$316,502,010
5	87465	Automatic Regulating Or Controlling Instruments And Apparatus, N.E.S.	$282,134,030
6	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$235,325,409
7	93100	Special Transactions And Commodities Not Classified According To Kind	$182,742,130
8	74159	Parts For The Air Conditioning Machines (Having A Motor-Driven Fan And Elements For Changing The Temperature And Humidity) O Heading 741.5	$157,469,281
9	75260	Input Or Output Units Whether Or Not Presented With The Rest Of A System And Whether Or Not Containing Storage Units In One Housing In Data Processing	$147,083,020
10	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$138,516,476
11	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$125,414,439
12	77845	Electromechanical Tools For Working In The Hand, With Self-Contained Elect Ric Motor, N.E.S.	$124,388,859
13	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$121,157,643
14	76483	Radar Apparatus, Radio Navigational Aid Apparatus And Radio Remote Control Apparatus	$119,110,966
15	77255	Switches For Electrical Apparatus, N.E.S., For Voltages Not Exceeding 1,000 Volts	$116,782,879
16	71690	Parts N.E.S. For Use Solely Or Principally With Electric Motors, Electric Generators, Electric Generating Sets And Rotary Converters	$111,609,387
17	75220	Digital Automatic Data Processing Machines Containing In The Same Housing A Central Processing Unit And An Input And Output Unit	$111,386,322
18	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$110,148,455
19	84629	Hosiery, N.E.S.	$104,594,061
20	76110	Tv Receivers, Color, Incl Video Monitors & Projectors), Whet Or Nt Incorp Radiobroadcast Receivers Or Sound Or Video Recordng Or Reproducing Apparatus	$100,355,954
21	77315	Electric Conductors, For A Voltage Exceeding 80 Volts, But Not Exceeding 1,000 Volts, N.E.S.	$81,607,007
22	74999	Machinery Parts, Not Containing Electrical Connectors, Insulators, Coils, Contacts Or Other Electrical Features, N.E.S.	$61,009,237
23	74780	Taps, Cocks, Valves And Similar Appliances, N.E.S.	$60,406,106
24	5721	Lemons And Limes, Fresh Or Dried	$59,596,703
25	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$57,182,781
HIDALGO			$4,167,593,978

LAREDO

1	78120	Motor Vehicles For The Transport Of Persons (Other Than Public Transport), N.E.S.	$8,669,033,175
2	78219	Motor Vehicles For The Transport Of Goods, N.E.S.	$5,759,673,783
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$1,188,780,433
4	93100	Special Transactions And Commodities Not Classified According To Kind	$1,051,970,019
5	77313	Ignition Wiring Sets And Other Wiring Sets Of A Kind Used In Vehicles, Aircraft Or Ships	$979,909,255
6	76418	Apparatus, N.E.S., For Carrier-Current Or Digital Line Systems	$967,680,012
7	75220	Digital Automatic Data Processing Machines Containing In The Same Housing A Central Processing Unit And An Input And Output Unit	$819,017,013
8	71322	Reciprocating Piston Engines Of A Cylinder Capacity Exceeding 1,000 Cc	$748,953,340
9	84140	Trousers, Bib And Brace Overalls, Breeches And Shorts Of Woven Textile Materials, Men'S Or Boys'	$733,946,739
10	82119	Parts Of Seats, N.E.S.	$657,129,276
11	89431	Video Games Of A Kind Used With A Television Receiver	$656,566,529
12	75997	Parts Of Automatic Data Processing Machines And Units Thereof, Magnetic Or Optical Readers, And Machines For Transcribing And Processing Data N.E.S.	$644,827,299
13	71391	Parts, N.E.S, Suitable For Use Solely Or Principally With Spark-Ignition Internal Combustion Piston Engines	$636,614,910
14	11230	Beer Made From Malt (Including Ale, Stout And Porter)	$549,653,899
15	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$545,819,528
16	78320	Road Tractors For Semi-Trailers	$510,901,377
17	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$491,220,974
18	77521	Refrigerators, Household Type (Electric Or Other), Whether Or Not Containing A Deep-Freezer Compartment	$459,632,913
19	75230	Digital Processng Units Whether Or Not Presented With The Rest Of The System Which May Contain Storage Units, Input Units Or Output Units	$395,858,732
20	75290	Data Processing Equipment, N.E.S.	$394,596,048
21	81311	Chandeliers And Other Electric Ceiling And Wall Lighting Fittings (Except Those For Lighting Of Public Open Spaces And Thoroughfares)	$374,786,171
22	77261	Boards, Panels, Consoles And Other Bases, For Electric Control Or Distribution Of Electricity, For A Voltage Not Exceeding 1,000 Volts	$354,790,948
23	76493	Parts Of Television Receivers, Radiobroadcast Receivers, Transmission Apparatus For Radio Telephony, Telegraphy, Broadcasting Or Television Etc.	$352,933,871
24	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$319,024,329
25	68113	Silver (Including Gold And Platinum Plated Silver), Unwrought	$311,521,669
LAREDO			$28,574,842,242

PRESIDIO

1	119	Bovine Animals, Other Than Purebred Breeding Animals, Live	$54,086,788
2	5779	Edible Nuts (Excluding Mixtures), Fresh Or Dried, N.E.S., Whether Or Not Shelled Or Peeled	$18,302,329
3	78439	Parts And Accessories N.E.S. For Tractors, Motor Cars And Other Motor Vehicles, Trucks, Public-Transport Vehicles And Road Motor Vehicles, N.E.S.	$10,865,788
4	78689	Parts Of Trailers And Semi-Trailers, For Housing Or Camping, Transport Of Goods, Trailers, N.E.S. And Vehicles Not Mechanically Propelled, N.E.S.	$5,774,943
5	69979	Articles Of Aluminum, N.E.S.	$3,146,584
6	7513	Fruits Of The Genus Capsicum Or Of The Genus Pimenta, Dried Or Crushed Or Ground	$2,935,370
7	93100	Special Transactions And Commodities Not Classified According To Kind	$2,469,751
8	69969	Articles Of Iron Or Steel, N.E.S.	$1,359,728
9	84260	Trousers, Bib And Brace Overalls, Breeches And Shorts, Of Woven Textile Fabrics, Women'S Or Girls'	$1,123,091
10	67959	Iron And Steel Tube And Pipe Fittings, N.E.S.	$1,092,194
11	78685	Vehicles, Not Mechanically Propelled, N.E.S.	$596,748
12	5470	Vegetables Provisionally Preserved (E.G., By Sulphur Dioxide Gas, In Brine, In Sulphur Water Or Other Preservative Solutions), Inedible In That State	$274,926
13	65759	Articles Of Artificial And Synthetic Textile Monofilaments, Strip, Etc., And Twine, Cordage Or Rope, N.E.S.	$259,517
14	82159	Furniture, N.E.S., Of Wood, N.E.S. (Other Than Of A Kind Used In Offices, Kitchens, Or Bedrooms)	$257,658
15	56214	Fertilizers, Double Salts And Mixtures Of Calcium Nitrate And Ammonium Nitrate, (Imports Only)	$225,763
16	84614	Gloves, Mittens And Mitts, Not Knitted Or Crocheted	$174,291
17	89449	Entertainment Articles, N.E.S., Including Festive, Carnival Or Other Entertainment Articles, Except Christmas Tree Lights And Other Christmas Articles	$174,051
18	78629	Trailers And Semi-Trailers For The Transport Of Goods, N.E.S.	$146,432
19	58160	Tubes, Pipes And Hoses Of Plastics, N.E.S.	$129,651
20	74291	Parts Of Pumps For Liquids	$94,580
21	66139	Monumental Or Building Stone (Except Slate), N.E.S. And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$83,222
22	72249	Wheeled Tractors, N.E.S.	$46,383
23	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$45,312
24	69241	Metal Tanks, Casks, Drums, Cans And Similar Containers With A Capacity Of Not Over 300 Liters, Of Iron Or Steel	$40,040
25	72722	Machinery, N.E.S., For The Industrial Preparation Or Manufacture Of Food Or Drink	$39,837
PRESIDIO			$103,744,977

PROGRESO				
	1	64214	Paper Sacks And Bags (Including Cones), N.E.S.	$5,142,241
	2	64213	Paper Sacks And Bags, With A Base Of 40 Cm Or Over In Width	$1,408,737
	3	84551	Brassieres, Whether Or Not Knitted Or Crocheted	$308,485
	4	77845	Electromechanical Tools For Working In The Hand, With Self-Contained Elect Ric Motor, N.E.S.	$169,170
	5	84482	Briefs And Panties, Knitted Or Crocheted Textile Fabrics, Women'S Or Girls'	$156,176
	6	77843	Electromechanical Hand Saws With Self-Contained Electric Motor	$29,880
	7	77841	Electromechanical Hand Drills Of All Kinds, With Self-Contained Electric Motor	$28,699
	8	89311	Sacks And Bags (Including Cones) Of Plastics	$26,346
	9	62143	Tubes, Pipes And Hoses Of Unhardened Vulcanized Rubber, Reinforced, Etc. With Textiles, Without Fittings	$16,314
	10	93100	Special Transactions And Commodities Not Classified According To Kind	$15,510
	11	84270	Blouses, Shirts And Shirt-Blouses Of Woven Textile Fabrics, Women'S Or Girls'	$5,628
	12	84552	Girdles, Corsets, Braces, Suspenders, Garters And Similar Articles, Whether Or Not Knitted Or Crocheted	$3,690
	13	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$2,808
	14	28239	Ferrous Waste And Scrap, N.E.S.	$2,725
	15	57990	Waste, Parings And Scrap, Of Plastics, N.E.S.	$1,770
	16	26902	Used Or New Rags, Scrap Twine, Cordage, Rope And Cables And Worn Out Articles Of Twine, Cordage, Rope Or Cables Of Textile Materials	$474
	17	65859	Furnishing Articles, N.E.S. Of Textile Materials	$349
PROGRESO				$7,319,002

RIO GRANDE

1	89731	Articles Of Jewelry And Parts Thereof, Of Precious Metal Or Metals Clad With Precious Metals (Except Watches And Watch Cases)	$35,236,297
2	28929	Waste And Scrap Of Precious Metals N.E.S., Or Of Metals Clad With Precious Metal Other Than Gold Or Platinum	$14,736,625
3	66331	Articles Of Plaster Or Of Compositions Based On Plaster	$10,216,246
4	5459	Vegetables, N.E.S. Fresh Or Chilled	$3,945,419
5	5791	Melons (Including Watermelons) And Papaws (Papayas), Fresh	$3,488,740
6	69351	Wire Cloth (Including Endless Bands), Grill, Netting And Fencing, And Expanded Metal, Of Iron Or Steel	$3,135,324
7	84540	T-Shirts, Singlets (Undershirts), Tank Tops And Similar Garments, Of Knitted Or Crocheted Textile Fabrics	$2,769,237
8	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$2,393,241
9	93100	Special Transactions And Commodities Not Classified According To Kind	$2,037,857
10	66332	Building Blocks And Bricks, Tiles, Flagstones And Similar Articles Of Cement, Concrete Or Artificial Stone	$2,020,630
11	5798	Fruit, Fresh, N.E.S.	$1,948,830
12	97101	Gold (Including Gold Plated With Platinum), Nonmonetary, Unwrought Or In Semimanufactured Forms Or In Powder Form	$1,525,514
13	97103	Gold Waste And Scrap (Including Metal Clad With Gold But Excluding Sweepings Containing Other Precious Metals)	$1,171,438
14	66136	Marble, Travertine And Alabaster And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$1,121,975
15	66139	Monumental Or Building Stone (Except Slate), N.E.S. And Articles Thereof, Molded, Turned, Polished, Decorated, Carved Or Otherwise Worked	$944,401
16	81399	Parts N.E.S., Of Lamps And Lighting Fittings, N.E.S., And Parts Of Illuminated Signs And Nameplates, Etc., Of Materials Other Than Glass Or Plastics	$864,350
17	84530	Jerseys, Pullovers, Cardigans, Waistcoats And Similar Articles, Knitted Or Crocheted	$815,167
18	84324	Trousers, Bib And Brace Overalls, Breeches And Shorts, Knitted Or Crocheted Textile Fabrics, Men'S Or Boys'	$795,485
19	5469	Vegetables N.E.S. And Mixtures Of Vegetables (Uncooked Or Cooked By Steaming Or Boiling In Water), Frozen	$563,981
20	67684	Iron And Nonalloy Steel Angles, Shapes And Sections, Cold-Formed Or Cold-Finished	$494,540
21	84511	Babies' Garments And Clothing Accessories Of Textile Fabrics, Not Knitted Or Crocheted	$407,088
22	29299	Vegetable Materials And Vegetable Products, N.E.S.	$394,651
23	5831	Strawberries, Uncooked Or Cooked By Steaming Or Boiling In Water, Frozen, Whether Or Not Containing Other Sweetening Matter	$383,798
24	84599	Garments, Knitted Or Crocheted, N.E.S.	$379,680
25	5454	Lettuce And Chicory (Including Endive), Fresh Or Chilled	$375,162
RIO GRANDE			$92,165,676

ROMA

1	29299	Vegetable Materials And Vegetable Products, N.E.S.	$4,608,352
2	67650	Bars And Rods Of Iron Or Steel, N.E.S.	$3,126,887
3	66332	Building Blocks And Bricks, Tiles, Flagstones And Similar Articles Of Cement, Concrete Or Artificial Stone	$1,445,227
4	83122	Trunks, Suitcases, Vanity Cases, Executive Cases, Briefcases, School Satchels Etc., With Outer Surface Of Plastics Or Of Textile Materials	$1,142,844
5	83199	Binocular Cases, Camera Cases, Musical Instrument Cases, Etc. Of Leather, Plastic Sheeting, Textiles, Etc., N.E.S.	$860,401
6	77119	Electric Transformers, N.E.S.	$819,559
7	61290	Articles Of Leather Or Of Composition Leather, N.E.S.	$693,010
8	66245	Glazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Glazed Ceramic Mosaic Cubes And The Like	$565,782
9	66244	Unglazed Ceramic Flags And Paving, Hearth Or Wall Tiles; Unglazed Ceramic Mosaic Cubes And The Like	$506,819
10	93100	Special Transactions And Commodities Not Classified According To Kind	$496,353
11	88210	Chemicals Prepared For Photographic Use (Except Varnish, Glue, Etc.); Unmixed Products For Photo Use In Measured Portions Or Ready To Use Retail Packs	$413,372
12	82112	Seats Of A Kind Used For Motor Vehicles	$399,479
13	78683	Trailers And Semi-Trailers, N.E.S.	$341,947
14	89471	Fishing Rods, Hooks, Other Tackle And Landing Nets; Butterfly Etc. Nets; Decoys (Not Collectors Items Or Decoy Calls); Hunting Etc. Requisites, N.E.S.	$219,049
15	85148	Footwear, N.E.S., With Outer Soles Of Leather And Uppers Of Leather Or Composition Leather	$179,160
16	89879	Recorded Media, N.E.S., Sound Or Similarly Recorded Phenomena	$113,467
17	89972	Brooms, Brushes (Including Brushes Which Are Parts Of Machines, Etc. Or Vehicles), Mops And Feather Dusters; Prepared Knots And Tufts; Paint Pads Etc.	$99,673
18	78432	Other Parts And Accessories Of Motor Vehicle Bodies Of Headings 8701 To 8705 (Including Cabs)	$98,786
19	74380	Parts For Air Or Vacuum Pumps, Air Or Other Gas Compressors And Fans; Parts Of Ventilating, Recyling Or Cooker Hoods Incorporating A Fan	$74,968
20	78431	Bumpers And Parts Thereof, For Tractors, Motor Cars And Other Motor Vehicles, Etc.	$66,339
21	74291	Parts Of Pumps For Liquids	$42,277
22	69969	Articles Of Iron Or Steel, N.E.S.	$42,138
23	71893	Power Generating Engines And Motors, N.E.S.	$37,023
24	65893	Life Jackets And Life Belts And Other Made-Up Articles, N.E.S., Of Textile Materials	$36,527
25	67684	Iron And Nonalloy Steel Angles, Shapes And Sections, Cold-Formed Or Cold-Finished	$35,998
ROMA			$16,465,437

TEXAS TOP 25 TOTAL IMPORT ACTIVITY $56,336,041,335

TEXAS TOP 25 TOTAL U.S./MEXICO TRADE ACTIVITY **$85,889,551,582**

Last Updated on October 17 | 2003
By TCBEED
Source: U.S. Department of Commerce Bureau of the Census, Foreign Trade Division

TEXAS TOP 25 TOTAl 85,889,551,582

Appendix A-3

High, Medium, and Low
Air Cargo Forecast Scenarios

Table A-3
Air Cargo Forecast
Low Range Scenario
Schedule/On-Demand Air Cargo

Aircraft	2009 Frequency	2009 Operations	2009 Tonnage	2014 Frequency	2014 Operations	2014 Tonnage	2024 Frequency	2024 Operations	2024 Tonnage
B-757-200	3/week	312	3,861	1/day	520	6,435	3/day	1,560	19,305
DC9-15F	2/week	208	782						
DC-8	1/week	104	2,551						
DC-10-10F	1/month	24	518						
B-727-200	1/week	104	854						
B-737-700	2/week	208	1,872	3/day	1,560	14,040	6/day	3,120	28,080
Falcon 20	1/day	520	725	2/day	1,040	1,451	4/day	2,080	2,902
Fokker 27	1/day	520	1,217	2.4/day	1,248	2,920	4/day	2,080	4,867
A-300				5/month	120	2,457	1/day	520	10,647
B-767-300				1/day	520	12,051	2/day	1,040	24,102
MD-11				2/month	48	1,939	1/day	520	21,008
Total		2,000	12,380		5,056	41,300		10,920	110,900

Table A-3
Air Cargo Forecast
Medium Range Scenario
Scheduled/On-Demand Air Cargo

Aircraft	2009 Frequency	2009 Operations	2009 Tonnage	2014 Frequency	2014 Operations	2014 Tonnage	2024 Frequency	2024 Operations	2024 Tonnage
B-757-200	3/week	312	3,861	2/day	1,040	12,870	6/day	3,120	38,610
DC9-15F	2/week	208	782						
DC-8	1/week	104	2,551						
DC-10-10F	1/month	24	518						
B-727-200	1/week	104	854						
B-737-700	1/day	520	4,680	2/day	1,040	9,360	8/day	4,160	37,440
Falcon 20	2/day	1,040	1,451	2/day	1,040	1,451	4/day	2,080	2,902
Fokker 27	1/day	520	1,217	2.4/day	1,248	2,920	4/day	2,080	4,867
A-300				3/week	312	6,388	1/day	520	10,647
B-767-300				1.4/day	728	16,871	2/day	1,040	24,102
MD-11				2/month	48	1,939	1/day	520	21,008
Total		2,832	15,900		5,456	51,800		13,520	139,600

Table A-3
Air Cargo Forecast
High Range Scenario
Scheduled/On-Demand Air Cargo

Aircraft	2009 Frequency	2009 Operations	2009 Tonnage	2014 Frequency	2014 Operations	2014 Tonnage	2024 Frequency	2024 Operations	2024 Tonnage
B-757-200	1/day	520	6,435	2/day	1,040	12,870	6/day	3,120	38,610
DC9-15F	2/week	208	782						
DC-8	1/week	104	2,551						
DC-10-10F	1/month	24	518						
B-727-200	7/month	168	1,380						
B-737-700	1/day	520	4,680	4/day	2,080	18,720	9/day	4,680	42,120
Falcon 20	2/day	1,040	1,451	2/day	1,040	1,451	4/day	2,080	2,902
Fokker 27	1/day	520	1,217	2.4/day	1,248	2,920	4/day	2,080	4,867
A-300				10/month	240	4,914	2/day	1,040	21,294
B-767-300				1.6/day	832	19,282	3/day	1,560	36,153
MD-11				2/month	48	1,939	1/day	520	21,008
Total		3,104	19,000		6,528	62,100		15,080	167,000

Appendix A-4

FAA Forecast Model for General Aviation: Estimating Activity at Non-Towered Airports

Estimating Activity at Non-Towered Airports

This report develops and presents a regression model for estimating general aviation (GA) operations at non-towered airports. Independent variables used in the model include airport characteristics, demographics, and geographic features. The model was derived using a combined data set for small towered and non-towered GA airports and incorporates a dummy variable to distinguish the two airport types. In addition, the report applies the model to estimate activity at 2,789 non-towered GA airports contained in the Terminal Area Forecast.

Publication Date: July 2001
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MODEL FOR ESTIMATING GENERAL AVIATION OPERATIONS AT NON-TOWERED AIRPORTS USING TOWERED AND NON-TOWERED AIRPORT DATA

July 2001

Prepared for:

Statistics and Forecast Branch
Office of Aviation Policy and Plans
Federal Aviation Administration

Prepared by:

GRA, Inc.
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Jenkintown, PA 19046

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EXECUTIVE SUMMARY

This report develops a model for estimating general aviation (GA) operations at non-towered airports. It builds on previous research done for the FAA Office of Policy and Plans, Statistics and Forecast Branch. In the previous research, statistical relationships were developed between GA operations at small towered airports and the characteristics of these airports. Models based on these relationships were used to estimate GA operations for a set of non-towered airports for which state estimates (derived primarily from counter and survey estimation procedures) were available. The model estimates of operations for the non-towered airports tended to exceed the state estimates.

In this report, a new model was estimated that augments the previous research by using additional variables for population, airport regional prominence, and certificated flight schools. In addition, the model uses a combined data set for small towered and non-towered GA airports and incorporates a dummy variable to distinguish the two airport types. The new model produced operation estimates for non-towered airports that were unbiased relative to the state estimates based primarily on sampling procedures.

The new model was also applied to a large set of 2,789 non-towered GA airports. This data set includes all of the non-towered GA airports in the Terminal Area Forecast (TAF) not included in the development of the model estimation. For the majority of these airports, operation estimates reported on DOT Form 5010 are roughly developed and are not based on sampling procedures. For these airports, model estimates of annual GA activity were compared to the Form 5010 estimates. On average, the model estimates tended to be unbiased relative to the reported Form 5010 estimates. In the future, research efforts can focus on testing and refining the model for specific subsets of the large data set of non-towered GA airports.

1. INTRODUCTION

This report presents results from a GRA study aimed at refining and improving recent efforts by the FAA Office of Policy and Plans (APO) to model aviation activity at non-towered airports. This study was undertaken as part of Task Order 16, Task 1 under FAA contract DTFA01-98-C-00096.

In a previous report[1], FAA identified several characteristics of small towered airports that have a statistically significant relationship to operations at these airports. The results quantify observations made in prior APO-funded research[2] which noted that aviation activity at individual airports is highly dependent on "local factors." It remained clear, however, that additional research could improve the set of possible "local factors" considered and could refine the equations used to model the relationships between these factors and airport activity.

A principal purpose of the research that is contained in this report has been to develop models relating "local factors" to airport activity that could be used to estimate operations at non-towered airports for which the only counts of activity available are at best cursory. Since the FAA uses data on current and projected airport activity to guide its airport capital investment decisions, there is always a pressing need to improve FAA's ability to estimate activity at these airports and to assess the forecasts made by airport sponsors to support investment or facility upgrade requests.

The remainder of this report is organized as follows. Section 2 summarizes the methodology and results from Hoekstra (2000) and discusses the avenues for improving and refining the results applied in this report. Section 3 identifies and discusses the new data and variables that are used for the current analysis and suggests some refinements to the models used in Hoekstra (2000). Section 4 reports on the effectiveness of these model refinements, including the closeness of fit between the model estimates of airport activity—expressed either as annual operations or as average annual operations per based aircraft—and the observed values (which may be tower counts from small towered airports in the sample or estimates of airport activity based on an explicit sampling procedure). Section 5 applies the equations developed in Section 4 to a large set of small non-towered GA airports throughout the United States. These results are examined at a very broad level to assess the equation's value for estimating airport activity. Section 6 summarizes the report findings and identifies possible next steps for future

[1] Mark Hoekstra, "Model for Estimating General Aviation Operations at Non-Towered Airports" prepared for FAA Office of Aviation Policy and Plans, April 2000.
[2] GRA, Inc. "Review of TAF Methods," Final Report, prepared for FAA Office of Aviation Policy and Plans under Work Order 45, Contract No. DTFA01-93-C-00066, February 25, 1998.

research. Appendix A describes a statistical procedure used in the report, and Appendix B contains the data for small towered and non-towered GA airports used in the regression analysis.

2. METHODOLOGY AND RESULTS FROM PRIOR STUDY

Hoekstra (2000) developed a sizeable set of airport characteristics from varied sources and used these data to estimate regression models explaining annual general aviation (GA) operations and annual GA operations per based aircraft, using a data set of 127 small towered U.S. airports. These airports had fewer than 100,000 GA operations in FY 1999.[3] Extensive documentation on these airports and the variables collected for them is contained in the Hoekstra report. After analysis of these data using the Minitab software and its Stepwise Regression procedure, the "best" equations—in terms of proportion of variance explained (R^2),—were reported. These equations are shown in Table 1 below (which is identical to Hoekstra's Table 11).

Table 1
Selected Equations from Regression Analysis in Hoekstra (2000)

Hoekstra Equation Number	Equation[4]	R^2
H-7	OPS = 813.5 + 417 BA + 0.80 PCI –0.63 BA2 – 11,683 WST – 21,752 AAL –7,072 FAR139 + 4.0 EMP (0.12) (7.46) (3.74) (-4.40) (-3.75) (-2.86) (-2.11) (1.68)	.7296
H-11	OPSBA = 581.3 – 138.5 BAE100 – 125.9 WST – 326.1 AAL + 113.1 R12 (18.37) (-3.31) (-2.50) (-2.51) (2.10)	.2556

The variables that appear in Equations H-7 and H-11 in Table 1 include:

- OPS—Annual GA Operations at an airport (FY1999);
- OPSBA—Annual GA Operations per Based Aircraft (BA) at an airport;
- BA—Total Based Aircraft at an airport (FY1999);
- BA2—Based Aircraft squared, which is included since airport operations tend to increase as the number of based aircraft increases, but at a slower and slower rate
- PCI—Per Capita Income in the county in which the airport is located (1999);
- EMP—Non-agricultural Employment in the airport's county (1999);

[3] Hoekstra (2000) began with 138 such airports, but data considerations reduced this figure to 127 airports susceptible to analysis. The current report uses the same set of 127 small towered GA airports.

[4] T-statistics are given in parentheses under each coefficient.

- FAR139—Categorical variable, 1 if airport is certificated for commercial air carrier service, 0 otherwise;
- WST—Categorical variable, 1 if airport is located in FAA Western Region (excluding Alaska), 0 otherwise;
- AAL—Categorical variable, 1 if airport is located in Alaska, 0 otherwise;
- R12 –Categorical variable, 1 if airport is located in FAA New England Region or FAA Eastern Region, 0 otherwise;
- BAE100—Categorical variable, 1 if airport based aircraft is 100 or greater, 0 otherwise.

Hoekstra used the equations in Table 1 to assess the results from sampling-based counting and extrapolation procedures[5] used by nine states at 129 small non-towered airports. It was found that the equations tended to produce higher annual operations estimates than the state estimates of annual operations at these airports. In addition, the model of Equation H-11 produces modestly better estimates of activity at the non-towered airports than that of Equation H-7, even though H-7 has a "tighter" fit to the small towered airport data (in terms of R^2) than does H-11. In addition, Equation H-11 is based entirely on categorical data about the FAA region the airport is located in and on the airport having greater or fewer than 100 based aircraft.

3. NEW VARIABLES THAT MAY AFFECT AVIATION ACTIVITY AT SMALL TOWERED AND NON-TOWERED AIRPORTS

For this analysis several additional types of data were developed for consideration as "local factors" affecting activity at small towered and non-towered airports. The set of airports used for the analysis is identical to that used in Hoekstra (2000), with the exception of a reduction in the set of non-towered airports considered, for reasons given below. In some cases these new variables are similar to demographic variables developed in Hoekstra (2000), and in others the variables represent new types of "local factors."

Population: County population (POP) and county employment (EMP) are significant demographic variables in Hoekstra (2000), but counties vary in size and airports vary in position within a county. An airport in a small county may serve those in nearby counties as well, and an airport located near a county boundary may provide some or most of its services to the residents of other counties. To capture this type of demographic effect, GRA calculated the 1998 population within 100 miles, 50 miles, and 25 miles from each airport in the Hoekstra (2000) data set that also appears in the FAA Terminal Area Forecast

[5] A variety of counting procedures were cited, including acoustic counters, machine counts, surveys, and operations logs, at these airports.

(TAF).[6] It is expected that these variables will be positively correlated with airport annual operations. GRA also calculated the ratio of population within 25 miles of the airport to population within 100 miles of the airport (which will be a value between 0 and 1) as a proxy for relative population density around the airport. While this seems to be a reasonable candidate for being a "local factor" influencing airport activity, GRA had no prior belief on the direction of its influence.

Airport Prominence--The Proportion of Based Aircraft in Region: GRA calculated, for each towered and non-towered TAF airport in Hoekstra (2000), its proportion of based aircraft among all TAF GA airports within 50 miles and within 100 miles. This variable will be a number between 0 and 1. If the airport has all the based aircraft within the radius in question, the variable will take the value 1. GRA's initial beliefs about this "airport prominence" proxy were that it would have a positive influence on airport operations, since if an airport were more prominent (had a greater percentage of based aircraft) in its region, it would be a more attractive or popular site for aviation, and therefore have more operations. As the regression results below indicate, however, this belief was incorrect—it turns out that the greater the airport's "regional prominence" the smaller the number of annual operations. This result can be rationalized in the following way: If a single airport is "prominent" in its region—has a relatively high percentage of based aircraft—that airport likely has the lion's share of the region's operations as well, but it also indicates that the region itself does not support many operations overall. It seems that if the airport is "the only game in town" or " the major game in town" for a region then the region itself is not very active. The "regionally prominent" airport seems to be the big frog in a small pond, but not a big frog overall.

Complexity of the Airport's Based Aircraft: This variable is the ratio of the airport's single engine piston based aircraft to all the based aircraft at the airport. The higher this ratio, the less complex (and less costly) are the airport's based aircraft. It is not clear how this variable might be expected to influence airport operations, although the variable may be related to the flight school variable,

[6] There were 24 non-towered airports that did not appear in the TAF, and for which the "population within X miles" could not be calculated. These non-towered airports are not included in the analyses and equations that follow, since a complete set of new variables could not be developed for them. These airports are: (1H3) Linn State, MO; (1N0) Ridgley Airpark, MD; (2W2) Clearview Airpark, MD; (6MO) Washington County, MO; (75K) Bethany Memorial, MO; (7S3) Stark's Twin Oaks, OR; (8W2) New Market, VA; (AOV) Ava Bill Martin, MO; (C16) Frasca Field, IL; (CJR) Culpepper Regional, VA; (DMW) Carroll County, MD; (H17) Buffalo Muni, MO; (HRI) Hermiston Muni, OR; (IGQ) Lansing Muni, IL; (K52) Monroe City, MO; (M17) Bolivar Muni, MO; (MO3) Stockton Muni, MO; (OXB) Ocean City Muni, MD; (RPD) Rice Lake Regional, WI; (S49) Miller Memorial, OR; (SPB) Scappose Industrial, OR; (UAO) Aurora State, OR; and (VCB) Nut Tree, CA. In addition, Frederick Municipal in Maryland (FDK) has an unusually large number of based aircraft, and is omitted from estimations as an outlier.

since lower cost single engine piston aircraft might be the preferred aircraft for flight school use.

Presence of Certificated Flight School: In Hoekstra (2000) it was found that nearly every airport in the data set had flight instruction available, although it was unclear what level of complexity or comprehensiveness characterized these training facilities from airport to airport. Because flight instruction was virtually ubiquitous across the airports examined, the variable provided no meaningful information about airport activity levels. For this update, GRA examined the FAA VITALS database, maintained by the FAA Flight Standards Service. This database contains information on individuals and entities that are certificated under various FAR Parts. FAR Part 141 covers requirements for flight school certification, and the VITALS data for Part 141 certification identified those certificate holders, including the number of employees at each certificated flight school. In addition, some airports have more than one certificated flight school on site. Therefore, GRA developed data on the presence of Part 141 certificated flight schools at each of the Hoekstra (2000) data set airports, constructing three specific variables: the presence or absence of a certificated flight school at an airport, the number of these flight schools at each of these airports, and the number of flight school employees at each of these airport certificated flight schools.[7]

Pacific Coast States: The regional variable WSTAK used in Hoekstra (2000) combined states with a Pacific coast boundary (California, Oregon, Washington, and Alaska) with more inland western states such as Idaho, Montana, Utah, and others. These inland states are more sparsely populated than the coastal states (with the exception of Alaska). Because models estimated using the WSTAK variable often resulted in estimates of negative annual operations for airports in these inland states, a new categorical regional variable was created for those four Pacific coast states for this analysis. This new variable—called WACAORAK—turns out to have greater explanatory power than the WSTAK variable in the Minitab stepwise regression procedure.

Table 2 shows the new independent variables used to complement and refine the analysis in Hoekstra (2000). Data used in the regression analysis in this report are contained in Appendix B.

[7] The number of flight school employees is of interest as a proxy for the relative size of each school, or for the relative size of certificated flight instruction at each airport for those airports with more than one certificated flight school.

Table 2
Categories of New Independent Variables Used In Regression Analysis

Variable Name and Definition	Measurement/Units	Source
Pop25 1998 Population w/i 25 miles **Pop50** Within 50 miles **Pop100** Within 100 miles	Number of people	By census tract, U.S. Census
Pop25/100 Ratio of Pop25 to Pop100	Proportion, between 0 and 1	By census tract, U.S.
Se BA/BA Single engine based Aircraft/All based aircraft	Proportion, between 0 and 1	Terminal Area Forecast (TAF)
TOWDUM	1 if towered airport, 0 otherwise	TAF
%in50mi Percentage of based aircraft among based aircraft at GA airports within 50 miles	Proportion, between 0 and 1	TAF and Mapinfo software
%in100mi Percentage of based aircraft among based aircraft at GA airports within 100 miles	Proportion, between 0 and 1	TAF and Mapinfo software
VITFS Presence or absence of FAR141 certificated pilot school	1 if FAR141 certificated pilot school present, 0 otherwise	FAA Flight Standards VITALS database
VITFSnum Number of FAR141 certificated pilot schools on airport	Number of FAR141 certificated pilot schools on airport	FAA Flight Standards VITALS database
VITFSemp Employees of FAR141 certificated pilot schools at airport	Number of employees	FAA Flight Standards VITALS database
WACAORAK	1 if state is CA, OR, WA, or AK, 0 otherwise	Categorical/geographical

4. NEW APPROACHES TO ESTIMATING AVIATION ACTIVITY LEVELS AT SMALL TOWERED AND NON-TOWERED AIRPORTS

4.1 Models of GA Operations

The approach taken by GRA for enhancing the Hoekstra (2000) report was to use the final models specified in that report as the starting point for our investigations. Therefore, the new variables developed as potential inputs for modeling smaller airport activity were added to the list of variables included in the final Hoekstra (2000) equations, and stepwise regression was used to identify those variables that most strongly contributed to explaining airport activity,

expressed as either annual operations or annual operations per based aircraft. These new variables were identified in Section 3 above. Table 3 contains the results of this stepwise regression. Note that many of the variables developed by Hoekstra remain in the final regression equation, and that some of the newly defined variables do not contribute enough to explanatory power to enter the equations in Table 3 (or into subsequent sets of equations).

Since the number of based aircraft remains a highly significant and positive regressor, it is important to note that the inverse relationship between annual operations and the square of based aircraft also continues from the earlier results in Hoekstra (2000). Other things equal, it seems that the number of operations grows as the number of based aircraft increases, but at an increasingly slower rate. This "slowdown" is governed by the negative coefficient on the square of based aircraft.[8]

As Equation 9 of Table 3 indicates, towered airport operations are positively related to the number of based aircraft, to the population within 100 miles of the airport, and to the ratio of the population within 25 miles of the airport to the population within 100 miles of the airport. This last result seems to imply that the denser the population is nearby the airport (relative to the total population within 100 miles), the greater number of operations that occur. Equation 9 also indicates that other things equal, airport activity is negatively related to an airport's presence in the Pacific Coast states of Washington, California, Oregon or Alaska, to the square of the number of based aircraft, to the airport's proportion of based aircraft among all based aircraft for GA airports within 100 miles[9] and to FAR 139 carrier certification at the airport.

[8] It may be worth noting that the coefficients on BA and BA2 in Equation 9 imply that other things equal, the number of operations at an airport begins to decrease once the number of based aircraft exceeds 653 (which is what 421 divided by 0.64 approximately equals).

[9] The negative parameter estimate for the airport's percentage of based aircraft among all based aircraft at airports within 100 miles is somewhat counterintuitive. It might be thought that an airport with more of an area's based aircraft would have more operations, other things equal, but this seems to be true only relatively. What seems to be more important is that if a single airport is dominant (in terms of based aircraft) within the surrounding 100 miles, then the area itself has relatively low levels of GA activity, even if that dominant airport has the bulk of it.

Table 3
GA Operations Regression Equations—Data for Small Towered GA Airports Only

Equation Number	Equation[10]	R^2
1	OPS = 21,555 + 242 BA (8.11) (12.52)	.5564
2	OPS = 18,606 + 211 BA + 0.002 Pop100 (7.55) (11.46) (5.37)	.6402
3	OPS = 18,718 + 229 BA + 0.001 Pop100 –10,059 WACAORAK (7.85) (12.2) (5.46) (-3.11)	.6664
4	OPS = 7,495 + 425 BA + 0.001 Pop100 – 12,501 WACAORAK – 0.56 BA2 (2.04) (7.95) (5.26) (-4.00) (-3.88)	.7031
5	OPS = 12,598 + 453 BA + 0.001 Pop100 – 12,956 WACAORAK - 0.62 BA2 –19,958 %in50mi (3.19) (8.60) (2.80) (-4.39) (-4.39) (-2.96)	.7231
6	OPS = 10,422 + 462 BA + 0.001 Pop100 – 13,754 WACAORAK - 0.68 BA2 – 23,481 %in50mi (2.61) (8.60) (3.07) (-4.58) (-4.84) (-3.46) + 18,587 Pop25/100 (2.33)	.7351
7	OPS = 9,142 + 449 BA + 0.001 Pop100 – 13,292 WACAORAK - 0.67 BA2 – 8,448 %in50mi (2.29) (8.69) (3.23) (-4.47) (-4.81) (-0.83) + 32,823 Pop25/100 - 44,094 %in100mi (3.07) (-1.97)	.7435
8	OPS =7,954 + 440 BA + 0.001 Pop100 – 13,024 WACAORAK - 0.65 BA2 (2.13) (8.73) (3.87) (-4.41) (-4.74) + 36,362 Pop25/100 - 58,055 %in100mi (3.71) (-3.93)	.7420
9	OPS =14,449 + 421 BA + 0.001 Pop100 – 12,452 WACAORAK - 0.64 BA2 (2.73) (8.25) (3.69) (-4.22) (-4.66) + 31,361 Pop25/100 – 52,130 %in100mi - 5,528 FAR139 (3.09) (-3.47) (-1.72)	.7482

One of the principal objectives of this research study is to develop equations by which airport "local conditions" can be used to estimate annual operations at other airports, in particular non-towered airports for which activity data may be of low or uncertain quality. In Hoekstra (2000) a set of non-towered airports from selected states for which "reasonable" state estimates of GA operations activity were available was used to assess the accuracy of models developed from activity and "local conditions" data at small towered airports for estimating non-towered airport activity. A similar assessment was used for this report, for a smaller set of non-towered airports as explained above. For this purpose, the

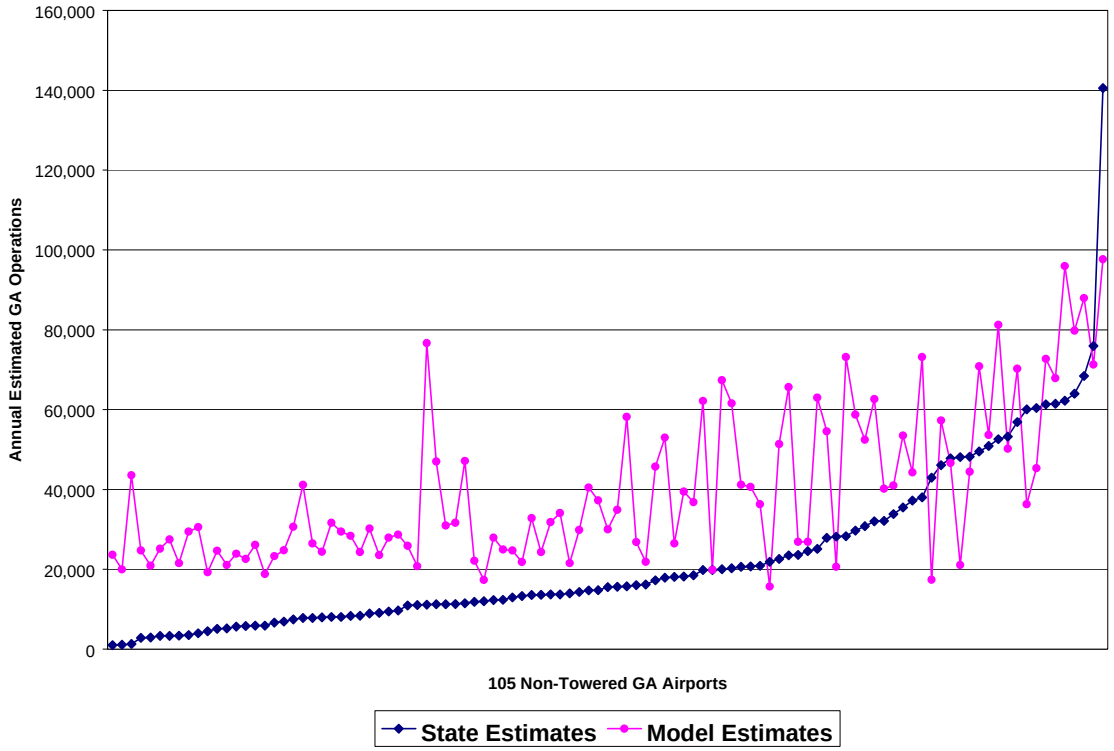
[10] T-statistics are given in parentheses under each coefficient.

model represented by Equation 9 in Table 3 was applied to data for 105 non-towered airports.

Figure 1 shows the comparison between the annual operations estimates at the non-towered airports, as extrapolated from the state counter and survey programs used at the airports, and the annual operations estimated at each non-towered airport, based on Equation 9 in Table 3. For 94 airports, or 90 percent of the 105 non-towered airports, the operations estimates produced by the equations exceed the state estimates, and for 57 airports, or 54 percent, the number of annual operations estimated using Equation 9 is more than double the state estimates.

Figure 1

State Estimated and Equation Estimated Annual Operations at Non-Towered Airports



Thus, as in Hoekstra (2000), a model of GA annual activity developed from local conditions at small towered airports explains GA activity at the towered airports quite well (in terms of R^2), but tends to produce higher estimates than the state estimation procedures for a set of non-towered airports. This suggests that fundamental distinctions may exist between the determinants of activity at these

two types of airports (or that there are systematic underestimations of activity occurring in the count programs at these non-towered airports).

It is possible to "bridge" this apparent divergence between the characteristics of data from small towered GA airports and data from non-towered GA airports, and to confirm statistically that it exists. The tendency of the Equation 9 model to produce higher estimated operations than the state estimates at non-towered GA airports is certainly apparent in Figure 1. This tendency may be an expression of the value that a tower adds to an airport's effectiveness and attractiveness to users. Alternately, the tendency may simply reflect the effectiveness of FAA establishment criteria for towers, since the tendency seems to imply that towers have been placed at airports that, other things equal, have more activity than comparable non-towered airports. Finally, the tendency of the model may in fact imply that the state estimate programs tend to *underestimate* annual activity levels.

Regardless of the reason for their differences, bridging the divergence between the two data sets can be done by combining them into a single data set outright or by combining them in a way that continues to treat the two groups of airports somewhat differently. Grouping them together outright overlooks the fact that significant differences may exist between the two groups of airports, and linking them together in a more discriminating way provides a compromise that recognizes that the two groups are in some ways dissimilar even though both groups provide information that may be useful for modeling and estimating activity at less well documented non-towered airports.

To test the hypothesis that there is a statistically significant difference between the estimating equations for small towered and non-towered GA airports, a common test procedure, known as the Chow test, was used. The Chow test "is the most popular way of testing whether the parameter values associated with one data set (say, Period 1 [or with the set of small towered GA airports]) are the same as those associated with another data set (say, Period 2 [or with the set of GA non-towered airports])."[11] Additional information on the Chow test is contained in Appendix A. In both approaches to estimating joint equations that include data from both small towered airports and non-towered airports (or equations with no dummy variable for "towered" airports and one with that dummy variable), the stepwise regression procedure was used to choose the best fitting set of variables.

To perform this test, the stepwise procedure was used to find the best estimating equation for the entire data set of towered airports and non-towered airports.

[11] Peter Kennedy, A Guide to Econometrics, Cambridge, MA: The MIT Press, 1979, p. 87.

Because this estimate "forces" the model coefficients to be the same for small towered GA airports and non-towered airports, it represents a "restricted" regression. The unrestricted regressions occur when the same variables are used to estimate separate equations for the small towered GA airport set and the non-towered airport set. The difference in the regression sums of squares for these two scenarios ("restricted" and "unrestricted") can be examined using an F distribution, and a significant test result indicates that the two data sets are sufficiently different as to give rise to different model parameters—they cannot be combined into a statistically homogeneous single data set.

A second functional form was also estimated in an attempt to relate operations at small towered airports and those at non-towered airports. An equation that included a dummy variable for "towered airports" was used—a variable—denoted TOWDUM—that took the value 1 if the airport was one of the 127 small towered airports and took the value 0 otherwise. Using an equation of this form to estimate a joint model that included both small towered and non-towered airports has the effect of letting each group have its own intercept term, while restricting all other coefficients to be equal on other parameters. The validity of this method can also be assessed using the Chow test mentioned above.

Tables 4 and 5 show the equations that resulted from these stepwise regressions, for the "no dummy variable" and the "with dummy variable" cases respectively. (In Table 4, POP is the estimated 1999 population of the county in which the airport is located.) In each table, the calculated F-statistic is shown, along with the critical F-statistic at the 0.01 level of significance. In both cases, we must reject the hypothesis that the small towered airport data set and the non-towered airport data set are from similar distributions. (This is so even though a comparison of the two tables shows that the strategy of using a dummy variable for distinguishing between towered and non-towered airports in the joint data set provides a modestly improved R^2.)

Table 4
GA Operations Regression Equations—Data for Small Towered GA Airports and Non-Towered GA Airports—No Dummy Variable

Equation Number	Equation[12] (No Dummy Variable Used for "Towered Airports")	R^2
10 All 232 Airports	OPS = 9,309 + 391 BA – 0.47 BA2 + 3.1 POP + 7,095 FAR139 + 0.001 Pop100 + 5,190 VITFSnum (1.49) (9.19) (-3.69) (2.62) (3.22) (3.32) (2.45) - 11,091 WACAORAK – 11,220 seBA/BA Regression SS: 1.15679E+11 (-4.39) (-1.57)	.7170
11 127 Towered Airports	OPS = 13,256 + 386 BA – 0.55 BA2 + 0.33 POP – 7,711 FAR139 + 0.001 Pop100 + 3,764 VITFSnum (1.92) (7.20) (-3.96) (0.28) (-2.28) (4.37) (1.67) - 12,272 WACAORAK + 4,997 seBA/BA Regression SS: 5.23207E+10 (-3.81) (0.64)	.7270
12 105 Non-towered Airports	OPS = 21,905 + 216 BA – 0.07 BA2 + 27.3 POP + 20,641 FAR139 + 0.001 Pop100 + 3,701 VITFSnum (1.66) (2.62) (-0.27) (2.95) (3.40) (1.08) (0.91) - 5,697 WACAORAK – 21,853 seBA/BA Regression SS: 3.11064E+10 (-1.50) (-1.44)	.6480
	Chow Test result: F-statistic calculated from data: 9.19, distributed as F(232,9), with critical value 4.33 at 1% significance level: Reject hypothesis that the Towered and Non-Towered data come from similar distributions as represented by Equation 10.	

While the Chow test results indicate that there are basic differences between the towered and non-towered airport data sets, it may remain practical to use the joint models, with the dummy variable TOWDUM to distinguish between towered and non-towered characteristics. This is especially true because activity levels for the non-towered airports in the data set are themselves based on state estimates, rather than actual counts as with the small towered airports. To see how effectively the dummy variable approach might be used for estimating activity at non-towered airports outside the sample set, GRA made two comparisons.

[12] T-statistics are given in parentheses under each coefficient.

Table 5
GA Operations Regression Equations
Data for Small Towered GA Airports and Non-Towered GA Airports—With Dummy Variable

Equation Number	Equation[13] (Dummy Variable for "Towered" Used)	R^2
13 All 232 Airports, Dummy Variable for Towered	OPS = -571 + 355 BA – 0.46 BA2 – 40,510 %in100mi + 3,795 VITFSnum + 0.001 Pop100 (-0.25) (8.41) (-3.83) (-2.79) (1.87) (3.48) - 8,587 WACAORAK + 24,102 Pop25/100 + 13,674 TOWDUM Regression SS: (-3.61) (2.67) (6.44) 1.19818E+11	.7430
14 127 Towered Airports	OPS = 7,731 + 428 BA – 0.65 BA2 – 54,681 %in100mi + 3,485 VITFSnum + 0.001 Pop100 (2.08) (8.47) (-4.77) (-3.69) (1.63) (4.07) - 12,856 WACAORAK + 34,958 Pop25/100 Regression SS: 5.3772E+10 (-4.38) (3.58)	.7480
15 105 Non-Towered Airports	OPS = 775 + 241 BA – 0.14 BA2 + 31,478 %in100mi + 5,577 VITFSnum + 0.001 Pop100 (0.22) (2.52) (-0.46) (0.85) (1.23) (1.80) - 3,736 WACAORAK + 12,121 Pop25/100 Regression SS: 2.7327E+10 (-0.89) (0.65)	.5690
	Chow Test result: F-statistic calculated from data: 11.5, distributed as F(232,9), with critical value 4.33 at 1% significance level: Reject hypothesis that the Towered and Non-Towered data come from similar distributions as represented by Equation 13.	

In the first, one-seventh of the non-towered airports were randomly excluded from the joint data set.[14] Using this combined but "truncated" data set of 127 towered airports and 90 non-towered airports, GRA re-estimated the model (using the dummy variable approach). Then, using this re-estimated equation, the expected operations at the omitted non-towered airports were calculated. Table 6 shows the equation that resulted from this estimation for the truncated data set (note that the equation has the same functional form as Equation 13 in Table 5 above). Figure 2 shows the state estimates and equation estimates for this "out of sample" estimation of annual GA operations for the 15 non-towered airports randomly excluded from the data set. In Figure 2, the airports are listed, left to right, in ascending order of state estimated annual GA operations, for ease of viewing. The data shown in Figure 2 depict a closer fit of model estimates to state estimates than does Figure 1 above. For Figure 2, only six, or 40 percent of the model estimates exceed the state estimates (compared to 90 percent in Figure 1), and only one, or seven percent of the model estimates are more than double the state estimates (compared to 54 percent in Figure 1).

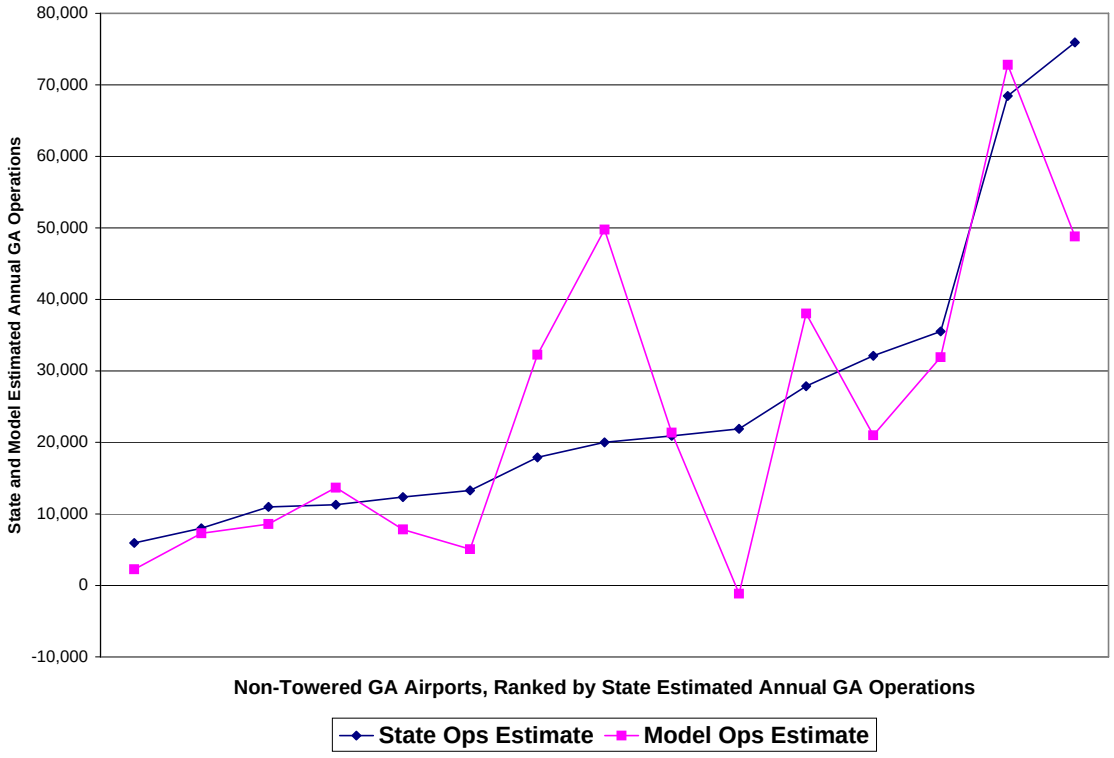
[13] T-statistics are given in parentheses under each coefficient.

[14] Airports were randomly excluded from the list of 105 non-towered GA airports by ordering the 105 airports alphabetically by LOCID and then excluding every seventh airport from this list. The LOCIDS of the 15 excluded airports are (in order of state estimated annual GA operations, as along the horizontal axis of Figure 2) RIF, BUM, AJG, GLY, M58, FWC, OKV, O61, RBG, GGW, 7S5, CBE, 0W3, JYO, and ESN.

Table 6
GA Operations Regression Equations
Small Towered GA Airports and Truncated Non-Towered GA Airports Data Set using Dummy Variable to Examine Fit to Non-Towered Airports

Equation Number	Equation[15] (Dummy Variable for "Towered" Used)	R^2
16 All Airports Dummy Variable for Towered, 15 Non-Towered Airports Excluded	OPS = -1,215 + 370 BA – 0.49 BA2 – 48,631 %in100mi + 3,663 VITFSnum + 0.001 Pop100 (-0.50) (8.45) (-4.01) (-3.21) (1.75) (3.04) 7,793 WACAORAK + 26,801 Pop25/100 + 13,791 TOWDUM (-3.21) (2.92) (6.17)	.7450

Figure 2
Fit of Out-of-Sample Estimates for 15 Non-Towered Airports Excluded from Estimating Data for Equation 16



Visual examples can be seen in Figures 3 and 4. Both figures show the annual operations tower counts (on the left) and annual operations state

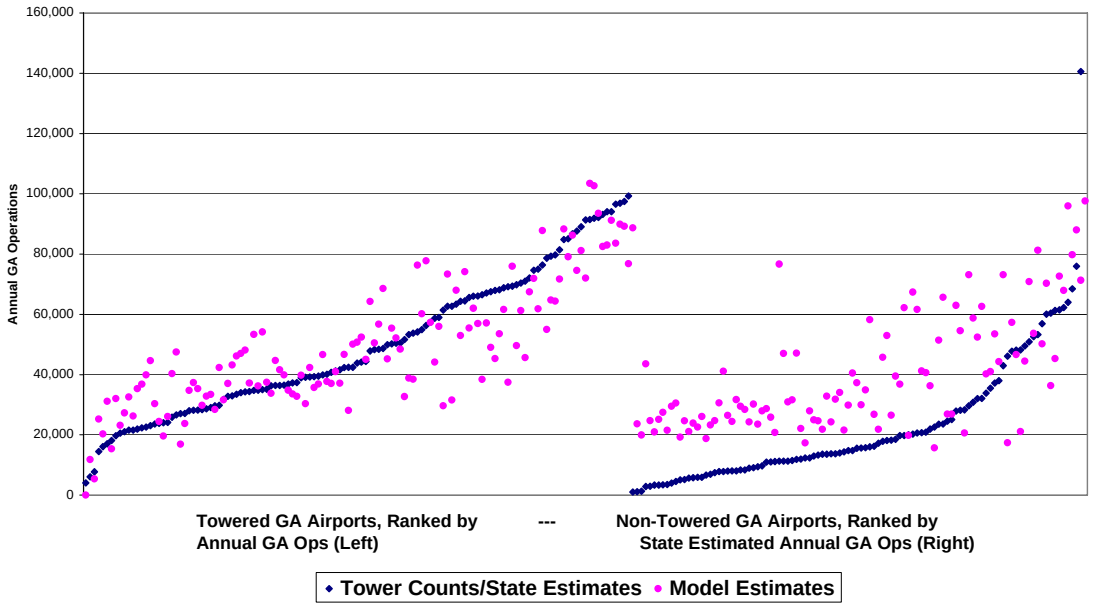
[15] T-statistics are given in parentheses under each coefficient.

estimates (on the right), each ranked from least to greatest. Thus, on the horizontal axis of both Figure 3 and Figure 4 is a sequence of the 232 airport data set, first the 127 small towered GA airports, ranked from fewest annual operations to greatest, and then the 105 non-towered GA airports, ranked from fewest state estimated operations to greatest.

In Figure 3, model estimates for both the towered airports and the non-towered ones are shown using Equation 9 from Table 3, the best fitting equation based on the towered airport data alone. On the left side of the Figure, the equation estimates are evenly distributed around the towered airport data set, but on the right side one can clearly see the tendency of this equation to produce higher estimates relative to the state estimates of activity at the non-towered airports. (Note: The right side of Figure 3 shows the same comparison of model estimates and state operations estimates as Figure 1.)

Figure 3

Comparison of Tower Counts and State Estimates to Model Estimates (Equation 9) for Small Towered GA Airports and Non-Towered Airports—Model Without Tower Dummy Variable

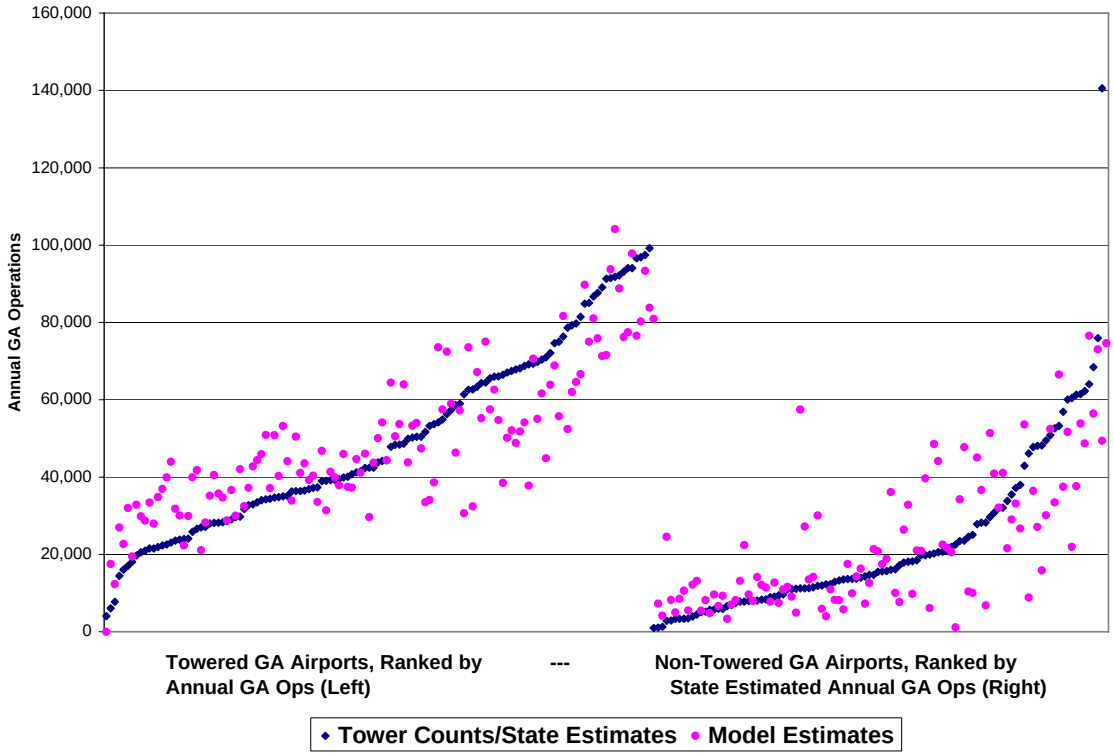


In Figure 4, however, the model estimates are based on Equation 13, the best-fitting equation for the joint set of 232 towered and non-towered GA airports (using the TOWDUM dummy variable to separate some of the towered and non-towered effects). In this figure, the model estimates are evenly distributed around both the towered airport tower count data and the non-towered airport

state estimates. This equation can be regarded as utilizing information about small towered GA airports to model small non-towered GA airports, while maintaining some unique factors of these non-towered facilities (in a way that Equation 9, based solely on towered airport data does not).

Figure 4

Comparison of Tower Counts and State Estimates to Model Estimates (Equation 13) for Small Towered GA Airports and Non-Towered Airports—Model with Tower Dummy Variable



The out of sample procedure and the value of information from the towered airport data for modeling estimates of annual operations in the non-towered airport set suggest a productive next step for this modeling and research analysis. One use of the model equations shown above, in particular, Equation 13, is to estimate operations for a large data set of U.S. non-towered airports contained in the Terminal Area Forecast (TAF). For the majority of these airports, operation estimates reported on DOT Form 5010 are roughly developed and are not based on sampling procedures. This step would allow a rough assessment to be made of the plausibility of these 5010 data, and would potentially provide APO staff with a means of assessing claims about airport operations at these types of poorly documented non-towered airports.

4.2 Model of GA Operations per Based Aircraft

Hoekstra (2000) also estimated models of operations per based aircraft at the small towered GA airports in the data set; these models generally had poorer explanatory power than the models of GA operations per se. Also worth noting is the fact that the model of GA operations per based aircraft that was most effective—shown as Equation H-11 in Table 1 above—actually included no airport "local factors" other than the range of based aircraft and some dummy variables for the airport's FAA region. For this study, GRA used the Minitab Stepwise Regression procedure to modestly improve the model of Equation H-11 by including the four categorical variables included in H-11 and the new variables developed for this report. The results of this procedure are reported in Table 7. In Equation 17, operations per based aircraft are reduced (i.e., have negative coefficients) for airports with greater than 100 based aircraft, for those in the Western or Alaska regions, for those that are "regionally prominent" in the sense that they have a large proportion of all based aircraft at nearby airports, and for those with relatively higher populations within 50 miles. Operations per based aircraft are modestly increased (i.e., have positive coefficients) for those airports with relatively higher populations within 100 miles.

Table 7
Best Equation from Minitab Stepwise Regression for Small Towered Airport Operations per Based Aircraft

Equation Number	Equation[16]	R^2
17	OPSBA = 595.2 – 164 BAE100 – 325 %BA100 - 107 WST – 244 AAL (15.2) (-3.84) (-1.56) (-2.17) (-1.85) + 0.00002 Pop100 – 0.00002 Pop50 (2.51) (-1.79)	.3072

The modeling approach represented by Equation 17, which estimates annual GA operations per based aircraft, has not been pursued further in this report for three reasons. First, the goodness of fit to the data, based on the model R^2, is significantly lower than that in the models that estimate annual GA operations alone. Second, the explanatory variables that are significant for the regression equation are mainly categorical or regional variables, and thus say little about sources of variability from airport to airport (which may include the number of based aircraft at an airport, a factor that is only included in the categorical variable BAE100 in equation 17). Finally, for many of the non-towered airports that are the focus of this report, based aircraft may be a more reliable estimate

[16] T-statistics are given in parentheses under each coefficient.

than annual operations. This circumstance makes a model that treats an airport's number of based aircraft as an important factor in explaining annual GA operations somewhat more compelling.

5. APPLYING THE ESTIMATED MODEL TO SMALL NON-TOWERED GA AIRPORTS NATIONWIDE

The estimating equation shown as Equation 13 of Table 5 was used to develop model estimates for 2,789 non-towered GA airports across the country and its territories. This data set includes all of the non-towered GA airports in the TAF not included in the development of the model estimation. For the majority of these airports the operation estimates reported on DOT Form 5010 are not based on sampling procedures. The demographic and other "local factors" data were gathered, and the model equation applied. This section discusses some broad initial results from this effort.

Table 8 summarizes data for 2,780 of the non-towered GA airports that are located in U.S. states (the remainder are located in U.S. territories such as the Virgin Islands). For each state, the data include the number of non-towered TAF airports in the state (excluding those non-towered airports that were part of the modeling process in Hoekstra (2000) and the prior sections of this report), the maximum number of annual GA operations per airport reported in the state and the minimum number reported. Some airports (13, or 0.5%) report 0 annual GA operations on their 5010 report, and 225, or eight percent, report fewer than 1,000 annual GA operations. Also shown in the table are average absolute percentage deviations between model estimates (based on Equation 13) and the airport 5010 estimate.[17]

The state-by-state data shown in Table 8 indicates a wide range of reported annual operations by non-towered GA airports in most states. Since these data are based on airport-specific Form 5010 estimates, it is not clear how much of this range should be attributed to variability in airport usage and how much to variability in Form 5010 reporting and estimation procedures. The table also suggests that a closer look, on a state-by-state basis, at relationships between airport operations and the other demographic or "local factor" data could add to APO's understanding of the determinants of airport activity by GA users of the National Airspace System.

[17] No percentage absolute deviation is reported for Alaska because several Alaska airports report 0 annual operations, which (even if changed to 1 operation) make the absolute deviation from the model estimate quite large in percentage terms. For other states, those airports reporting 0 or very small numbers of annual operations are omitted from the average absolute percentage deviation.

Table 8

Summary State Data for 2,780 Non-Towered GA Airports

State	NonTowered GA Airports	Maximum Annual GA Ops (5010)	Minimum Annual GA Ops (5010)	Average Absolute Deviation (%)
AK	226	61,000	0	----
AL	62	90,000	672	49%
AR	74	90,000	200	67%
AZ	33	64,000	700	68%
CA	145	100,000	100	88%
CO	47	95,990	259	59%
CT	10	58,656	1,345	128%
DE	3	42,000	35,000	45%
FL	54	97,085	0	72%
GA	85	73,000	1,000	55%
HI	9	73,950	100	580%
IA	73	47,408	1,000	38%
ID	32	85,710	5,787	46%
IL	75	90,980	950	62%
IN	62	63,622	2,483	40%
KS	80	87,473	1,300	39%
KY	44	49,909	800	31%
LA	41	63,772	500	49%
MA	22	97,105	6,922	45%
MD	17	91,100	1,295	64%
ME	22	60,500	1,400	62%
MI	92	86,534	1	59%
MN	75	68,400	2,420	44%
MO	57	33,128	1,091	41%
MS	66	60,000	400	59%
MT	68	62,300	1	54%
NC	61	65,624	2,300	45%
ND	40	63,681	100	56%
NE	63	65,000	225	35%
NH	11	93,381	5,730	34%
NJ	29	90,000	2,635	46%
NM	41	67,483	10	164%
NV	25	77,000	50	115%
NY	73	90,000	0	73%
OH	83	81,915	2,100	56%
OK	69	93,504	50	56%
OR	48	74,267	1,572	52%
PA	62	80,310	3,000	43%
RI	4	34,390	9,008	80%
SC	52	92,266	1,000	56%
SD	44	52,806	300	54%
TN	61	67,704	576	37%
TX	175	97,000	600	38%
UT	34	94,583	607	68%
VA	42	93,882	1,000	52%
VT	10	33,800	400	66%
WA	44	96,215	2,700	51%
WI	82	84,391	2,000	45%
WV	21	48,356	110	124%
WY	32	29,927	650	43%

Figure 5 depicts the Form 5010 report of annual GA operations estimates for the entire set of 2,789 non-towered GA airports. For ease of viewing, the airports are ranked, from left to right on the horizontal axis of the figure, from fewest 5010 operations to greatest. Thus, the horizontal axis of the figure is made up of 2,789 individual airport data filings, which are shown increasing in a somewhat exponential curve from least to greatest. For each of these airports, the model estimate of annual GA operations is also shown. These estimates vary in their accuracy, and appear as dots around the increasing line depicting the ranked 5010 operations reports. The model produces higher estimates of annual GA operations, relative to the Form 5010 estimate, for 973 airports (or about 35 percent), and produces lower estimates for 1,816 airports (about 65 percent). For 84 airports (or about three percent) the model produces estimates of negative annual operations. This occurs predominantly in Alaska and other sparsely populated northwestern states, in which an airport may be quite prominent within the surrounding 100 miles, leading its model estimate to be strongly affected by the large negative coefficient on local prominence.

Figure 5
Form 5010 Estimates and Model Estimates for Annual GA Operations at 2,789 Non-Towered GA Airports

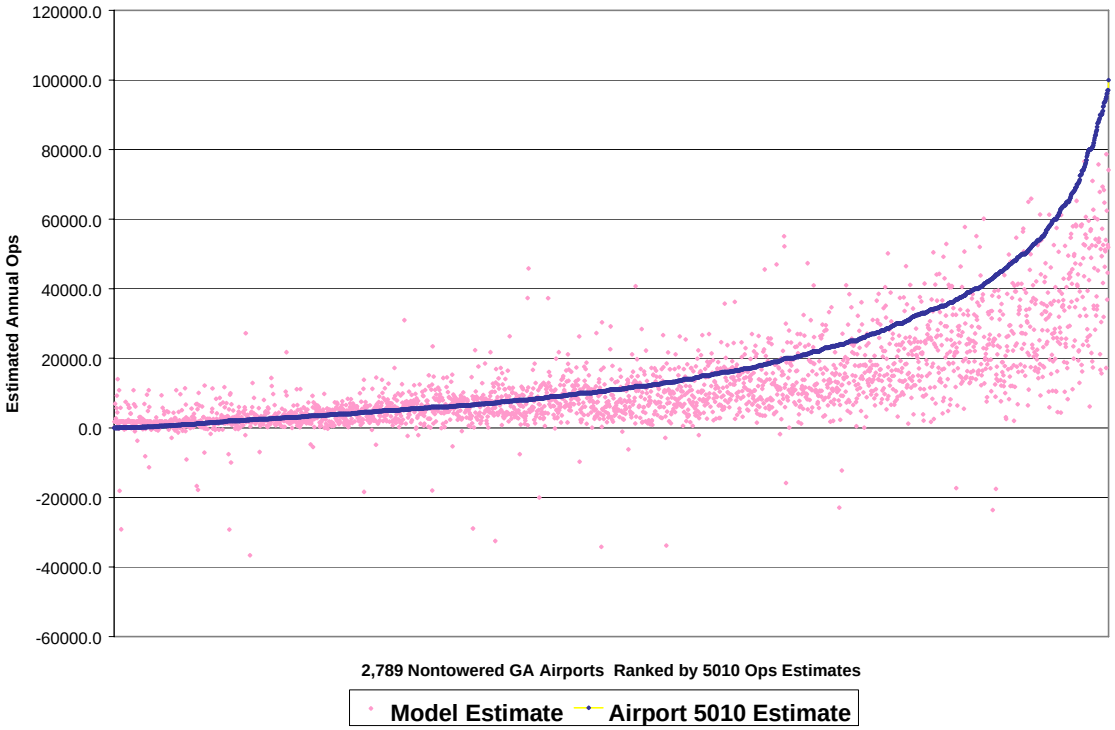
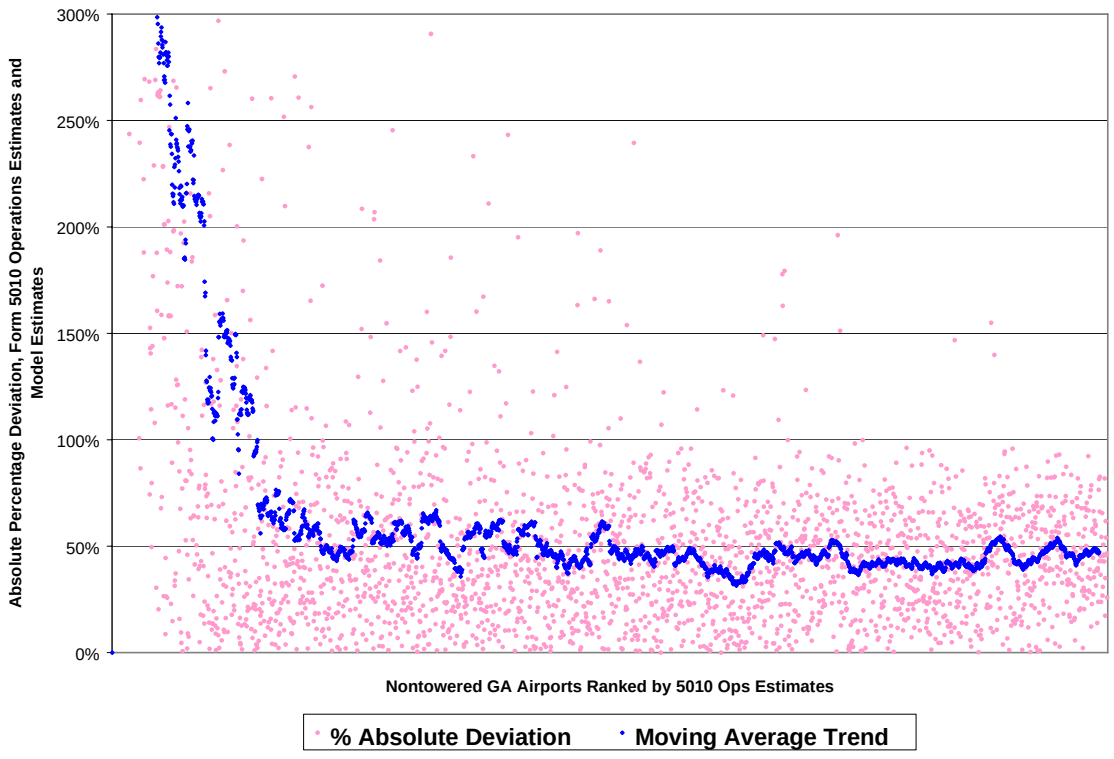


Figure 6 illustrates the pattern of variability that exists between Form 5010 and model-based operations estimates. In Figure 6, the horizontal axis again contains the 2,789 non-towered GA airports ranked, from left to right, by Form 5010 GA operations estimates. For each of these airports, the chart displays the absolute percentage deviation of the model estimate from the airport's 5010 estimate of annual operations. Also shown in the chart is a trend line, which is constructed by averaging the 25 average percentage deviation calculations to the right and left of each airport. Such a trending procedure, called a "moving average," smoothes the airport-to-airport variability out of the absolute percentage deviation data to make general patterns more visible. This figure shows that for most of the 2,789 airports (and in particular after Form 5010 estimated GA annual operations exceed 3,000) absolute percentage deviation remains fairly stable at between 40 and 55 percent. Note, however, that Figure 5 indicates in addition that with growing estimates of annual operations (that is, moving from left to right in the figure), model estimates tend to be less than those reported in Form 5010 estimates.

Figure 6
Variability of Differences between Form 5010 Annual Operations Estimates and Model Estimates of Annual Operations for U.S. Non-Towered GA Airports



The "flattening out" of the moving average trend in Figure 6 provides evidence that the model developed in this paper provides a consistent approach to estimating non-towered GA airport operations using demographic and "local factor" data. Table 9 reports the average absolute deviations and the average absolute percentage deviations for the small towered GA airports (Equations 9 and 13), for the non-towered GA airports with state operation estimates based primarily on sampling procedures (Equations 9 and 13), and for the large set of non-towered GA airports (Equation 13 only, for all 2, 789 airports, for those 2,628 airports reporting more than 500 annual GA operations, and for those 2,469 airports reporting more than 2,000 annual GA operations). These values indicate that the joint Equation 13, which links the towered and non-towered GA airport data, provides a model with improved estimating consistency for the 105 non-towered airports with state estimates based primarily on sampling procedures.

Table 9
Model Goodness of Fit Measures for Towered GA Airports, State-Estimated Non-Towered GA Airports, and Form 5010 Non-Towered GA Airports

Set of Airports	Equation	Average Absolute Deviation	Standard Deviation of Absolute Deviation	Average Absolute Percentage Deviation	Standard Deviation of Absolute Percentage Deviation
127 Small Towered GA Airports	Equation 9 (no dummy)	9,537.0	7,213.8	25.2 %	30.82 %
	Equation 13 (w/ dummy)	10,121.2	6987.8	28.4 %	39.7 %
105 Non-Towered GA Airports	Equation 9 (no dummy)	20,029.8	11,648.3	236.5 %	427.8 %
	Equation 13 (w/ dummy)	10,011.7	10,640.4	80.0 %	190.1 %
2,789 Non-Towered GA Airports	Eq. 13, all 2,789 airports	8,634	11,063	2,114 %	38,180 %
	Eq. 13, Est. Ops > 500	8,949	11,235	60 %	103 %
	Eq. 13, Est. Ops > 2,000	9,540	11,482	50 %	62 %

6. CONCLUSION

The work described in this report has refined the modeling technique developed in Hoekstra (2000) by adding new explanatory variables that are related to the "local factors" that influence aviation activity at small airports and by developing new functional approaches that allow joint equations to link the small towered airport data set and the non-towered airport data set. This linkage addresses and remedies to some extent the tendency of models based solely on towered airport data to exceed state-estimated activity (with estimates based on other non-

econometric methods) at non-towered airports. The modeling has also quantified important differences between small towered GA airports and non-towered ones, giving an improved view of the impact a tower might have on aviation activity. Statistical testing indicates that there are fundamental differences between the characteristics of activity at small towered airports and activity at their non-towered counterparts. In spite of these differences, the report has also shown that a joint model of towered GA airports and non-towered ones can provide more unbiased estimates for activity at these non-towered airports, compared to a model based on towered airport activity alone.

These improvements suggest that the joint models may be used, in combination with "local factors" and demographic data for a broader set of non-towered airports, to begin a rough assessment of activity at these non-towered airports. This report has provided a preliminary estimate of this data for 2,789 small non-towered GA airports. A more detailed examination of these airports and of the relationship between the activity levels estimated for them in 5010 data and their demographic and other characteristics may provide new tools for characterizing and categorizing these airports. Such an assessment tool for small GA airports could provide APO analysts with an improved ability to assess the reliability of master plans and activity forecasts at these smaller airports.

APPENDIX A

THE CHOW TEST FOR CHANGING PARAMETER VALUES

The Chow test (named after the noted econometrician Gregory Chow) is a commonly used test for determining whether a single regression equation can be applied to a data set. The test compares results from a regression run over the entire data set of interest—the "restricted" or "constrained" regression, since the parameters are "restricted" or "constrained" to be equal for the entire data set—with results from an "unrestricted" or "unconstrained" regression which allows the data set to be broken into two pieces for which there is some plausible rationale. Examples of such rationales might be breaking a time series of economic data into a pre-World War II set and a post-World War II set, or breaking a set of small airport data into two subsets, one for small towered airports and one for small non-towered airports. For the defined subsets, the regression equation identical to that used for the "restricted" regression (in some or all parameters) is used for each of the subgroups of data.

The test statistic, which is distributed as an F-distribution, is based on the regression sums of squares from the "restricted" and "unrestricted" estimations. Test statistic parameters are the number of data points in the total data set—N—(that used for the "restricted" estimation), the number of parameters being "restricted" to being held constant in the restricted estimation—R, and the number of regressor variables in the "unrestricted" estimation—K. The test statistic is calculated as

$$\frac{\left[(SSE(restricted) - SSE(unrestricted)\right]/R}{\left[SSE(unrestricted)\right]/(N-K)}$$

and is distributed as an F-statistic with R and (N-K) degrees of freedom. If the test statistic exceeds the critical F(R,N-K) value of choice, we conclude that the two sub-data sets should not be regarded as coming from the same population.

APPENDIX B

COMPLETE DATA SET USED FOR REGRESSION ANALYSIS

Towered GA Airports

Airport Name	State	ID	TOWDUM	OPS	OPSBA	BAE100	BA	BA2	POP	PCI	EMP	FAR139	WSTAK	WACAORAK	WST	AAL	R12	VITFS	VITFSnum	VITFSemp	%in50mi	%in100mi	se BA/BA	Pop100	Pop50	Pop25	Pop25/100	Equation 9 Est.	Difference	Equation 13 Est.	Difference
Airport	KS	**OJC**	**1**	96,875	231.2	1	419	175,561	441.3	39,485.4	277.2	0	0	0	0	0	0	1	1	21	0.229	0.146	0.819	2,653,817	1,866,017	1,264,269	0.476	89,259.8	7,615.2	93,344.3	3,530.7
Fullerton Municipal Airport	CA	**FUL**	**1**	91,428	241.2	1	379	143,641	2,785.2	33,066.1	1,336.7	0	0	1	0	0	0	1	1	9	0.049	0.029	0.899	18,146,393	13,842,666	9,195,987	0.507	102,655.9	-11,227.9	104,151.3	-12,723.3
Wiley Post Airport	OK	**PWA**	**1**	94,059	279.1	1	337	113,569	636.5	24,837.9	410.2	0	0	0	0	0	0	1	3	37	0.423	0.164	0.772	1,972,950	1,151,787	857,151	0.434	91,207.6	2,851.4	97,818.8	-3,759.8
Grand Prairie Municipal Airport	TX	**GPM**	**1**	91,302	318.1	1	287	82,369	1,381.3	28,608.5	704.8	0	0	0	0	0	0	0	0	0	0.067	0.057	0.823	5,625,322	4,614,966	3,200,735	0.569	103,442.8	-12,140.8	93,740.3	-2,438.3
Felts Field Airport	WA	**SFF**	**1**	64,349	230.6	1	279	77,841	410.6	24,417.0	192.0	0	1	1	1	0	0	1	1	12	0.465	0.270	0.855	841,224	571,589	465,967	0.554	74,183.7	-9,834.7	75,005.5	-10,656.5
Ogden-Hinckley Airport	UT	**OGD**	**1**	97,424	360.8	1	270	72,900	187.0	22,382.9	91.8	1	1	0	1	0	0	1	2	66	0.216	0.161	0.861	1,862,465	1,434,602	417,873	0.224	76,795.2	20,628.8	83,797.6	13,626.4
Kenosha Regional Airport	WI	**ENW**	**1**	81,437	310.8	1	262	68,644	145.4	24,894.2	52.1	1	0	0	0	0	0	1	1	9	0.108	0.038	0.835	12,416,966	5,641,932	934,983	0.075	88,340.1	-6,903.1	89,728.6	-8,291.6
Page Field Airport	FL	**FMY**	**1**	94,063	367.4	1	256	65,536	399.7	27,853.3	161.8	0	0	0	0	0	0	0	0	0	0.212	0.100	0.829	2,431,075	837,073	445,766	0.183	83,561.4	10,501.6	76,577.8	17,485.2
Riverside Municipal Airport	CA	**RAL**	**1**	75,011	319.2	1	235	55,225	1,521.4	22,526.1	413.6	0	1	1	1	0	0	0	0	0	0.038	0.018	0.838	18,225,835	10,980,235	2,809,303	0.154	87,828.7	-12,817.7	81,663.1	-6,652.1
Helena Regional Airport	MT	**HLN**	**1**	44,365	193.7	1	229	52,441	54.0	22,727.6	29.8	1	1	0	1	0	0	0	0	0	0.712	0.249	0.607	376,639	99,423	58,063	0.154	64,279.5	-19,914.5	64,448.6	-20,083.6
Salinas Municipal Airport	CA	**SNS**	**1**	89,057	397.6	1	224	50,176	368.6	29,580.2	156.3	0	1	1	1	0	0	1	1	10	0.145	0.033	0.714	7,483,528	1,582,667	447,643	0.060	72,005.8	17,051.2	71,580.5	17,476.5
Lawrence Municipal Airport	MA	**LWM**	**1**	96,578	453.4	1	213	45,369	705.2	33,280.4	301.4	0	0	0	0	0	1	0	0	0	0.086	0.047	0.924	9,150,600	5,130,051	2,312,299	0.253	89,894.3	6,683.7	80,234.2	16,343.8
Igor I Sykorsky Memorial	CT	**BDR**	**1**	91,825	431.1	1	213	45,369	842.3	56,608.9	440.4	1	0	0	0	0	1	0	0	0	0.070	0.027	0.818	22,847,708	10,063,318	1,791,543	0.078	93,493.3	-1,668.3	88,793.9	3,031.1
Greenville Downtown Airport	SC	**GMU**	**1**	84,815	409.7	1	207	42,849	358.7	27,389.0	231.2	0	0	0	0	0	0	1	1	11	0.253	0.083	0.679	4,987,159	1,401,689	646,640	0.130	79,113.4	5,701.6	74,992.4	9,822.6
Tacoma Narrows Airport	WA	**TIW**	**1**	86,708	433.5	1	200	40,000	688.2	24,471.2	241.1	0	1	1	1	0	0	1	2	29	0.074	0.057	0.810	4,029,983	3,234,400	1,635,553	0.406	74,571.5	12,136.5	75,873.5	10,834.5
Santa Maria Public Airport	CA	**SMX**	**1**	56,295	282.9	1	199	39,601	391.2	32,352.3	194.7	1	1	1	1	0	0	0	0	0	0.244	0.075	0.804	1,704,748	462,280	238,766	0.140	57,309.1	-1,014.1	58,952.4	-2,657.4
General William J. Fox Airfield	CA	**WJF**	**1**	69,149	349.2	1	198	39,204	9,305.2	27,937.9	4,028.6	0	1	1	1	0	0	0	0	0	0.100	0.023	0.919	16,113,352	5,190,068	367,330	0.023	75,949.2	-6,800.2	70,624.8	-1,475.8
Hagerstown Regional Airport	MD	**HGR**	**1**	53,733	271.4	1	198	39,204	127.1	23,054.5	65.4	1	0	0	0	0	1	0	0	0	0.148	0.050	0.732	10,384,327	1,458,702	407,689	0.039	76,327.6	-22,594.6	73,526.8	-19,793.8
Rogue Valley International Airport	OR	**MFR**	**1**	50,205	280.5	1	179	32,041	175.5	23,222.2	72.5	1	1	1	1	0	0	0	0	0	0.437	0.220	0.791	567,085	282,223	209,510	0.369	52,203.4	-1,998.4	53,968.3	-3,763.3
Portland-Troutdale Airport	OR	**TTD**	**1**	72,082	407.2	1	177	31,329	633.8	30,307.6	462.6	0	1	1	1	0	0	1	1	4	0.150	0.089	0.843	2,763,206	2,026,571	1,512,855	0.547	71,903.8	178.2	68,874.5	3,207.5
Modesto City-County Airport	CA	**MOD**	**1**	65,566	372.5	1	176	30,976	430.8	22,566.5	170.8	1	1	1	1	0	0	0	0	0	0.089	0.018	0.842	10,435,562	1,477,566	564,657	0.054	62,036.9	3,529.1	62,594.9	2,971.1
Olympia Airport	WA	**OLM**	**1**	58,650	333.2	1	176	30,976	204.8	25,700.1	85.5	1	1	1	1	0	0	0	0	0	0.100	0.051	0.804	4,473,160	1,928,153	469,750	0.105	56,009.0	2,641.0	57,278.6	1,371.4
Waukegan Regional Airport	IL	**UGN**	**1**	93,135	532.2	1	175	30,625	616.9	44,220.7	308.0	0	0	0	0	0	0	1	1	6	0.063	0.028	0.563	12,618,654	7,659,862	1,319,212	0.105	83,005.1	10,129.9	77,470.9	15,664.1
Albert Whitted Airport	FL	**SPG**	**1**	87,636	506.6	1	173	29,929	884.8	31,330.2	454.6	0	0	0	0	0	0	0	0	0	0.118	0.057	0.802	5,185,886	2,850,735	1,769,713	0.341	81,147.6	6,488.4	71,316.7	16,319.3
Dallas Executive Airport	TX	**RBD**	**1**	99,213	576.8	1	172	29,584	2,082.8	37,506.3	1,523.8	0	0	0	0	0	0	1	1	2	0.040	0.034	0.785	5,749,850	4,595,841	3,055,401	0.531	88,696.5	10,516.5	80,944.7	18,268.3
McNary Field Airport	OR	**SLE**	**1**	43,829	256.3	1	171	29,241	272.1	22,404.2	127.1	1	1	1	1	0	0	0	0	0	0.185	0.096	0.711	2,927,097	1,891,144	430,470	0.147	52,445.2	-8,616.2	54,134.1	-10,305.1
Oxnard Airport	CA	**OXR**	**1**	79,274	466.3	1	170	28,900	743.9	29,300.7	260.8	1	1	1	1	0	0	0	0	0	0.057	0.018	0.848	14,294,854	3,161,626	667,323	0.047	64,412.6	14,861.4	64,599.2	14,674.8
Santa Fe Municipal Airport	CA	**SAF**	**1**	74,663	441.8	1	169	28,561	125.9	27,384.5	64.6	0	0	0	0	0	0	0	0	0	0.271	0.207	0.726	950,163	720,990	127,172	0.134	61,822.9	12,840.1	55,753.9	18,909.1
Hawthorne Municipal Airport	CA	**HHR**	**1**	85,050	512.4	1	166	27,556	9,305.2	27,937.9	4,028.6	0	1	1	1	0	0	1	1	29	0.022	0.015	0.829	16,761,936	12,927,096	8,563,803	0.511	86,274.2	-1,224.2	81,056.9	3,993.1
Beverly Municipal Airport	MA	**BVY**	**1**	92,170	562.0	1	164	26,896	705.2	33,280.4	301.4	0	0	0	0	0	1	1	1	0	0.076	0.043	0.739	8,979,874	5,103,800	2,685,463	0.299	82,490.8	9,679.2	76,197.3	15,972.7
Redding Municipal Airport	CA	**RDD**	**1**	69,312	433.2	1	160	25,600	166.0	23,728.9	74.0	1	0	1	0	0	0	1	1	22	0.370	0.129	0.783	705,544	229,484	181,434	0.257	49,644.9	19,667.1	55,051.8	14,260.2
Barnes Municipal Airport	MA	**BAF**	**1**	61,411	401.4	1	153	23,409	439.2	27,208.5	203.9	1	0	0	0	0	1	1	1	14	0.147	0.023	0.738	14,302,845	2,879,781	849,529	0.059	73,346.7	-11,935.7	73,567.9	-12,156.9
Friedman Memorial Airport	ID	**SUN**	**1**	47,821	314.6	1	152	23,104	17.6	36,029.4	10.9	1	1	0	1	0	0	0	0	0	0.847	0.175	0.665	390,748	32,899	12,053	0.031	50,499.2	-2,678.2	50,544.0	-2,723.0
Lewiston-Nez Perce County Airport	ID	**LWS**	**1**	34,816	236.8	1	147	21,609	36.8	24,022.8	21.5	1	1	0	1	0	0	0	0	0	0.546	0.128	0.748	816,146	150,982	76,112	0.093	54,143.7	-19,327.7	53,208.8	-18,392.8
Capital City Airport	PA	**CXY**	**1**	54,925	376.2	1	146	21,316	375.2	25,965.5	169.7	0	0	0	0	0	1	1	1	16	0.137	0.024	0.735	14,845,144	2,225,980	880,365	0.059	77,723.3	-22,798.3	72,456.8	-17,531.8
Walla Walla Regional Airport	WA	**ALW**	**1**	37,358	261.2	1	143	20,449	53.6	21,107.2	21.9	1	1	1	1	0	0	1	1	0	0.440	0.155	0.871	638,624	251,648	71,876	0.113	39,815.9	-2,457.9	46,781.0	-9,423.0
Cuyahoga County Airport	OH	**CGF**	**1**	70,984	507.0	1	140	19,600	1,374.0	31,745.6	830.7	1	0	0	0	0	0	0	0	0	0.102	0.050	0.531	6,998,490	3,277,422	1,714,728	0.245	67,451.2	3,532.8	63,880.8	7,103.2
Smyrna Airport	TN	**MQY**	**1**	62,690	451.0	1	139	19,321	172.1	24,787.5	77.5	0	0	0	0	0	0	1	2	4	0.175	0.090	0.391	3,195,116	1,435,716	898,856	0.281	67,994.2	-5,304.2	67,154.6	-4,464.6
Bellingham International Airport	WA	**BLI**	**1**	57,384	421.9	1	136	18,496	158.4	23,248.0	67.5	1	1	1	1	0	0	0	0	0	0.261	0.056	0.935	2,670,884	389,648	208,881	0.078	44,158.3	13,225.7	46,313.0	11,071.0
San Angelo Regional Airport	TX	**SJT**	**1**	42,411	311.9	1	136	18,496	103.3	22,467.1	47.1	1	0	0	0	0	0	0	0	0	1.000	0.222	0.702	434,979	123,697	103,746	0.239	50,771.0	-8,360.0	50,087.4	-7,676.4
Chico Municipal Airport	CA	**CIC**	**1**	36,267	268.6	1	135	18,225	195.9	22,768.6	86.3	1	0	1	0	0	0	1	1	12	0.207	0.035	0.719	2,590,330	395,492	179,720	0.069	44,671.7	-8,404.7	50,463.1	-14,196.1
Rock County Airport	WI	**JVL**	**1**	78,624	595.6	1	132	17,424	151.6	24,947.7	72.6	1	0	0	0	0	0	0	0	0	0.088	0.022	0.687	11,320,623	1,737,963	446,133	0.039	64,759.4	13,864.6	61,988.8	16,635.2
Klamath Falls International Airport	OR	**LMT**	**1**	28,007	215.4	1	130	16,900	63.6	19,435.0	23.6	1	1	1	1	0	0	0	0	0	0.463	0.147	0.768	412,024	83,969	53,658	0.130	37,340.0	-9,333.0	40,539.9	-12,532.9
Lawrence J. Timmerman Airport	WI	**MWC**	**1**	79,722	627.7	1	127	16,129	904.9	27,844.8	542.2	0	0	0	0	0	0	1	1	17	0.056	0.019	0.850	10,907,195	2,284,786	1,465,805	0.134	71,709.7	8,012.3	66,633.4	13,088.6
Walker Field Airport	CO	**GJT**	**1**	67,893	538.8	1	126	15,876	115.2	22,592.5	49.4	1	0	0	0	0	0	0	0	0	0.739	0.211	0.858	276,663	143,355	109,183	0.395	53,547.6	14,345.4	51,810.9	16,082.1
New Bedford Regional Airport	MA	**EWB**	**1**	48,393	387.1	1	125	15,625	521.4	26,579.6	220.9	0	0	0	0	0	1	1	1	9	0.062	0.019	0.823	9,164,868	3,897,863	972,136	0.106	68,575.8	-20,182.8	63,950.5	-15,557.5
Panama City-Bay County Int'l	FL	**PFN**	**1**	67,062	554.2	1	121	14,641	148.1	22,561.3	64.4	1	0	0	0	0	0	1	1	15	0.593	0.123	0.703	1,431,918	293,333	157,886	0.110	49,041.4	18,020.6	52,115.2	14,946.8
St. Louis Regional Airport	IL	**ALN**	**1**	69,789	596.5	1	117	13,689	259.9	24,717.9	98.7	1	0	0	0	0	0	1	1	9	0.083	0.046	0.661	3,889,442	2,547,350	1,268,986	0.326	61,211.8	8,577.2	61,622.8	8,166.2
Athens/Ben Epps Airport	GA	**AHN**	**1**	64,459	550.9	1	117	13,689	91.0	24,274.9	69.2	1	0	0	0	0	0	1	1	12	0.121	0.029	0.636	6,377,167	1,328,193	236,130	0.037	55,469.7	8,989.3	57,496.2	6,962.8
Yakima Air Terminal/McAllister Field	WA	**YKM**	**1**	35,038	299.5	1	117	13,689	219.6	21,056.7	79.6	1	1	1	1	0	0	1	1	10	0.492	0.087	0.895	1,602,936	282,131	169,531	0.106	37,446.2	-2,408.2	44,066.1	-9,028.1
Smith Reynolds Airport	NC	**INT**	**1**	65,995	568.9	1	116	13,456	290.5	31,681.7	180.9	1	0	0	0	0	0	0	0	0	0.125	0.045	0.685	5,801,842	1,667,219	800,987	0.138	56,967.8	9,027.2	54,742.1	11,252.9
Gainesville Regional Airport	FL	**GNV**	**1**	63,408	551.4	1	115	13,225	199.9	24,443.7	118.9	1	0	0	0	0	0	1	1	4	0.225	0.039	0.787	3,980,052	906,473	261,480	0.066	52,954.0	10,454.0	55,212.1	8,195.9
Philip Billard Municipal Airport	KS	**TOP**	**1**	66,473	583.1	1	114	12,996	166.0	27,054.5	108.5	0	0	0	0	0	0	0	0	0	0.118	0.057	0.770	2,580,290	782,711	272,322	0.106	57,120.1	9,352.9	50,166.5	16,306.5
Flagstaff Pulliam Airport	AZ	**FLG**	**1**	41,555	371.0	1	112	12,544	114.9	20,493.4	53.2	1	1	0	1	0	0	0	0	0	0.449	0.162	0.910	366,269	138,535	77,733	0.212	46,712.3	-5,157.3	46,043.7	-4,488.7
Salina Municipal Airport	KS	**SLN**	**1**	67,474	607.9	1	111	12,321	51.9	29,124.0	33.8	1	0	0	0	0	0	1	1	15	0.514	0.107	0.639	1,096,652	192,692	68,604	0.063	45,319.9	22,154.1	48,836.5	18,637.5
Joplin Regional Airport	MO	**JLN**	**1**	34,042	318.2	1	107	11,449	100.4	22,792.7	60.7	1	0	0	0	0	0	1	1	7	0.274	0.077	0.465	1,681,290	419,864	199,551	0.119	48,115.5	-14,073.5	50,910.6	-16,868.6
Roberts Field Airport	OR	**RDM**	**1**	28,627	267.5	1	107	11,449	109.6	24,267.4	49.9	1	1	1	1	0	0	0	0	0	0.287	0.120	0.717	651,884	138,327	98,645	0.151	33,413.5	-4,786.5	36,664.6	-8,037.6
Jackson County-Reynolds Field Airport	MI	**JXN**	**1**	68,138	648.9	1	105	11,025	156.6	22,372.8	62.4	0	0	0	0	0	0	0	0	0	0.064	0.018	0.714	10,033,660	1,598,657	302,279	0.030	61,616.7	6,521.3	54,129.9	14,008.1
Decatur Airport	IL	**DEC**	**1**	39,467	375.9	1	105	11,025	113.0	25,988.4	57.2	1	0	0	0	0	0	0	0	0	0.198	0.080	0.677	2,361,352	818,444	172,696	0.073	46,627.6	-7,160.6	45,970.6	-6,503.6
Joslin Field-Magic Valley Regional Airport	ID	**TWF**	**1**	33,479	321.9	1	104	10,816	62.7	20,544.9	29.0	1	1	0	1	0	0	0	0	0	0.453	0.244	0.886	199,385	133,919	86,605	0.434	46,976.9	-13,497.9	45,885.2	-12,406.2
Central Illinois Regional Airport (Bloomington)	IL	**BMI**	**1**	50,423	489.5	1	103	10,609	143.7	26,945.8	76.1	1	0	0	0	0	0	0	0	0	0.168	0.042	0.832	3,452,326	905,326	175,986	0.051	48,422.6	2,000.4	47,413.4	3,009.6
Kenai Municipal Airport	AK	**ENA**	**1**	36,896	365.3	1	101	10,201	48.5	24,105.1	17.4	1	1	1	0	1	0	1	1	6	0.426	0.036	0.743	341,312	32,376	28,624	0.084	33,616.3	3,279.7	40,389.5	-3,493.5
Rapid City Regional Airport	SD	**RAP**	**1**	39,316	393.2	1	100	10,000	88.3	23,455.7	48.8	1	0	0	0	0	0	0	0	0	0.552	0.394	0.650	205,178	132,410	81,814	0.399	36,863.4	2,452.6	37,894.4	1,421.6
Niagara Falls International Airport	NY	**IAG**	**1**	34,395	358.3	0	96	9,216	216.8	23,312.9	80.2	1	0	0	0	0	1	0	0	0	0.213	0.078	0.420	2,936,298	1,341,015	1,025,059	0.349	53,305.2	-18,910.2	50,827.2	-16,432.2

Towered GA Airports

Airport Name	State	ID	TOWDUM	OPS	OPSBA	BAE100	BA	BA2	POP	PCI	EMP	FAR139	WSTAK	WACAORAK	WST	AAL	R12	VITFS	VITFSnum	VITFSemp	%in50mi	%in100mi	se BA/BA	Pop100	Pop50	Pop25	Pop25/100	Equation 9 Est.	Difference	Equation 13 Est.	Difference
Owensboro-Davies County Airport	KY	**OWB**	**1**	70,379	748.7	0	94	8,836	91.8	22,855.6	44.9	1	0	0	0	0	0	0	0	0	0.331	0.056	0.648	3,061,102	686,599	258,039	0.084	45,645.1	24,733.9	44,888.7	25,490.3
La Crosse Municipal Airport	WI	**LSE**	**1**	32,736	348.3	0	94	8,836	103.2	25,431.5	67.8	1	0	0	0	0	0	0	0	0	0.421	0.094	0.813	1,567,093	352,167	179,222	0.114	43,160.7	-10,424.7	42,795.1	-10,059.1
Pocatello Regional Airport	ID	**PIH**	**1**	29,651	315.4	0	94	8,836	8.4	16,884.2	3.8	1	1	0	1	0	0	0	0	0	0.373	0.131	0.791	538,769	184,596	98,533	0.183	42,366.8	-12,715.8	42,053.1	-12,402.1
Worcester Regional Airport	MA	**ORH**	**1**	49,898	542.4	0	92	8,464	737.9	28,893.0	323.1	1	0	0	0	0	1	0	0	0	0.037	0.017	0.935	11,431,129	6,274,981	984,499	0.086	55,420.8	-5,522.8	53,283.2	-3,385.2
Hawkins Field Airport	MS	**HKS**	**1**	42,395	465.9	0	91	8,281	245.4	24,298.7	153.8	0	0	0	0	0	0	0	0	0	0.374	0.137	0.354	1,565,350	624,676	407,594	0.260	50,096.7	-7,701.7	43,745.6	-1,350.6
Enid Woodring Regional	OK	**WDG**	**1**	25,865	290.6	0	89	7,921	56.6	22,929.0	26.9	0	0	0	0	0	0	0	0	0	0.245	0.047	0.813	2,107,703	228,397	63,121	0.030	47,498.4	-21,633.4	41,775.4	-15,910.4
Burke Lakefront Airport	OH	**BKL**	**1**	76,370	877.8	0	87	7,569	1,374.0	31,745.6	830.7	1	0	0	0	0	0	0	0	0	0.051	0.023	0.634	8,335,621	3,207,639	1,909,416	0.229	55,000.2	21,369.8	52,424.3	23,945.7
Lebanon Municipal Airport	NH	**LEB**	**1**	44,165	513.6	0	86	7,396	78.7	30,631.4	50.1	1	0	0	0	0	1	0	0	0	0.122	0.019	0.738	4,790,909	531,946	126,683	0.026	45,028.8	-863.8	44,328.1	-163.1
Williamsport Regional Airport	PA	**IPT**	**1**	22,601	269.1	0	84	7,056	116.8	21,943.7	54.6	1	0	0	0	0	1	0	0	0	0.312	0.032	0.683	5,280,754	698,129	208,693	0.040	44,628.0	-22,027.0	43,995.5	-21,394.5
McAllen-Miller International Airport	TX	**MFE**	**1**	48,678	586.5	0	83	6,889	535.6	12,646.0	151.1	1	0	0	0	0	0	0	0	0	0.407	0.227	0.598	994,557	819,310	524,269	0.527	45,214.0	3,464.0	43,841.4	4,836.6
Tuscaloosa Regional Airport	AL	**TCL**	**1**	40,740	490.8	0	83	6,889	161.8	22,375.2	79.5	1	0	0	0	0	0	1	1	8	0.240	0.060	0.796	2,476,533	763,091	169,341	0.068	40,994.3	-254.3	44,634.2	-3,894.2
Houma-Terrebonne Airport	LA	**HUM**	**1**	32,923	401.5	0	82	6,724	105.8	20,794.3	50.9	0	0	0	0	0	0	1	1	20	0.308	0.061	0.417	2,786,107	1,275,200	166,468	0.060	46,194.6	-13,271.6	44,379.9	-11,456.9
Eastern Oregon Regional Airport	OR	**PDT**	**1**	27,034	333.8	0	81	6,561	65.8	20,004.9	25.8	1	1	1	1	0	0	0	0	0	0.171	0.105	0.730	536,262	304,848	39,749	0.074	23,780.4	3,253.6	28,281.0	-1,247.0
St. Joseph-Rosecrans Memorial	MO	**STJ**	**1**	22,325	279.1	0	80	6,400	81.5	22,663.4	42.2	1	0	0	0	0	0	0	0	0	0.170	0.054	0.795	2,584,022	694,974	130,748	0.051	39,901.6	-17,576.6	39,904.1	-17,579.1
Chicago-Gary Regional Airport	IN	**GYY**	**1**	48,328	627.6	0	77	5,929	478.4	24,597.2	212.2	1	0	0	0	0	0	0	0	0	0.040	0.018	0.723	11,307,543	7,583,977	3,195,757	0.283	56,708.3	-8,380.3	53,705.6	-5,377.6
Idaho Falls Regional Airport	ID	**IDA**	**1**	39,053	507.2	0	77	5,929	80.9	22,114.9	38.9	1	1	0	1	0	0	0	0	0	0.233	0.155	0.845	322,528	242,751	128,728	0.399	42,327.8	-3,274.8	41,360.2	-2,307.2
Dubuque Regional Airport	IA	**DBQ**	**1**	36,385	478.8	0	76	5,776	87.9	25,245.5	53.3	1	0	0	0	0	0	1	1	8	0.299	0.031	0.778	2,745,175	356,439	133,347	0.049	39,888.3	-3,503.3	43,571.3	-7,186.3
Drake Field Airport	AR	**FYV**	**1**	24,112	325.8	0	74	5,476	143.1	21,548.7	82.2	1	0	0	0	0	0	0	0	0	0.091	0.034	0.843	2,174,290	578,049	233,901	0.108	40,351.3	-16,239.3	39,994.1	-15,882.1
Outagamie County Regional	WI	**ATW**	**1**	36,377	498.3	0	73	5,329	157.8	28,118.2	98.4	1	0	0	0	0	0	0	0	0	0.100	0.030	0.795	3,584,363	964,710	378,139	0.105	41,605.3	-5,228.3	41,082.0	-4,705.0
Tweed-New Haven Airport	CT	**HVN**	**1**	54,146	752.0	0	72	5,184	795.0	34,889.4	380.8	1	0	0	0	0	1	0	0	0	0.023	0.010	0.886	23,088,277	5,162,001	1,361,763	0.059	60,160.2	-6,014.2	57,502.6	-3,356.6
Lake Tahoe Airport	NV	**TVL**	**1**	23,978	347.5	0	69	4,761	163.7	26,340.2	37.6	1	1	1	1	0	0	0	0	0	0.060	0.016	0.899	3,131,412	524,222	128,725	0.041	26,074.1	-2,096.1	29,939.8	-5,961.8
Missoula International Airport	MT	**MSO**	**1**	39,921	587.1	0	68	4,624	89.7	23,468.0	49.0	1	1	0	1	0	0	0	0	0	0.314	0.133	0.485	299,709	127,726	92,861	0.310	37,719.7	2,201.3	37,501.3	2,419.7
Oneida County Airport	NY	**UCA**	**1**	40,079	607.3	0	66	4,356	228.7	23,658.9	114.0	1	0	0	0	0	1	0	0	0	0.249	0.062	0.731	3,178,495	981,899	323,786	0.102	37,061.0	3,018.0	37,278.1	2,800.9
Texarkana Regional Airport-Webb Field	AR	**TXK**	**1**	28,175	426.9	0	66	4,356	82.6	8,724.9	14.2	1	0	0	0	0	0	0	0	0	0.448	0.056	0.617	1,472,137	296,373	132,703	0.090	35,316.3	-7,141.3	35,748.5	-7,573.5
Ithaca Tompkins Regional Airport	NY	**ITH**	**1**	41,233	634.4	0	65	4,225	96.1	24,390.5	49.3	1	0	0	0	0	1	1	1	7	0.112	0.038	0.804	3,926,133	1,304,006	196,231	0.050	37,100.0	4,133.0	41,162.0	71.0
Dothan Regional Airport	AL	**DHN**	**1**	34,719	534.1	0	65	4,225	48.7	18,513.2	16.8	1	0	0	0	0	1	1	1	9	0.187	0.040	0.415	2,175,421	386,506	175,701	0.081	36,229.6	-1,510.6	40,295.9	-5,576.9
Columbia Regional Airport	MO	**COU**	**1**	34,235	534.9	0	64	4,096	131.5	24,668.7	81.0	1	0	0	0	0	0	0	0	0	0.223	0.034	0.705	1,993,152	394,927	234,824	0.118	37,157.7	-2,922.7	37,160.5	-2,925.5
Forbes Field Airport	KN	**FOE**	**1**	21,934	342.7	0	64	4,096	166.0	27,054.5	108.5	1	0	0	0	0	0	0	0	0	0.123	0.044	0.270	2,559,959	672,940	269,474	0.105	36,811.5	-14,877.5	36,953.6	-15,019.6
Easterwood Field Airport	TX	**CLL**	**1**	53,266	845.5	0	63	3,969	134.1	19,395.0	75.2	1	0	0	0	0	0	0	0	0	0.307	0.022	0.730	5,932,744	378,032	158,139	0.027	38,499.1	14,766.9	38,603.3	14,662.7
Key Field Airport	MS	**MEI**	**1**	23,064	366.1	0	63	3,969	75.8	21,922.1	36.3	1	0	0	0	0	0	0	0	0	0.597	0.120	0.491	1,580,862	289,806	104,181	0.066	30,330.3	-7,266.3	31,793.5	-8,729.5
Charlottesville-Albemarle	VA	**CHO**	**1**	66,045	1065.2	0	62	3,844	116.9	32,341.1	73.8	1	0	0	0	0	1	0	0	0	0.292	0.026	0.763	6,122,225	634,521	213,064	0.035	38,405.2	27,639.8	38,515.3	27,529.7
Brownsville/South Padre Island Int'l	TX	**BRO**	**1**	19,708	317.9	0	62	3,844	330.6	13,624.9	106.2	1	0	0	0	0	0	1	1	105	0.477	0.360	0.795	914,263	539,762	245,159	0.268	23,162.5	-3,454.5	29,862.5	-10,154.5
Grand Strand Airport	SC	**CRE**	**1**	51,664	847.0	0	61	3,721	179.8	23,108.1	111.7	0	0	0	0	0	0	0	0	0	0.354	0.073	0.765	2,005,345	413,447	184,522	0.092	38,851.2	12,812.8	34,091.3	17,572.7
Lynchburg Regional Airport	VA	**LYH**	**1**	39,193	642.5	0	61	3,721	115.4	24,960.6	80.4	1	0	0	0	0	1	1	1	13	0.187	0.037	0.732	3,574,678	686,475	210,302	0.059	35,701.7	3,491.3	39,906.3	-713.3
Mid-Ohio Valley Regional Airport	WV	**PKB**	**1**	36,521	598.7	0	61	3,721	86.5	24,022.0	47.4	1	0	0	0	0	1	1	1	4	0.344	0.056	0.568	4,166,057	530,452	178,248	0.043	34,783.3	1,737.7	39,258.2	-2,737.2
Minot International Airport	ND	**MOT**	**1**	29,068	476.5	0	61	3,721	58.6	22,694.3	27.8	1	0	0	0	0	0	0	0	0	0.615	0.280	0.893	175,360	78,085	59,229	0.338	28,423.5	644.5	30,028.0	-960.0
Morgantown Municipal-Walter L. Bill Hart Field Airport	WV	**MGW**	**1**	31,743	529.1	0	60	3,600	77.5	22,369.0	44.6	1	0	0	0	0	1	0	0	0	0.066	0.025	0.843	4,512,161	1,184,138	286,298	0.063	37,047.5	-5,304.5	37,220.6	-5,477.6
Laredo International Airport	TX	**LRD**	**1**	26,647	444.1	0	60	3,600	191.2	13,773.3	68.0	1	0	0	0	0	0	0	0	0	1.000	0.562	0.462	419,047	202,688	185,743	0.443	16,942.6	9,704.4	21,070.8	5,576.2
Central Nebraska Regional Airport	NE	**GRI**	**1**	18,123	312.5	0	58	3,364	52.3	23,858.7	33.2	1	0	0	0	0	0	0	0	0	0.201	0.058	0.648	746,142	191,782	73,812	0.099	32,025.3	-13,902.3	32,853.3	-14,730.3
Barkley Regional Airport	KY	**PAH**	**1**	21,001	368.4	0	57	3,249	64.7	26,540.6	41.0	1	0	0	0	0	0	0	0	0	0.197	0.047	0.540	1,988,320	485,082	140,642	0.071	32,595.5	-11,594.5	33,400.6	-12,399.6
Hutchison Municipal Airport	KN	**HUT**	**1**	62,636	1159.9	0	54	2,916	63.3	23,990.8	32.3	1	0	0	0	0	0	0	0	0	0.100	0.042	0.778	1,053,524	611,797	98,178	0.093	31,595.9	31,040.1	32,424.7	30,211.3
Williamson County Regional Airport	IL	**MWA**	**1**	50,437	951.6	0	53	2,809	61.1	21,602.1	23.7	1	0	0	0	0	0	0	0	0	0.110	0.037	0.727	3,375,723	485,925	196,979	0.058	32,704.0	17,733.0	33,504.1	16,932.9
Southwest Georgia Regional Airport	GA	**ABY**	**1**	29,761	572.3	0	52	2,704	94.9	23,462.4	63.5	1	0	0	0	0	0	0	0	0	0.132	0.039	0.542	2,095,388	434,958	165,160	0.079	31,604.6	-1,843.6	32,479.7	-2,718.7
Middle Georgia Regional Airport	GA	**MCN**	**1**	27,101	531.4	0	51	2,601	156.3	27,367.5	104.0	1	0	0	0	0	0	0	0	0	0.290	0.019	0.490	4,737,191	619,710	345,636	0.073	34,747.8	-7,646.8	35,166.0	-8,065.0
Valdosta Regional Airport	GA	**VLD**	**1**	38,985	779.7	0	50	2,500	86.2	22,209.1	47.9	1	0	0	0	0	0	0	0	0	0.188	0.041	0.854	1,893,668	343,380	129,262	0.068	30,294.6	8,690.4	31,380.2	7,604.8
Elko Regional Airport	NV	**EKO**	**1**	17,051	341.0	0	50	2,500	47.4	24,248.3	22.0	1	1	0	1	0	0	0	0	0	0.911	0.607	0.725	64,682	41,231	38,256	0.591	15,358.1	1,692.9	19,443.0	-2,392.0
Central Wisconsin Airport	WI	**CWA**	**1**	16,102	328.6	0	49	2,401	124.0	24,978.6	67.4	1	0	0	0	0	0	0	0	0	0.110	0.034	0.688	1,780,014	413,672	176,855	0.099	31,162.8	-15,060.8	32,003.2	-15,901.2
Mobile Downtown Airport	AL	**BFM**	**1**	35,128	763.7	0	46	2,116	400.4	20,961.9	183.7	1	0	0	0	0	0	0	0	0	0.136	0.052	0.418	1,880,441	879,192	461,435	0.245	33,799.0	1,329.0	33,928.6	1,199.4
Martha's Vineyard Airport	MA	**MVY**	**1**	37,216	865.5	0	43	1,849	14.1	33,293.1	6.8	1	0	0	0	0	1	0	0	0	0.063	0.017	0.848	6,723,822	1,284,917	244,476	0.036	32,774.7	4,441.3	33,597.3	3,618.7
Kinston Regional Jetport	NC	**ISO**	**1**	28,226	656.4	0	43	1,849	59.1	21,842.9	32.6	1	0	0	0	0	0	1	1	15	0.091	0.035	0.860	3,198,273	922,797	264,237	0.083	29,812.2	-1,586.2	34,712.1	-6,486.1
Acadiana Regional Airport	LA	**ARA**	**1**	58,987	1404.5	0	42	1,764	73.9	20,514.3	31.1	1	0	0	0	0	0	0	0	0	0.139	0.057	0.377	2,198,845	667,725	346,369	0.158	29,665.7	29,321.3	30,648.5	28,338.5
Valley International	TX	**HRL**	**1**	21,559	513.3	0	42	1,764	330.6	13,624.9	106.2	1	0	0	0	0	0	0	0	0	0.076	0.073	0.429	1,005,541	868,607	404,640	0.402	35,309.0	-13,750.0	34,844.3	-13,285.3
Eagle County Regional Airport	CO	**EGE**	**1**	21,552	513.1	0	42	1,764	35.1	34,605.7	27.7	1	0	0	0	0	0	0	0	0	0.210	0.031	0.620	1,119,520	103,249	46,516	0.042	26,287.2	-4,735.2	27,942.3	-6,390.3
Cheyenne Airport	WY	**CYS**	**1**	20,546	501.1	0	41	1,681	79.3	24,588.0	37.5	1	0	0	0	0	0	0	0	0	0.147	0.019	0.000	1,783,323	277,764	77,669	0.044	27,273.7	-6,727.7	28,746.2	-8,200.2
King Salmon Airport	AK	**AKN**	**1**	4,053	101.3	0	40	1,600	1.3	34,901.4	0.9	1	1	1	0	1	0	0	0	0	0.328	0.153	0.825	5,400	2,978	1,291	0.239	11,817.1	-7,764.1	17,556.5	-13,503.5
Kodiak Airport	AK	**ADQ**	**1**	6,100	160.5	0	38	1,444	14.6	21,433.0	6.5	1	1	1	0	1	0	0	0	0	0.650	0.634	0.481	15,397	15,397	13,185	0.856	5,372.8	727.2	12,322.3	-6,222.3
Groton-New London Airport	CT	**GON**	**1**	68,779	1965.1	0	35	1,225	245.3	31,641.7	127.0	1	0	0	0	0	1	0	0	0	0.032	0.006	0.622	14,239,906	2,656,289	364,757	0.026	37,478.8	31,300.2	37,788.5	30,990.5
Lawton-Fort Sill Regional	OK	**LAW**	**1**	7,763	228.3	0	34	1,156	113.1	18,775.6	41.0	1	0	0	0	0	0	0	0	0	0.084	0.026	1.000	1,713,450	360,283	130,834	0.076	25,265.1	-17,502.1	26,954.2	-19,191.2
McKellar-Sipes Regional Airport	TN	**MKL**	**1**	23,571	760.4	0	31	961	86.7	25,329.2	58.9	1	0	0	0	0	0	1	1	5	0.166	0.030	0.574	2,635,074	463,662	169,926	0.064	24,425.0	-854.0	30,104.1	-6,533.1
Wheeling Ohio County Airport	WV	**HLG**	**1**	28,333	1089.7	0	26	676	25.9	19,392.7	9.8	0	0	0	0	0	1	0	0	0	0.041	0.012	0.526	6,823,590	2,335,162	368,118	0.054	32,793.6	-4,460.6	28,803.4	-470.4
Greenbrier Valley Airport	WV	**LWB**	**1**	23,834	993.1	0	24	576	35.4	19,607.3	14.1	1	0	0	0	0	1	0	0	0	0.135	0.042	0.719	2,277,106	569,657	63,978	0.028	19,600.0	4,234.0	22,322.3	1,511.7
Mid Delta Regional	MS	**GLH**	**1**	14,488	658.6	0	22	484	64.6	17,813.8	25.9	1	0	0	0	0	0	0	0	0	0.213	0.030	0.897	1,440,753	260,383	117,336	0.081	20,290.5	-5,802.5	22,698.6	-8,210.6

Airport Name	State	Non-Towered GA Airports ID	TOWDUM	OPS	OPSBA	BAE100	BA	BA2	POP	PCI	EMP	FAR139	WSTAK	WACAORAK	WST	AAL	R12	VITFS	VITFSnum	VITFSemp	%in50mi	%in100mi	se BA/BA	Pop100	Pop50	Pop25	Pop25/100	Equation 9 Est.	Difference	Equation 13 Est.	Difference
Montgomery County Airpark	MD	**GAI**	**0**	140,557	551.2	1	255	65,025	850.9	47,071.8	434.1	0	0	0	0	0	1	0	0	0	0.094	0.055	0.830	10,700,891	6,879,691	3,200,309	0.299	97,654.3	42,902.7	74,635.1	65,921.9
Easton-Newnam Field Airport	MD	**ESN**	**0**	75,949	562.6	1	135	18,225	33.1	36,973.3	18.4	0	0	0	0	0	1	0	0	0	0.103	0.031	0.741	12,859,730	3,279,923	168,735	0.013	71,290.2	4,658.8	49,374.0	26,575.0
Leesburg Executive Airport	VA	**JYO**	**0**	68,448	312.5	1	219	47,961	152.6	37,967.6	73.6	0	0	0	0	0	1	2	19	1	0.084	0.047	0.798	9,898,217	5,488,110	1,382,577	0.140	87,956.7	-19,508.7	73,015.4	-4,567.4
Lee Airport	MD	**ANP**	**0**	64,002	423.9	1	151	22,801	481.0	32,077.9	189.8	0	0	0	0	0	1	0	0	0	0.100	0.031	0.774	11,974,892	6,482,288	2,283,096	0.191	79,776.8	-15,774.8	56,445.0	7,557.0
Lewis University Airport	IL	**LOT**	**0**	62,248	258.3	1	241	58,081	472.3	27,288.9	134.0	0	0	0	0	0	0	1	24	1	0.112	0.056	0.875	11,564,175	8,098,935	3,085,299	0.267	95,937.2	-33,689.2	76,547.4	-14,299.4
Freeway Airport	MD	**W00**	**0**	61,456	668.0	0	92	8,464	784.2	29,229.8	314.5	0	0	0	0	0	1	1	5	1	0.035	0.018	0.940	11,128,402	6,687,300	3,533,674	0.318	67,882.1	-6,426.1	48,698.6	12,757.4
Lincoln Regional Airport/Karl Harder Field	CA	**LHM**	**0**	61,300	296.1	1	207	42,849	238.6	34,539.7	99.2	0	1	1	1	0	0	0	0	0	0.075	0.024	0.918	7,427,634	1,976,451	1,094,682	0.147	72,700.9	-11,400.9	53,878.0	7,422.0
Corvallis Municipal Airport	OR	**CVO**	**0**	60,407	422.4	1	143	20,449	78.5	27,099.0	38.0	1	1	1	1	0	0	1	23	1	0.133	0.063	0.842	2,822,776	867,878	189,942	0.067	45,332.6	15,074.4	37,632.7	22,774.3
Centralia Municipal Airport	IL	**ENL**	**0**	60,046	1334.4	0	45	2,025	41.8	22,114.8	17.7	0	0	0	0	0	0	1	6	1	0.138	0.016	0.864	4,228,759	522,762	114,585	0.027	36,310.9	23,735.1	21,976.6	38,069.4
Hampton Roads Executive	VA	**PVG**	**0**	56,887	389.6	1	146	21,316	205.9	26,278.3	85.6	0	0	0	0	0	1	1	9	1	0.333	0.148	0.899	3,313,183	1,707,770	1,297,237	0.392	70,260.9	-13,373.9	51,698.7	5,188.3
McMinnville Municipal Airport	OR	**MMV**	**0**	53,238	380.3	1	140	19,600	83.9	22,346.5	27.2	1	1	1	1	0	0	0	0	0	0.070	0.049	0.694	2,928,672	2,267,301	645,157	0.220	50,231.3	3,006.7	37,499.3	15,738.7
Watsonville Municipal Airport	GA	**WVI**	**0**	52,600	158.9	1	331	109,561	244.2	35,364.4	113.5	0	1	1	1	0	0	0	0	0	0.104	0.047	0.900	7,998,009	2,855,044	1,012,554	0.127	81,238.0	-28,638.0	66,494.4	-13,894.4
Captain Walter Francis Duke Regional Airport at St. Mary's	MD	**2W6**	**0**	50,861	620.3	0	82	6,724	88.6	27,323.8	33.8	0	0	0	0	0	1	0	0	0	0.087	0.023	0.927	9,658,433	2,454,337	172,927	0.018	53,673.2	-2,812.2	33,446.4	17,414.6
Auburn Airport	ME	**AUN**	**0**	49,500	233.5	1	212	44,944	238.6	34,539.7	99.2	0	1	1	1	0	0	0	0	0	0.093	0.027	0.920	5,800,646	1,924,124	696,258	0.120	70,824.4	-21,324.4	52,475.2	-2,975.2
Shenandoah Valley Regional	VA	**SHD**	**0**	48,206	547.8	0	88	7,744	104.0	24,492.1	52.4	1	0	0	0	0	1	0	0	0	0.471	0.044	0.738	3,860,023	528,250	222,713	0.058	44,416.0	3,790.0	30,141.7	18,064.3
North Bend Municipal Airport	OR	**OTH**	**0**	48,109	718.0	0	67	4,489	62.0	21,163.8	22.2	1	1	1	1	0	0	1	4	1	0.302	0.078	0.750	738,458	141,702	61,214	0.083	21,098.0	27,011.0	15,868.6	32,240.4
Morris Municipal Airport-James R. Washburn Field	IL	**C09**	**0**	47,781	901.5	0	53	2,809	37.2	28,601.4	14.3	0	0	0	0	0	0	0	0	0	0.033	0.013	0.903	10,931,967	5,709,818	517,712	0.047	46,623.5	1,157.5	27,137.6	20,643.4
Bay Bridge Airport	MD	**W29**	**0**	46,095	622.9	0	74	5,476	40.4	29,296.7	10.0	0	0	0	0	0	1	0	0	0	0.042	0.012	0.877	14,125,493	5,690,164	800,136	0.057	57,297.1	-11,202.1	36,445.8	9,649.2
Astoria Regional Airport	OR	**AST**	**0**	42,952	913.9	0	47	2,209	35.5	23,494.9	16.5	1	1	1	1	0	0	0	0	0	0.291	0.019	0.814	3,058,579	190,994	48,178	0.016	17,413.1	25,538.9	8,825.7	34,126.3
Washington Executive Airport/Hyde Field	MD	**W32**	**0**	38,000	327.6	1	116	13,456	784.2	29,229.8	314.5	0	0	0	0	0	1	1	4	1	0.056	0.029	0.859	10,563,008	6,390,207	3,185,372	0.302	73,170.8	-35,170.8	53,608.4	-15,608.4
Half Moon Bay Airport	CA	**HAF**	**0**	37,200	531.4	0	70	4,900	709.2	45,723.2	351.1	0	1	1	1	0	0	0	0	0	0.015	0.008	0.929	9,039,029	5,700,980	2,128,077	0.235	44,290.2	-7,090.2	26,719.2	10,480.8
Harford County Airport	MD	**0W3**	**0**	35,509	645.6	0	55	3,025	218.8	27,735.5	67.3	0	0	0	0	0	1	0	0	0	0.034	0.008	0.745	16,866,768	4,587,279	814,781	0.048	53,493.5	-17,984.5	33,155.3	2,353.7
Bend Municipal	OR	**S07**	**0**	33,831	268.5	1	126	15,876	109.6	25,800.1	49.8	0	1	1	1	0	0	1	8	1	0.343	0.190	0.864	599,624	143,595	101,153	0.169	40,981.6	-7,150.6	29,054.7	4,776.3
Greater Cumberland Regional Airport	MD	**CBE**	**0**	32,118	642.4	0	50	2,500	26.6	18,162.7	6.3	0	0	0	0	0	1	0	0	0	0.123	0.015	0.740	6,401,496	615,755	143,949	0.022	40,184.2	-8,066.2	21,575.3	10,542.7
Chesterfield County Airport	VA	**FCI**	**0**	32,036	278.6	1	115	13,225	250.7	33,272.7	109.2	0	0	0	0	0	1	0	0	0	0.209	0.049	0.694	5,048,623	1,179,935	913,588	0.181	62,625.5	-30,589.5	41,042.8	-9,006.8
Hanover County Municipal Airport	VA	**OFP**	**0**	30,816	400.2	0	77	5,929	84.3	28,401.5	37.1	0	0	0	0	0	1	0	0	0	0.117	0.027	0.883	7,720,197	1,330,079	760,454	0.099	52,442.2	-21,626.2	32,098.2	-1,282.2
Indian Head Airport	MD	**2W5**	**0**	29,687	401.2	0	74	5,476	120.2	28,797.0	37.5	0	0	0	0	0	1	1	10	1	0.033	0.016	0.875	10,069,313	5,160,788	2,389,587	0.237	58,742.8	-29,055.8	40,895.1	-11,208.1
Shannon Airport	VA	**EZF**	**0**	28,277	177.8	1	159	25,281	109.5	26,604.7	45.2	0	0	0	0	0	1	0	0	0	0.152	0.046	0.888	9,299,691	2,954,723	294,958	0.032	73,164.7	-44,887.7	51,386.8	-23,109.8
Columbia Gorge Regional/The Dalles Municipal Airport	OR	**DLS**	**0**	28,188	655.5	0	43	1,849	19.4	20,313.5	5.8	0	1	1	1	0	0	0	0	0	0.338	0.026	0.932	2,468,574	95,902	46,266	0.019	20,617.0	7,571.0	6,832.7	21,355.3
Independence State Airport	OR	**7S5**	**0**	27,862	196.2	1	142	20,164	62.9	22,343.1	15.6	0	1	1	1	0	0	0	0	0	0.076	0.042	0.978	2,889,570	1,365,221	450,923	0.156	54,572.7	-26,710.7	36,667.1	-8,805.1
Columbia Airport	CA	**O22**	**0**	25,100	142.6	1	176	30,976	53.5	21,286.9	17.7	0	1	1	1	0	0	0	0	0	0.134	0.021	0.955	7,338,877	1,075,259	86,234	0.012	62,985.4	-37,885.4	45,052.4	-19,952.4
Effingham County Memorial Airport	IL	**1H2**	**0**	24,551	1116.0	0	22	484	33.7	25,641.0	21.4	0	0	0	0	0	0	0	0	0	0.080	0.010	0.773	3,308,526	354,873	75,622	0.023	26,860.5	-2,309.5	10,043.8	14,507.2
Sidney-Richland Municipal Airport	MT	**SDY**	**0**	23,600	524.4	0	45	2,025	10.0	0.0	4.1	0	1	0	1	0	0	0	0	0	0.326	0.155	0.889	108,674	38,232	9,405	0.087	26,880.0	-3,280.0	10,409.7	13,190.3
Placerville Airport	CA	**PVF**	**0**	23,500	119.9	1	196	38,416	163.7	27,531.7	37.6	0	1	1	1	0	0	0	0	0	0.086	0.027	0.989	5,334,483	1,775,962	271,677	0.051	65,630.1	-42,130.1	47,721.7	-24,221.7
Chesapeake Regional Airport	VA	**CPK**	**0**	22,596	332.3	0	68	4,624	205.9	26,278.3	85.6	0	0	0	0	0	1	1	16	1	0.117	0.053	0.868	3,208,038	1,651,655	1,108,658	0.346	51,391.2	-28,795.2	34,242.6	-11,646.6
Wokal Field/Glasgow International Airport	MT	**GGW**	**0**	21,908	755.4	0	29	841	8.1	0.0	2.8	0	1	0	1	0	0	0	0	0	0.725	0.319	0.897	36,949	12,716	7,202	0.195	15,668.4	6,239.6	1,169.8	20,738.2
Roseburg Regional Airport	OR	**RBG**	**0**	20,899	217.7	0	96	9,216	102.2	20,734.5	38.2	0	1	1	1	0	0	0	0	0	0.447	0.076	0.856	948,889	197,899	82,579	0.087	36,293.4	-15,394.4	20,591.2	307.8
Williamsburg-Jamestown Airport	VA	**JGG**	**0**	20,717	398.4	0	52	2,704	57.3	28,817.4	34.8	0	0	0	0	0	1	0	0	0	0.058	0.034	0.942	3,716,163	2,227,145	484,132	0.130	40,631.1	-19,914.1	21,678.6	-961.6
Illinois Valley Regional Airport-Walter A. Duncan Field	IL	**VYS**	**0**	20,607	502.6	0	41	1,681	110.3	22,760.7	44.0	0	0	0	0	0	0	0	0	0	0.064	0.009	0.773	10,706,883	700,015	140,378	0.013	41,204.8	-20,597.8	22,535.6	-1,928.6
Warrenton-Fauquier Airport	VA	**W66**	**0**	20,249	192.8	1	105	11,025	54.6	33,477.9	15.5	0	0	0	0	0	1	1	8	1	0.071	0.028	0.916	9,424,617	3,984,701	606,233	0.064	61,576.6	-41,327.6	44,147.4	-23,898.4
Cameron Airpark	CA	**O61**	**0**	20,000	111.7	1	179	32,041	163.7	27,531.7	37.6	0	1	1	1	0	0	0	0	0	0.072	0.021	0.939	7,392,339	2,093,744	964,050	0.130	67,363.4	-47,363.4	48,551.2	-28,551.2
Colusa County Airport	CA	**O08**	**0**	19,800	682.8	0	29	841	18.7	22,450.3	5.9	0	1	1	1	0	0	0	0	0	0.024	0.005	0.967	5,691,407	987,586	143,552	0.025	19,857.3	-57.3	6,146.3	13,653.7
College Park Airport	MD	**CGS**	**0**	19,797	286.9	0	69	4,761	784.2	29,229.8	314.5	0	0	0	0	0	1	0	0	0	0.031	0.016	1.000	10,929,759	6,727,067	4,066,418	0.372	62,165.9	-42,368.9	39,647.2	-19,850.2
Morgantown Airport	PA	**0O3**	**0**	18,500	264.3	0	70	4,900	40.7	21,700.7	9.4	0	1	1	1	0	0	0	0	0	0.037	0.007	0.955	8,481,198	1,653,757	102,726	0.012	36,797.1	-18,297.1	20,898.4	-2,398.4
Cambridge-Dorchester Airport	MD	**CGE**	**0**	18,210	466.9	0	39	1,521	29.1	21,762.3	11.6	0	0	0	0	0	1	0	0	0	0.036	0.007	0.889	9,538,067	1,126,774	139,573	0.015	39,475.3	-21,265.3	21,008.3	-2,798.3
Lewiston Municipal Airport	MT	**LWT**	**0**	18,100	532.4	0	34	1,156	12.2	0.0	4.3	0	1	0	1	0	0	0	0	0	0.551	0.061	0.852	234,134	17,273	10,420	0.045	26,488.5	-8,388.5	9,790.3	8,309.7
Winchester Regional Airport	VA	**OKV**	**0**	17,887	220.8	0	81	6,561	78.9	26,688.6	45.4	0	0	0	0	0	1	0	0	0	0.067	0.027	0.779	9,299,929	1,451,111	226,300	0.024	52,985.0	-35,098.0	32,838.8	-14,951.8
DeKalb Taylor Municipal Airport	IL	**DKB**	**0**	17,225	374.5	0	46	2,116	84.9	25,456.0	29.3	0	0	0	0	0	0	0	0	0	0.020	0.009	0.825	12,457,966	4,884,612	549,155	0.044	45,735.3	-28,510.3	26,385.4	-9,160.4
Garrett County Airport	MD	**2G4**	**0**	16,034	890.8	0	18	324	29.1	19,508.2	10.4	0	0	0	0	0	1	0	0	0	0.040	0.008	0.632	4,759,531	760,955	109,913	0.023	26,834.4	-10,800.4	10,056.1	5,977.9
Surburban Airport	MD	**W18**	**0**	15,741	286.2	0	55	3,025	481.0	32,077.9	189.8	0	0	0	0	0	1	0	0	0	0.023	0.012	1.000	11,402,372	6,736,258	4,293,988	0.377	58,184.4	-42,443.4	36,145.8	-20,404.8
Albany Municipal Airport	OR	**S12**	**0**	15,623	214.0	0	73	5,329	105.7	22,459.0	44.0	0	1	1	1	0	0	0	0	0	0.071	0.031	0.507	2,914,667	935,647	396,667	0.136	34,878.8	-19,255.8	18,896.8	-3,273.8
Danville Regional Airport	VA	**DAN**	**0**	15,532	369.8	0	42	1,764	108.0	21,674.1	47.2	1	0	0	0	0	1	0	0	0	0.096	0.026	0.875	4,371,524	1,197,336	208,414	0.048	29,986.1	-14,454.1	17,478.2	-1,946.2
Ashland Municipal-Sumner Parker Field	OR	**S03**	**0**	14,753	177.7	0	83	6,889	175.5	24,265.0	72.5	0	1	1	1	0	0	0	0	0	0.144	0.097	0.929	523,693	312,828	154,194	0.294	37,273.9	-22,520.9	20,804.5	-6,051.5
Sunriver Airport	OR	**S21**	**0**	16,185	344.4	0	47	2,209	109.6	25,800.1	49.8	0	1	1	1	0	0	0	0	0	0.143	0.055	0.780	638,810	130,744	75,568	0.118	21,878.7	-5,693.7	7,721.7	8,463.3
Garrett County Airport	MD	**2G4**	**0**	16,034	890.8	0	18	324	29.1	19,508.2	10.4	0	0	0	0	0	1	0	0	0	0.040	0.008	0.632	4,759,531	760,955	109,913	0.023	26,834.4	-10,800.4	10,056.1	5,977.9
Surburban Airport	MD	**W18**	**0**	15,741	286.2	0	55	3,025	481.0	32,077.9	189.8	0	0	0	0	0	1	0	0	0	0.023	0.012	1.000	11,402,372	6,736,258	4,293,988	0.377	58,184.4	-42,443.4	36,145.8	-20,404.8
Albany Municipal Airport	OR	**S12**	**0**	15,623	214.0	0	73	5,329	105.7	22,459.0	44.0	0	1	1	1	0	0	0	0	0	0.071	0.031	0.507	2,914,667	935,647	396,667	0.136	34,878.8	-19,255.8	18,896.8	-3,273.8
Danville Regional Airport	VA	**DAN**	**0**	15,532	369.8	0	42	1,764	108.0	21,674.1	47.2	1	0	0	0	0	1	0	0	0	0.096	0.026	0.875	4,371,524	1,197,336	208,414	0.048	29,986.1	-14,454.1	17,478.2	-1,946.2
Ashland Municipal-Sumner Parker Field	OR	**S03**	**0**	14,753	177.7	0	83	6,889	175.5	24,265.0	72.5	0	1	1	1	0	0	0	0	0	0.144	0.097	0.929	523,693	312,828	154,194	0.294	37,273.9	-22,520.9	20,804.5	-6,051.5

Airport Name	State	Non-Towered GA Airports ID	TOWDUM	OPS	OPSBA	BAE100	BA	BA2	POP	PCI	EMP	FAR139	WSTAK	WACAORAK	WST	AAL	R12	VITFS	VITFSnum	VITFSemp	%in50mi	%in100mi	se BA/BA	Pop100	Pop50	Pop25	Pop25/100	Equation 9 Est.	Difference	Equation 13 Est.	Difference
Suffolk Municipal Airport	VA	**SFQ**	**0**	14,745	307.2	0	48	2,304	63.8	21,488.5	20.1	0	0	0	0	0	1	0	0	0	0.081	0.038	0.776	3,436,984	1,694,677	639,055	0.186	40,487.3	-25,742.3	21,396.5	-6,651.5
Kewanee Municipal Airport	IL	**EZI**	**0**	14,331	477.7	0	30	900	51.5	22,830.2	14.7	0	0	0	0	0	0	0	0	0	0.039	0.011	0.852	3,158,437	979,133	77,046	0.024	29,857.6	-15,525.6	12,595.8	1,736.2
Prineville Airport	OR	**S39**	**0**	13,985	317.8	0	44	1,936	17.5	20,008.0	6.2	0	1	1	1	0	0	0	0	0	0.137	0.106	0.773	316,190	135,526	75,276	0.238	21,555.4	-7,570.4	7,310.9	6,674.1
Louisa County Airport/Freeman Field	VA	**LKU**	**0**	13,724	428.9	0	32	1,024	25.1	21,779.0	6.3	0	0	0	0	0	1	0	0	0	0.045	0.011	0.781	6,959,051	1,300,598	106,169	0.015	34,063.7	-20,339.7	16,321.4	-2,597.4
Greenville Airport	IL	**GRE**	**0**	13,711	415.5	0	33	1,089	15.9	23,417.9	4.2	0	0	0	0	0	0	0	0	0	0.046	0.011	0.867	3,988,727	1,207,724	102,307	0.026	31,833.8	-18,122.8	14,308.1	-597.1
Ontario Municipal Airport	OR	**ONO**	**0**	13,611	234.7	0	58	3,364	28.7	19,208.0	12.8	0	1	1	1	0	0	0	0	0	0.264	0.075	0.862	540,340	422,731	58,409	0.108	24,322.1	-10,711.1	9,963.0	3,648.0
Ken Jernstedt Airfield	OR	**4S2**	**0**	13,555	169.4	0	80	6,400	19.8	21,569.6	8.8	0	1	1	1	0	0	0	0	0	0.217	0.041	0.950	2,687,146	473,978	56,363	0.021	32,834.4	-19,279.4	17,550.5	-3,995.5
Fairfield Municipal Airport	IL	**FWC**	**0**	13,292	1208.4	0	11	121	16.9	20,586.8	5.1	0	0	0	0	0	0	0	0	0	0.041	0.006	0.909	2,566,027	390,329	52,825	0.021	21,858.6	-8,566.6	5,759.5	7,532.5
Marshall Memorial Airport	MO	**MHL**	**0**	12,968	682.5	0	19	361	22.5	22,722.2	10.3	0	0	0	0	0	0	0	0	0	0.113	0.014	0.857	2,612,198	353,255	49,551	0.019	24,685.6	-11,717.6	8,194.1	4,773.9
Monett Municipal Airport	MO	**M58**	**0**	12,349	686.1	0	18	324	33.7	18,678.3	14.9	0	0	0	0	0	0	0	0	0	0.030	0.013	0.588	1,644,274	768,147	114,487	0.070	24,953.5	-12,604.5	8,259.0	4,090.0
Accomack County Airport	VA	**MFV**	**0**	12,305	492.2	0	25	625	32.0	19,538.1	12.6	0	0	0	0	0	1	0	0	0	0.083	0.008	0.929	3,392,629	232,095	41,769	0.012	27,932.1	-15,627.1	10,977.1	1,327.9
La Grande/Union County Airport	OR	**LGD**	**0**	11,993	299.8	0	40	1,600	24.8	20,411.4	9.5	0	1	1	1	0	0	0	0	0	0.240	0.047	0.878	447,382	72,437	21,751	0.049	17,351.2	-5,358.2	3,984.2	8,008.8
County Memorial Airport	MO	**EIW**	**0**	11,873	989.4	0	12	144	20.2	17,344.5	7.7	0	0	0	0	0	0	0	0	0	0.038	0.008	0.727	2,016,502	374,379	71,256	0.035	22,113.2	-10,240.2	5,925.2	5,947.8
Westover Field/Amador County Airport	CA	**O70**	**0**	11,500	112.7	0	102	10,404	33.6	24,710.5	12.9	0	1	1	1	0	0	0	0	0	0.044	0.011	0.901	8,852,546	2,255,611	162,299	0.018	47,127.7	-35,627.7	30,060.0	-18,560.0
Clinton Memorial Airport	MO	**GLY**	**0**	11,277	304.8	0	37	1,369	21.3	20,127.6	8.0	0	0	0	0	0	0	0	0	0	0.239	0.020	0.789	3,081,288	273,345	46,173	0.015	31,654.9	-20,377.9	14,200.0	-2,923.0
Farmington Regional Airport	MO	**FAM**	**0**	11,256	351.8	0	32	1,024	56.3	18,128.2	21.1	0	0	0	0	0	0	0	0	0	0.260	0.015	0.882	3,579,478	503,547	104,779	0.029	30,944.4	-19,688.4	13,543.2	-2,287.2
Dinwiddie County Airport	VA	**PTB**	**0**	11,255	163.1	0	69	4,761	76.0	23,854.6	28.2	0	0	0	0	0	1	0	0	0	0.090	0.027	0.830	4,250,416	1,192,361	501,881	0.118	47,005.0	-35,750.0	27,241.3	-15,986.3
Lake in the Hills Airport	IL	**3CK**	**0**	11,131	78.9	1	141	19,881	249.0	32,966.8	88.0	0	0	0	0	0	0	1	15	1	0.039	0.023	0.839	12,151,148	7,858,518	1,779,025	0.146	76,634.4	-65,503.4	57,441.4	-46,310.4
Frank Wiley Field Airport	MT	**MLS**	**0**	11,038	479.9	0	23	529	12.0	0.0	5.0	0	1	0	1	0	0	0	0	0	0.460	0.200	0.957	50,358	20,846	11,819	0.235	20,786.8	-9,748.8	4,958.8	6,079.2
Mount Carmel Municipal Airport	IL	**AJG**	**0**	10,964	522.1	0	21	441	15.2	23,503.9	4.4	0	0	0	0	0	0	0	0	0	0.064	0.017	1.000	2,121,537	566,791	110,380	0.052	25,843.7	-14,879.7	9,093.1	1,870.9
Fredericktown Regional Airport	MO	**H88**	**0**	9,695	372.9	0	26	676	11.5	16,479.2	3.1	0	0	0	0	0	0	0	0	0	0.149	0.011	0.923	3,585,397	369,085	84,243	0.023	28,686.3	-18,991.3	11,610.0	-1,915.0
Hannibal Municipal Airport	MO	**HAE**	**0**	9,430	377.2	0	25	625	27.7	22,546.1	14.6	0	0	0	0	0	0	0	0	0	0.162	0.012	0.920	2,867,909	236,859	104,992	0.037	27,940.6	-18,510.6	10,922.8	-1,492.8
Havre City-County Airport	MT	**HVR**	**0**	9,100	252.8	0	36	1,296	17.2	0.0	6.4	0	1	0	1	0	0	0	0	0	0.419	0.225	0.917	82,942	21,980	16,950	0.204	23,553.4	-14,453.4	7,511.9	1,588.1
Virginia Tech/Montgomery Executive Airport	VA	**BCB**	**0**	8,950	319.6	0	28	784	91.5	20,420.4	47.4	0	0	0	0	0	1	0	0	0	0.093	0.027	0.821	3,174,486	750,345	273,182	0.086	30,182.6	-21,232.6	12,773.2	-3,823.2
Kennett Memorial Airport	MO	**TKX**	**0**	8,354	522.1	0	16	256	32.6	19,126.9	10.5	0	0	0	0	0	0	0	0	0	0.043	0.009	0.867	2,432,444	417,996	104,394	0.043	24,328.8	-15,974.8	7,804.1	549.9
Mountain Empire Airport	VA	**MKJ**	**0**	8,326	320.2	0	26	676	32.6	20,349.4	17.1	0	0	0	0	0	1	0	0	0	0.117	0.019	0.852	3,588,825	593,233	98,600	0.027	28,398.4	-20,072.4	11,385.6	-3,059.6
Jerry Sumners Sr./Aurora Municipal Airport	MO	**2H2**	**0**	8,071	269.0	0	30	900	33.3	17,012.7	8.1	0	0	0	0	0	0	0	0	0	0.069	0.027	0.882	1,563,209	699,619	139,699	0.089	29,457.3	-21,386.3	12,101.9	-4,030.9
Sparta Community Airport-Hunter Field	IL	**SAR**	**0**	8,070	237.4	0	34	1,156	33.2	18,281.5	11.0	0	0	0	0	0	0	0	0	0	0.052	0.015	0.806	3,722,510	1,713,899	88,594	0.024	31,666.9	-23,596.9	14,181.7	-6,111.7
Butler Memorial Airport	MO	**BUM**	**0**	7,978	469.3	0	17	289	15.8	18,631.2	3.9	0	0	0	0	0	0	0	0	0	0.019	0.008	0.867	3,033,028	724,886	35,782	0.012	24,402.2	-16,424.2	7,960.9	17.1
Grand Glaize-Osage Beach Airport	MO	**K15**	**0**	7,831	313.2	0	25	625	34.7	21,741.0	16.1	0	0	0	0	0	0	0	0	0	0.073	0.019	0.895	1,445,630	309,373	67,414	0.047	26,466.3	-18,635.3	9,626.9	-1,795.9
Blue Ridge Airport	VA	**MTV**	**0**	7,802	130.0	0	60	3,600	70.5	22,964.1	42.3	0	0	0	0	0	1	0	0	0	0.105	0.040	0.918	4,592,468	1,577,117	181,702	0.040	41,130.4	-33,328.4	22,438.4	-14,636.4
Neosho Hugh Robinson Airport	MO	**EOS**	**0**	7,463	233.2	0	32	1,024	49.6	21,596.4	17.3	0	0	0	0	0	0	0	0	0	0.055	0.024	0.811	2,210,967	582,251	170,887	0.077	30,640.2	-23,177.2	13,152.0	-5,689.0
Malden Municipal Airport	MO	**MAW**	**0**	6,903	363.3	0	19	361	32.6	19,126.9	10.5	0	0	0	0	0	0	0	0	0	0.066	0.013	0.789	1,856,483	333,802	81,330	0.044	24,741.2	-17,838.2	8,152.3	-1,249.3
Northwest Missouri Regional Airport	MO	**EVU**	**0**	6,657	443.8	0	15	225	20.7	20,920.1	8.9	0	0	0	0	0	0	0	0	0	0.081	0.012	0.824	2,903,122	230,553	38,042	0.013	23,281.7	-16,624.7	7,018.0	-361.0
Richfield Municipal Airport	UT	**RIF**	**0**	5,922	329.0	0	18	324	18.6	16,844.6	7.0	0	1	0	1	0	0	0	0	0	0.419	0.107	0.833	182,243	39,064	13,748	0.075	18,787.4	-12,865.4	3,314.2	2,607.8
Dexter Municipal Airport	MO	**DXE**	**0**	5,920	257.4	0	23	529	29.6	18,399.1	9.9	0	0	0	0	0	0	0	0	0	0.104	0.020	0.760	1,588,687	348,880	90,279	0.057	26,113.0	-20,193.0	9,305.1	-3,385.1
Dawson Community Airport	MT	**GDV**	**0**	5,800	187.1	0	31	961	8.7	0.0	3.5	0	1	0	1	0	0	0	0	0	0.341	0.140	1.000	97,931	19,040	9,017	0.092	22,603.3	-16,803.3	6,653.2	-853.2
Tillamook Airport	OR	**S47**	**0**	5,651	113.0	0	50	2,500	24.6	21,006.4	8.1	0	1	1	1	0	0	0	0	0	0.039	0.013	0.885	2,727,483	599,748	34,383	0.013	23,901.9	-18,250.9	9,633.5	-3,982.5
L.W. Clayton Airport	MT	**OLF**	**0**	5,210	473.6	0	11	121	10.9	0.0	3.4	0	1	0	1	0	0	0	0	0	0.141	0.050	0.909	68,015	16,715	9,930	0.146	21,057.7	-15,847.7	4,844.4	365.6
Nevada Municipal Airport	MO	**NVD**	**0**	5,077	282.1	0	18	324	19.4	19,363.5	7.6	0	0	0	0	0	0	0	0	0	0.079	0.010	0.842	2,910,584	222,136	42,147	0.014	24,644.1	-19,567.1	8,164.7	-3,087.7
Georgetown Airport	CA	**Q61**	**0**	4,500	180.0	0	25	625	163.7	27,531.7	37.6	0	1	1	1	0	0	0	0	0	0.011	0.004	0.880	4,995,386	1,797,390	376,333	0.075	19,257.3	-14,757.3	5,474.7	-974.7
Cameron Memorial Airport	MO	**EZZ**	**0**	3,965	116.6	0	34	1,156	19.4	22,459.2	4.6	0	0	0	0	0	0	0	0	0	0.062	0.018	0.968	2,625,909	963,788	69,962	0.027	30,539.0	-26,574.0	13,190.7	-9,225.7
Eldon Model Airpark	MO	**H79**	**0**	3,513	109.8	0	32	1,024	22.6	19,482.8	7.5	0	0	0	0	0	0	0	0	0	0.064	0.029	0.760	1,493,009	455,407	104,454	0.070	29,463.6	-25,950.6	12,165.1	-8,652.1
Mt. Sterling Municipal Airport	IL	**I63**	**0**	3,391	376.9	0	9	81	7.0	19,128.4	2.3	0	0	0	0	0	0	0	0	0	0.038	0.004	0.778	3,115,597	309,099	45,638	0.015	21,522.3	-18,130.3	5,499.4	-2,107.4
Salem-Lekrone Airport	IL	**SLO**	**0**	3,344	159.2	0	21	441	41.8	22,114.8	17.7	0	0	0	0	0	0	0	0	0	0.076	0.008	0.762	4,183,941	395,232	99,618	0.024	27,488.6	-24,144.6	10,592.8	-7,248.8
Lonesome Pine Airport	VA	**LNP**	**0**	3,312	184.0	0	18	324	42.3	20,997.7	19.8	0	0	0	0	0	1	0	0	0	0.052	0.016	0.750	2,816,872	801,361	122,365	0.043	25,142.7	-21,830.7	8,534.7	-5,222.7
Cuba Municipal Airport	MO	**UBX**	**0**	2,908	484.7	0	6	36	22.5	18,291.9	6.4	0	0	0	0	0	0	0	0	0	0.036	0.003	0.833	3,414,709	328,097	82,942	0.024	20,949.5	-18,041.5	4,997.1	-2,089.1
Houston Municipal Airport	MO	**M48**	**0**	2,849	123.9	0	23	529	22.4	14,516.1	5.9	0	0	0	0	0	0	0	0	0	0.144	0.023	0.850	1,348,897	215,298	33,916	0.025	24,725.2	-21,876.2	8,210.2	-5,361.2
Dixon Municipal/Charles R. Walgreen Field	IL	**C73**	**0**	1,291	27.5	0	47	2,209	36.1	20,528.4	12.6	0	0	0	0	0	0	0	0	0	0.069	0.009	0.766	10,878,689	818,751	131,221	0.012	43,556.6	-42,265.6	24,568.5	-23,277.5
Gould Peterson Municipal Airport	MO	**K57**	**0**	1,108	138.5	0	8	64	6.9	21,783.0	2.4	0	0	0	0	0	0	0	0	0	0.053	0.006	1.000	2,086,199	176,205	29,606	0.014	19,956.5	-18,848.5	4,147.4	-3,039.4
Flora Municipal Airport	IL	**FOA**	**0**	1,000	71.4	0	14	196	14.5	22,724.1	6.2	0	0	0	0	0	0	0	0	0	0.033	0.006	1.000	3,059,277	335,181	65,004	0.021	23,632.6	-22,632.6	7,275.7	-6,275.7

Appendix A-5

Representative General Aviation Airports for McAllen Based Upon FAA Forecast Document (Appendix B-4)

Representative Airports_MFE Towered GA Airports

Airport Name	State	ID	TOWDUM	OPS	OPSBA	BAE100	BA	BA2	POP	PCI	EMP	FAR139	WSTAK	WACAORAK	WST	AAL	R12	VITFS	VITFSnum	VITFSemp	%in50mi	%in100mi	se BA/BA	Pop100	Pop50	Pop25	Pop25/100	Equation 9 Est.	Difference	Equation 13 Est.	Difference
Hagerstown Regional Airport	MD	**HGR**	**1**	53,733	271.4	1	198	39,204	127.1	23,054.5	65.4	1	0	0	0	0	1	0	0	0	0.148	0.050	0.732	10,384,327	1,458,702	407,689	0.039	76,327.6	-22,594.6	73,526.8	-19,793.8
Portland-Troutdale Airport	OR	**TTD**	**1**	72,082	407.2	1	177	31,329	633.8	30,307.6	462.6	0	1	1	1	0	0	1	1	4	0.150	0.089	0.843	2,763,206	2,026,571	1,512,855	0.547	71,903.8	178.2	68,874.5	3,207.5
Modesto City-County Airport	CA	**MOD**	**1**	65,566	372.5	1	176	30,976	430.8	22,566.5	170.8	1	1	1	1	0	0	0	0	0	0.089	0.018	0.842	10,435,562	1,477,566	564,657	0.054	62,036.9	3,529.1	62,594.9	2,971.1
Olympia Airport	WA	**OLM**	**1**	58,650	333.2	1	176	30,976	204.8	25,700.1	85.5	1	1	1	1	0	0	0	0	0	0.100	0.051	0.804	4,473,160	1,928,153	469,750	0.105	56,009.0	2,641.0	57,278.6	1,371.4
McNary Field Airport	OR	**SLE**	**1**	43,829	256.3	1	171	29,241	272.1	22,404.2	127.1	1	1	1	1	0	0	0	0	0	0.185	0.096	0.711	2,927,097	1,891,144	430,470	0.147	52,445.2	-8,616.2	54,134.1	-10,305.1
Barnes Municipal Airport	MA	**BAF**	**1**	61,411	401.4	1	153	23,409	439.2	27,208.5	203.9	1	0	0	0	0	1	1	1	14	0.147	0.023	0.738	14,302,845	2,879,781	849,529	0.059	73,346.7	-11,935.7	73,567.9	-12,156.9
Capital City Airport	PA	**CXY**	**1**	54,925	376.2	1	146	21,316	375.2	25,965.5	169.7	0	0	0	0	0	1	1	1	16	0.137	0.024	0.735	14,845,144	2,225,980	880,365	0.059	77,723.3	-22,798.3	72,456.8	-17,531.8
Cuyahoga County Airport	OH	**CGF**	**1**	70,984	507.0	1	140	19,600	1,374.0	31,745.6	830.7	1	0	0	0	0	0	0	0	0	0.102	0.050	0.531	6,998,490	3,277,422	1,714,728	0.245	67,451.2	3,532.8	63,880.8	7,103.2
Smyrna Airport	TN	**MQY**	**1**	62,690	451.0	1	139	19,321	172.1	24,787.5	77.5	0	0	0	0	0	0	1	2	4	0.175	0.090	0.391	3,195,116	1,435,716	898,856	0.281	67,994.2	-5,304.2	67,154.6	-4,464.6
New Bedford Regional Airport	MA	**EWB**	**1**	48,393	387.1	1	125	15,625	521.4	26,579.6	220.9	0	0	0	0	0	1	1	1	9	0.062	0.019	0.823	9,164,868	3,897,863	972,136	0.106	68,575.8	-20,182.8	63,950.5	-15,557.5
St. Louis Regional Airport	IL	**ALN**	**1**	69,789	596.5	1	117	13,689	259.9	24,717.9	98.7	1	0	0	0	0	0	1	1	9	0.083	0.046	0.661	3,889,442	2,547,350	1,268,986	0.326	61,211.8	8,577.2	61,622.8	8,166.2
Smith Reynolds Airport	NC	**INT**	**1**	65,995	568.9	1	116	13,456	290.5	31,681.7	180.9	1	0	0	0	0	0	0	0	0	0.125	0.045	0.685	5,801,842	1,667,219	800,987	0.138	56,967.8	9,027.2	54,742.1	11,252.9
Worcester Regional Airport	MA	**ORH**	**1**	49,898	542.4	0	92	8,464	737.9	28,893.0	323.1	1	0	0	0	0	1	0	0	0	0.037	0.017	0.935	11,431,129	6,274,981	984,499	0.086	55,420.8	-5,522.8	53,283.2	-3,385.2
Hawkins Field Airport	MS	**HKS**	**1**	42,395	465.9	0	91	8,281	245.4	24,298.7	153.8	0	0	0	0	0	0	0	0	0	0.374	0.137	0.354	1,565,350	624,676	407,594	0.260	50,096.7	-7,701.7	43,745.6	-1,350.6
Average				58,596	424		144																								
Airports																															
Leesburg Executive Airport	VA	**JYO**	**0**	68,448	312.5	1	219	47,961	152.6	37,967.6	73.6	0	0	0	0	0	1	2	19	1	0.084	0.047	0.798	9,898,217	5,488,110	1,382,577	0.140	87,956.7	-19,508.7	73,015.4	-4,567.4
Auburn Airport	ME	**AUN**	**0**	49,500	233.5	1	212	44,944	238.6	34,539.7	99.2	0	1	1	1	0	0	0	0	0	0.093	0.027	0.920	5,800,646	1,924,124	696,258	0.120	70,824.4	-21,324.4	52,475.2	-2,975.2
ɔln Regional Airport/Karl Harder	CA	**LHM**	**0**	61,300	296.1	1	207	42,849	238.6	34,539.7	99.2	0	1	1	1	0	0	0	0	0	0.075	0.024	0.918	7,427,634	1,976,451	1,094,682	0.147	72,700.9	-11,400.9	53,878.0	7,422.0
Hampton Roads Executive	VA	**PVG**	**0**	56,887	389.6	1	146	21,316	205.9	26,278.3	85.6	0	0	0	0	0	1	1	9	1	0.333	0.148	0.899	3,313,183	1,707,770	1,297,237	0.392	70,260.9	-13,373.9	51,698.7	5,188.3
McMinnville Municipal Airpor	OR	**MMV**	**0**	53,238	380.3	1	140	19,600	83.9	22,346.5	27.2	1	1	1	1	0	0	0	0	0	0.070	0.049	0.694	2,928,672	2,267,301	645,157	0.220	50,231.3	3,006.7	37,499.3	15,738.7
Average				57,875	322		185																								
Averages				58,406	397		155																								
Overall Ranges				42,395 -72,082	256-597		91-219																								
Assumptions																															
Airports with BA = 75-219																															
Airports with Opns 40000-75000																															
Airports with Population wi/25 mi of 400,000-2,000,000																															

Appendix B

Agency Coordination Letters
And Responses

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 13, 2004

Mr. Marc Haws, P.G.
Ambiotec Environmental Consultants, Inc.
1101 East Harrison Avenue
Harlingen, Texas 78550

Re: TCEQ GEARS #6143–Airport Master Plan for McAllen-Miller International Airport

Dear Mr. Haws:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above-referenced project and offers the following comments:

A review of the project for General Conformity impact in accordance with 40 CFR Part 93 and Title 30, Texas Administrative Code § 101.30 indicates that the proposed action is located in Hidalgo County, which is currently unclassified or in attainment of the National Ambient Air Quality Standards for all six criteria air pollutants. Therefore, general conformity does not apply.

Although any demolition, construction, rehabilitation or repair project will produce dust and particulate emissions, these actions should pose no significant impact upon air quality standards. Any minimal dust and particulate emissions should be easily controlled by the construction contractors using standard dust mitigation techniques.

If it is found the runway extension and/or a new runway is needed and federal funding is going to be used for this project, then there may be additional requirements. The Airport and Airway Improvement Act at Title 49, U.S. Code Section 47106(c)(I)(B) requires that federal funding of airport projects that involve the location of an airport or runway or a major runway extension be approved only after the Governor of the state in which the project is located certifies that there is reasonable assurance that the project will be located, constructed, and operated so as to comply with applicable air and water quality standards. If federal funding is used for a major runway extension and/or a new runway, then consultation with the Federal Aviation Administration will be needed to determine if the proposed runway extension for this project is considered a major runway extension for purposes of this requirement. If the runway extension is determined to be a major runway extension and/or a new runway is needed, then coordination with TCEQ will be required to receive this certification from the Governor. If the runway extension is not considered a major runway extension, than no certification from the Governor will be needed. However, a new runway that uses federal funding will need certification from the Governor.

Re: TCEQ GEARS #6143–Airport Master Plan for McAllen-Miller International Airport

Significant long-term environmental impacts from this project are not anticipated as long as construction and waste disposal activities are completed in accordance with applicable local, state, and federal statutes and regulations. We recommend that the applicants take necessary steps to insure that best management practices are utilized to control runoff from construction sites to prevent detrimental impact to both surface and groundwater.

Thank you for the opportunity to review this project. If you have any questions, please call Mr. Daniel Burke, Policy and Regulations Division, at (512) 239-1543.

Sincerely,

Jim Muse, Director
Policy and Regulations Division
Texas Commission on Environmental Quality

TEXAS HISTORICAL COMMISSION
The State Agency for Historic Preservation

RICK PERRY, GOVERNOR
JOHN L. NAU, III, CHAIRMAN
F. LAWERENCE OAKS, EXECUTIVE DIRECTOR

July 16, 2004

Mark Haws, P.G.
Senior Consultant
Ambiotec Environmental Consultants
Ambiotec Group
5420 Paredes Line Road
Brownsville, Texas 78526

Re: Project Review under Section 106 of the National Historic Preservation Act of 1966 and the Antiquities Code of Texas
Master Plan Environmental Overview, Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction, McAllen Miller International Airport
(FAA/City of McAllen)

Dear Mr. Haws:

Thank you for your correspondence providing the above referenced project description. This letter serves as comment on the proposed state and federal undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission. As the state agency responsible for administering the Antiquities Code of Texas, these comments also provide recommendations on compliance with state antiquities laws and regulations.

The review staff, led by Ed Baker, needs more information to complete its review. Please review the attached *Information Request* form and provide the indicated information when it becomes available.

Thank you for your cooperation in this state and federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Ed Baker at 512/463-5866.**

Sincerely,

for
F. Lawerence Oaks, State Historic Preservation Officer
FLO/elb

attachment: *Information Request* form

TEXAS HISTORICAL COMMISSION

INFORMATION REQUEST
IDENTIFICATION OF HISTORIC PROPERTIES

Your project is being reviewed under Section 106 of the National Historic Preservation Act, as amended. The Texas Historical Commission (THC) needs additional information to determine whether your proposed project will adversely affect historic properties. A historic property is defined in 36 CFR Part 800 as an archeological site, building, structure, or object significant in American history, architecture, engineering, archeology or culture at the national, state or local level. Historic properties are listed in, or eligible for listing in, the National Register of Historic Places, and may be designated as State Landmarks under the Antiquities Code of Texas. Historic Properties may include (but are not limited to) buildings of all types (including ruins), bridges, dams, tunnels, irrigation systems, highways, monuments and sculpture, fences, cemeteries, battlefields, habitation sites, designed landscapes, or district containing any combination of property types. The project's Area of Potential Effect (APE) may extend beyond the immediate project boundaries. For more information, see National Register Bulletin 15*(How to Apply the National Register Criteria for Evaluation)*, and Texas Preservation Guidelines, both available through the THC.

INFORMATION REQUESTED

Project Name McAllen Miller Airport Expansion

Please submit the information checked below:

- ☐ If the property is publicly owned, please identify the owner/agency
- ☐ The address of the project (street/highway, city/vicinity, county)
- ☐ A general location map showing the project area
- ☒ A 7.5 Minute USGS Quadrangle map with the project boundaries plotted
- ☒ Construction dates of any buildings/structures on the property
- ☒ Photographs of buildings on the property (at least two sides and one streetscape)
- ☒ A brief history of the property, and name of the architect/builder, if known
- ☒ Proposed construction impacts (surface area to be impacted, depth of excavation)
- ☒ Existing disturbances & land use (plowing, other ground disturbances)
- ☒ Other Description of Construction Process - Photos of Buildings Affected

Determining the Area of Potential Effects. Does your project involve any of the following?

- ■ Proposed access roads, utility lines, and construction easements
- ■ Visual effects that could damage or detract from a historic property's integrity
- ■ Vibration effects during constriction, or as a result of project design
- ■ Additional phases of development that are planned for the future.

Please submit the requested materials with this form.
For questions regarding archeological sites, please call 512/463-6096.
For questions regarding identification of historic buildings, structures, or districts, please call 512/463-5853.

Reviewer Ed Baker Date 7/6/04 ~~Track No.~~ phone 5124635866

Texas Historical Commission
P.O. Box 12276, Austin, TX 78711-2276
Archeology Division, Phone 512/463-6096
History Programs Division, Phone 512/463-5853
www.thc.state.tx.us

TEXAS HISTORICAL COMMISSION
The State Agency for Historic Preservation

July 20, 2004

Marc Haws
Ambiotec Group
1101 East Harrison Avenue
Harlingen, TX 78550

RE: McAllen-Miller International Airport Master Plan Development; runway extension, road and channel realignment.

Dear Mr. Haws:

Thank you for coordinating with Texas Parks and Wildlife Department (TPWD) in your planning activities concerning the extension of Runway 31 at the McAllen-Miller International Airport in the City of McAllen, Hidalgo County, Texas. You have requested preliminary information regarding fish and wildlife resources in the area as well as guidance regarding necessary environmental considerations and permitting requirements that should be included in the airport master plan.

The most immediate proposed airport expansion will likely involve extending Runway 31 by 2,900 feet. Future expansion may also include constructing a runway parallel to Runway 31. Either of these expansions will require the realignment of portions of Tenth Street and the Mission Pilot Channel. Two alternatives for the channel realignment are being considered.

Approximately 80% of the surrounding land is utilized for cultivated agriculture. Narrow strips of dense vegetation occur along several canals, roads, and levees in the project area. One wooded field approximately 20 acres in size will be traversed by the realigned road and either of the realignment alternatives for the channel. The most significant aquatic feature in the project area likely to be impacted by the airport expansion is the Pharr San Juan Main Canal. This canal was not discussed in the materials provided and is not shown on either of the alternatives maps.

The Department is concerned with potential impacts related to the realignment of both Tenth Street and the Mission Pilot Canal. Specific concerns involve disturbance of vegetation and soils at canal crossings. In addition to stabilizing soils, natural vegetated buffers contiguous to aquatic systems provide wildlife cover, food sources and travel corridors and should remain undisturbed. The proposed realignment plan for Tenth Street will cross the Pharr San Juan Main Canal twice and the newly aligned Mission Pilot Channel once. Project plans should include measures to avoid or minimize impacts to vegetation along the canals. Impacts may be avoided by employing elevated roadways in these areas.

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512-389-4800

Realignment of a portion of the Mission Pilot Channel, which would involve canal and levee construction in the Rio Grande floodplain, should be coordinated with the International Boundary and Water Commission (IBWC) (915) 832-4157 or the IBWC-Lower Rio Grande Flood Control Project Office (956) 565-1575. Also, the proposed project area should be surveyed for the presence of wetlands. The U.S. Army Corps of Engineers Southern Area Office-Corpus Christi (361) 884-3385 should be contacted regarding wetland delineation and potential impacts associated with the development of this project. More information regarding the Pharr San Juan Main Canal and a small canal connected to the Mission Pilot Channel that will be bisected by the extended runway is needed to accurately and fully assess impacts to the natural resources in this area.

Any construction activities that lead to direct and indirect loss of the state's fish and wildlife resources and habitat are strongly discouraged. Prior to construction, vegetation surveys should be conducted along the project routes to quantify the number, size, and species of vegetation that will be impacted. Losses should be minimized using site planning and construction techniques designed to avoid and preserve existing native vegetation and aquatic systems. Reclamation of disturbed areas should emphasize replanting with native grasses, leguminous forbs and shrubs to restore the area to like or better condition than existed prior to the project. Specific reclamation species will be dependent upon the areas in which they are used, but all should be native to the region and beneficial to fish and wildlife endemic to that area.

Vegetation along canals, levees and fencerows provide nesting and foraging habitat for many wildlife species, some potentially listed as threatened or endangered. Surveys of the area for potential habitat or evidence of the presence of wildlife should be conducted prior to construction. Attached is a list of rare, threatened and endangered species that may potentially occur in Hidalgo County, Texas. Please contact Celeste Brancel at (512) 912-7021, 3000 S. IH-35, Suite 100, Austin, Texas 78704, for more information on specific occurrences of rare, threatened and endangered species in your project area.

Avian species diversity is exceptionally high in the Lower Rio Grande Valley particularly during spring and fall migration periods. The proximity of the airport to the Santa Ana National Wildlife Refuge and numerous state wildlife management areas increases the likelihood of encountering migratory birds at the project location. The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds, their nests, and eggs except as permitted by the U.S. Fish and Wildlife Service. Removal of vegetation should be scheduled outside of the April

1-July 15 migratory bird nesting season. If vegetation in the project area is to be removed, it should be surveyed by a qualified biologist for migratory bird nest sites prior to removal.

Project plans should also incorporate the Texas Commission on Environmental Quality's (TCEQ) Best Management Practices (BMPs) for erosion and sedimentation control, and post-construction total suspended solids control. Properly installed BMPs that are maintained throughout the life of the project will stabilize and isolate disturbed areas and prevent the introduction of sediment into the adjacent aquatic habitats during rain events. Please contact the TCEQ-Harlingen Office (956-425-6010) for more information regarding compliance with the Texas Pollutant Discharge Elimination System for construction activity.

In addition to the surveys previously mentioned, a complete inventory of all other existing natural resources should be made of the project area and specific evaluations should be designed to predict the projects impact on those natural resources. Also, in order to adequately assess the impacts of a project of this magnitude, sufficient documentation, including aerial and ground photographs, terrain maps, charts and tables, and narrative descriptions of these data, should be provided. More detailed information describing the requirement and expectations of this Department are provided in an attached document.

Your interest in Texas' fish and wildlife resources and this agency's efforts to protect them is appreciated. Please contact me at 361-825-3240 if we may be of further assistance.

Sincerely,

Russell Hooten

Russell Hooten
Wildlife Habitat Assessment Program
Wildlife Division

/rh

Attachments (2)

HIDALGO COUNTY

	Federal Status	State Status
***** AMPHIBIANS *****		
Black Spotted Newt (*Notophthalmus meridionalis*) - can be found in wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods; Gulf Coastal Plain south of the San Antonio River		T
Mexican Treefrog (*Smilisca baudinii*) - subtropical region of extreme southern Texas; breeds May-October coinciding with rainfall, eggs laid in temporary rain pools		T
Sheep Frog (*Hypopachus variolosus*) - predominantly grassland and savanna; moist sites in arid areas		T
South Texas Siren - large form (*Siren* sp. 1) - wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods, but does require some moisture to remain; southern Texas south of Balcones Escarpment; breeds February-June		T
White-lipped Frog (*Leptodactylus labialis*) – grasslands, cultivated fields, roadside ditches, and a wide variety of other habitats; often hides under rocks or in burrows under clumps of grass; species requirements incompatible with widespread habitat alteration and pesticide use in south Texas		
***** BIRDS *****		
American Peregrine Falcon (*Falco peregrinus anatum*) - potential migrant; nests in west Texas	DL	E
Arctic Peregrine Falcon (*Falco peregrinus tundrius*) - potential migrant	DL	T
Audubon's Oriole (*Icterus graduacauda audubonii*) - scrub, mesquite; nests in dense trees, or thickets, usually along water courses		
Brownsville Common Yellowthroat (*Geothlypis trichas insperata*) - tall grasses and bushes near ponds, marshes, and swamps; breeding April to July		T
Cactus Ferruginous Pygmy-owl (*Glaucidium brasilianum cactorum*) - riparian trees, brush, palm, and mesquite thickets; during day also roosts in small caves and recesses on slopes of low hills; breeding April to June		T
Common Black Hawk (*Buteogallus anthracinus*) – cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas		T
Gray Hawk (*Asturina nitidus*) - mature woodlands of river valleys and nearby semiarid mesquite and scrub grasslands		
Hook-billed Kite (*Chondrohierax uncinatus*) – dense tropical and subtropical forests, but does occur in open woodlands; uncommon to rare in most of range; accidental in south Texas		
Interior Least Tern (*Sterna antillarum athalassos*) – nests along sand and gravel bars within braided streams, rivers & some inland lakes	LE	E
Mountain Plover (*Charadrius montanus*) – breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous		T
Northern Beardless-tyrannulet (*Camptostoma imberbe*) - mesquite woodlands; near Rio Grande frequents cottonwood, willow, elm, and great leadtree; breeding April to July		T
Reddish Egret (*Egretta rufescens*) - resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear		

	Federal Status	State Status
Rose-throated Becard (*Pachyramphus aglaiae*) – riparian trees, woodlands, open forest, scrub, and mangroves; breeding April to July		T
Sennett's Hooded Oriole (*Icterus cucullatus sennetti*) - often builds nests in and of Spanish moss (*Tillandsia unioides*); feeds on invertebrates, fruit, and nectar; breeds March-August		
Tropical Parula (*Parula pitiayuma*) - dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April to July		T
White-faced Ibis (*Plegadis chihi*) - prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats		T
White-tailed Hawk (*Buteo albicaudatus*) - near coast it is found on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral; breeding March to May		T
Wood Stork (*Mycteria americana*) - forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960		T
Zone-tailed Hawk (*Buteo albonotatus*) - rough, deep, rocky canyons and streamsides in semiarid mesa, hill, and mountain terrain; breeding March to July		T

*** FISHES ***

Bluntnose Shiner (*Notropis simus*) (extirpated) – main river channels, often below obstructions over substrate of sand, gravel, and silt; damming and irrigation practices presumed major factors contributing to decline		T
River Goby (*Awaous banana*) - clear water with slow to moderate current, sandy or hard bottom, and little or no vegetation; also enters brackish and ocean waters		T
Rio Grande Silvery Minnow (*Hybognathus amarus*) (extirpated) - historically Rio Grande and Pecos River systems and canals; pools and backwaters of medium to large streams with low or moderate gradient in mud, sand, or gravel bottom; ingests mud and bottom ooze for algae and other organic matter; probably spawns on silt substrates of quiet coves	LE	E

*** INSECTS***

Subtropical Blue-black Tiger Beetle (*Cicindela nigrocoerulea subtropica*) - most tiger beetles are active, usually brightly colored, and found in open, sunny areas; adult tiger beetles are predaceous and feed on a variety of small insects; larvae of tiger beetles are also predaceous and live in vertical burrows in soil of dry paths, fields, or sandy beaches		
Manfreda Giant-skipper (*Stallingsia maculosus*) - most skippers are small and stout-bodied; name derives from fast, erratic flight; at rest most skippers hold front and hind wings at different angles; skipper larvae are smooth, with the head and neck constricted; skipper larvae usually feed inside a leaf shelter and pupate in a cocoon made of leaves fastened together with silk-		

	Federal Status	State Status
***** MAMMALS *****		
Cave Myotis Bat (*Myotis velifer*) - roosts colonially in caves, rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Petrochelidon pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum caves of Panhandle during winter; opportunistic insectivore		
Coues' Rice Rat (*Oryzomys couesi*) - cattail-bulrush marsh with shallower zone of aquatic grasses near the shoreline; shade trees around the shoreline are important features; prefers salt and freshwater, as well as grassy areas near water; breeds April-August		T
Jaguar (*Panthera onca*) (extirpated) - dense chaparral; no reliable TX sightings since 1952	LE	E
Jaguarundi (*Herpailurus yaguarondi*) - thick brushlands, near water favored; six month gestation, young born twice per year in March and August	LE	E
Mexican Long-tongued Bat (*Choeronycteris mexicana*) - deep canyons where uses caves & mine tunnels as day roosts; also found in buildings & often associated with big-eared bats (*Plecotus* spp.); single TX record from Santa Ana NWR		
Ocelot (*Leopardus pardalis*) - dense chaparral thickets; mesquite-thorn scrub and live oak mottes; avoids open areas; breeds and raises young June-November	LE	E
Southern Yellow Bat (*Lasiurus ega*) - associated with trees, such as palm trees (*Sabal mexicana*) in Brownsville, which provide them with daytime roosts; insectivorous; breeding in late winter		T
White-nosed Coati (*Nasua narica*) - woodlands, riparian corridors and canyons; most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground & in trees; omnivorous; may be susceptible to hunting, trapping, & pet trade		T
***** MOLLUSKS *****		
Texas Hornshell (*Popenaias popeii*) - Rio Grande drainage from the Pecos River to the Falcon Breaks	C1	
***** REPTILES *****		
Reticulate Collared Lizard (*Crotaphytus reticulatus*) - requires open brush-grasslands; thorn-scrub vegetation, usually on well-drained rolling terrain of shallow gravel, caliche, or sandy soils; often on scattered flat rocks below escarpments or isolated rock outcrops among scattered clumps of prickly pear and mesquite		T
Black Striped Snake (*Coniophanes imperialis*) – extreme south Texas; semi-arid coastal plain, warm, moist micro-habitats and sandy soils; proficient burrower; eggs laid April-June		T
Indigo Snake (*Drymarchon corais*) - thornbush-chaparral woodlands of south Texas, in particular dense riparian corridors; can do well in suburban and irrigated croplands if not molested or indirectly poisoned; requires moist microhabitats, such as rodent burrows, for shelter		T
Keeled Earless Lizard (*Holbrookia propinqua*) – coastal dunes, barrier islands, and other sandy areas; eats insects and likely other small invertebrates; lays clutches of 2-7 eggs March-September (most May-August) in soil/underground		

	Federal Status	State Status
Northern Cat-eyed Snake (*Leptodeira septentrionalis septentrionalis*) - Gulf Coastal Plain south of the Nueces River; thorn brush woodland; dense thickets bordering ponds and streams; semi-arboreal; nocturnal		T
Speckled Racer (*Drymobius margaritiferus*) - extreme south Texas; dense thickets near water, Texas palm groves, riparian woodlands; often in areas with much vegetation litter on ground; breeds April-August		T
Texas Horned Lizard (*Phrynosoma cornutum*) – open arid or semi-arid regions with sparse vegetation; grass, cactus, scattered brush or scrubby trees; burrows into soil, uses rodent burrows, or hides under surface cover		T
Texas Tortoise (*Gopherus berlandieri*) - open scrub woods, arid brush, lomas, grass-cactus association; open brush with grass understory preferred; shallow depressions at base of bush or cactus or underground burrow or hides under surface cover		T

*** VASCULAR PLANTS ***

Bailey's ballmoss (*Tillandsia baileyi*) - epiphytic on various trees and shrubs; flowering February-May		
Chihuahua balloon-vine (*Cardiospermum dissectum*) - shrublands on gravelly soils along Lower Rio Grande Valley; flowering July-September		
Falfurrias milkvine (*Matelea radiata*) - endemic; known only from one collection from Falfurrias; habitat unknown; flowering (May?) June		
Gregg's wild-buckwheat (*Eriogonum greggii*) – grasslands and brushlands on gypsum-capped hills; flowering in summer?		
Mexican mud-plantain (*Heteranthera mexicana*) – aquatic; ditches and ponds; flowering June-August		
Runyon's cory cactus (*Coryphantha macromeris* var. *runyonii*) - endemic; low hills and flats on gravelly soils in Tamaulipan shrub communities along the Rio Grande		
Runyon's water-willow (*Justicia runyonii*) - calcareous silt loam, silty clay, or clay in openings in subtropical woodlands on active or former floodplains; flowering (July-) September-November		
St. Joseph's staff (*Manfreda longiflora*) - endemic; various soils (clays and loams with various concentrations of salt, caliche, sand, and gravel) in openings or amongst shrubs in thorny shrublands; on Catahoula and Frio formations, and also on Rio Grande floodplain alluvial deposits; flowering in September		
Star cactus (*Astrophytum asterias*) - gravelly saline clays or loams over Catahoula & Frio formations, on gentle slopes & flats in grasslands or shrublands; flowering in May	LE	E
Texas ayenia (*Ayenia limitaris*) - woodlands on alluvial deposits on floodplains and terraces along the Rio Grande; flowering throughout the year with sufficient rainfall	LE	E
Vasey's adelia (*Adelia vaseyi*) - subtropical woodlands in Lower Rio Grande Valley; flowering January-June		
Walker's manioc (*Manihot walkerae*) - periphery of native brush in sandy loam; also on caliche cuestas?; flowering April-September (following rains?)	LE	E

	Federal Status	State Status

Status Key:

LE, LT	Federally Listed Endangered/Threatened
PE, PT	Federally Proposed Endangered/Threatened
E/SA, T/SA	Federally Listed Endangered/Threatened by Similarity of Appearance
C1	Federal Candidate for Listing, Category 1; information supports proposing to list as endangered/threatened
DL, PDL	Federally Delisted/Proposed for Delisting
NL	Not Federally Listed
E, T	State Listed Endangered/Threatened
"blank"	Rare, but with no regulatory listing status

Species appearing on these lists do not all share the same probability of occurrence. Some species are migrants or wintering residents only, or may be historic or considered extirpated.

Texas Parks and Wildlife Department Suggested Guidelines for Preparation of Environmental Assessment Documents

Following is an outline of categories of information needed to evaluate a proposed project or action. Every effort should be made to supply quantified data. If subjective data is all that can be supplied, documentation verifying the credentials of the data collector should be provided.

Categories considered essential for adequate biological review by this agency are noted by an asterisk (*). Depending on the complexity and scope of the proposed project or action, or requirements by other agencies, all the items listed below may be required.

Whenever practical, environmental documents should be supported by aerial photography, topographic maps, schematics, charts, tables, etc. with minimum narrative sufficient to describe, quantify, and qualify the data.

A. Project Description

* • Identify who is proposing the project.
* • Identify who is conducting the assessments and provide credentials of this person(s).
* • Describe the purpose of the project.
* • Define the scope of work.
* • Identify the project area and study area (total acres, miles of r-o-w, etc.)
* • Identify the time table projected for the entire project.
* • Describe any required coordination and review for the project.
* • List or describe any required public input.
• Provide historical information significant to the project.

B. Description of the Affected Environment

1. Natural Resources

• Describe the geology within the study area.
* • Describe the soils present and their characteristics.
* • Describe the landform (topography) and the natural processes impacting the present landform.
• Describe the climatic factors affecting the study area.
* • Describe the supply and quality of surface water resources in the study area.
* • Describe the supply and quality of groundwater resources including aquifer recharge zones occurring within the study area.
* • Describe natural hazards affecting the study area, i.e. tidal influences, flood activity, etc.).
• Describe the quality of the air in the study area.
* • Describe the vegetation communities (cover type) specifically impacted by the project to include: dominant plant species, estimated height of trees, woody

shrubs or brush; and estimated canopy coverage of woody vegetation. Total acreage of each cover type disturbed by the project should also be listed.

* • Describe the fauna that would be associated with the dominant vegetation cover types identified above.
* • Identify "sensitive" ecosystems which occur in the study area such as: springs, streams, rivers, floodplains, vegetation corridors, bottomland hardwoods, wetlands, bays, estuaries, native grasslands, etc.
* • Describe the occurrence of threatened/endangered species (or their habitats) and unique or rare natural communities which occur in the study area.
    a. On site inspection of the study area for permanent or seasonal occurrence.
    b. On site inspection of the study area for occurrence of habitat.
    c. Interviews with recognized experts on all species with a potential of occurrence.
    d. Literature review of data applicable to a potential occurring species concerning species distribution, habitat needs, and biological requirements.

2. Cultural Resources

* • Identify public use and open space areas in the vicinity of the proposed project such as parks, natural areas, wildlife preserves and management areas.
  • Identify previous, present, and proposed land uses within the study area.
  • Identify significant archeological features within the study area.
  • Identify significant historical features in the study area with special consideration of "National Register of Historic Places" properties.
  • Identify rights-of-ways, easements, public utilities, and transportation features within the study area.
  • Identify noise pollution sources and current noise levels within the study area.
  • Identify existing and proposed public health and hazardous waste facilities which exist in the study area such as land fills, hazardous waste sites, wastewater treatment facilities, septic tanks, etc.
  • Identify socioeconomic factors, if applicable.

***C. Project Alternatives**

List and describe project alternatives (including "no action") and associated impacts (direct and indirect) to described resources. If the project is potentially large in scope, cumulative effects with other similar projects may be required.

*D. Mitigation

A major responsibility of TPWD is to conserve and protect the state's fish, wildlife, and plant resources. Certain categories of these biotic resources warrant special consideration. These include habitats that are locally and regionally scarce, habitats supporting unique species or communities, stream and river ecosystems, bays, estuaries, wetlands, bottomland hardwoods, and native grasslands. All projects which could adversely affect these resources should be fully evaluated, and where possible, implementation of less damaging alternatives undertaken. If it is determined that a project or action will potentially affect fish, wildlife or plant resources, a process for adverse impact reduction should be initiated. Mitigation measures should be developed and implemented sequentially as follows:

1. **AVOIDANCE:** Avoiding adverse impacts through changes in project location, design, operation, or maintenance procedures, or through selection of other less damaging alternatives to the project or action.

2. **MINIMIZATION:** Minimizing impacts and by project modification or rectification to restore or improve impacted habitat to pre-project condition; or through reducing the impacts over time by preservation and maintenance operations during the life of the project or action.

3. **COMPENSATION:** Compensating for unavoidable impacts by providing replacement or substitute resources (including appropriate management) for losses caused by project construction, operation, or maintenance.

Mitigation should be an integral part of any action or project which adversely affects fish, wildlife, and habitats upon which they depend. Failure to adequately avoid or minimize adverse impacts or to adequately compensate for unavoidable losses of natural resources is a serious deficiency in any project plan and may cause delays in this Department's review and assessment of the adverse impacts upon fish & wildlife resources. In assessing project impacts, reasonable foreseeable secondary and cumulative impacts should be included.

*E. Coordination

Provide copies of pertinent coordination correspondence.

*F. Document Preparers and Their Qualifications

*G. Bibliography

(references: 40 CFR Parts 1500-1508 and various EPA handouts concerning Environmental Assessment documentation.)

July 6, 2004

Mr. Marc Haws, P.G.
Senior Consultant
Ambiotec Group
5420 Paredes Line Rd.
Brownsville, TX 78526

Re: Master Plan Environmental Overview – McAllen Miller International Airport

Dear Mr. Haws:

Thank you for your letter of May 10 regarding a proposed runway extension for the McAllen-Miller International Airport. Specifically, you requested guidance from the Texas Water Development Board (TWDB) on the environmental overview.

The TWDB has no regulatory authority on these matters and since it does not appear likely that a request will be made for any water-related funding, there is no requirement that this project be consistent with the State Water Plan.

If you have any further questions please do not hesitate to contact me, or Dr. Ernest Rebuck, Water Planning Section – Texas Water Development Board at 512/936-2317.

Sincerely,

J. Kevin Ward
Executive Administrator

c: Ernest Rebuck, TWDB
Robert Flores, TWDB

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
101 South Main Street
Temple, TX 76501-7602

September 20, 2004

Ambiotec Group
1101 East Harrison Ave
Harlingen, Texas 78550

Attention: Marc Haws, P. G., Sr. Consultant

Subject: LNU-Farmland Protection-
Mc Allen Miller International Airport
Hidalgo County, Texas

We have reviewed the information provided concerning the proposed improvements to the McAllen Miller International Airport as outlined in your letter of June 10, 2004. This is part of a NEPA Environmental Evaluation for this project as required by the Federal Aviation Administration. We have reviewed the project as required by the Farmland Protection Policy Act (FPPA) and completed an AD-1006 form.

The proposed project does contain Important Farmland as defined by the FPPA and is subject to the Farmland Protection Policy Act (FPPA). The proposed runway extensions are in areas considered to be previously converted by the FPPA. Alternatives 3 and 4 outline possible re-routing of drainage that would impact Important Farmland. We have estimated the acreage of Important Farmland impacted for Alternative 3 and 4 and developed a composite value for the soils in each alternative. The soil index in Part V is 55 for each alternative. Alternative 3 will require 88 acres and Alternative 4 will require 297 acres of Important Farmland. You will need to complete Part VI and VII of the AD-1006 to help determine the best alternative. The FPPA states that sites with a score less than 160 will require no further consideration.

I have attached the AD-1006 (Farmland Conversion Impact Rating) form for this project with parts II, IV and V completed. When you complete Part VI please send me a copy. Thanks for the quality resource materials you submitted to evaluate this project. If you have any questions please call James Greenwade at (254)-742-9960 or Sam Brown at (254)-742-9854, Fax (254)-742-9859.

Thanks,

James M. Greenwade
Soil Scientist
Soil Survey Section
USDA-NRCS, Temple, Texas

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 6-10-2004
Name of Project McAllen Miller Airport	Federal Agency Involved Federal Aviation Administration
Proposed Land Use Airport Expansion	County and State Hidalgo County, Texas
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 6-21-2004 / Person Completing Form: James Greenwade

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES x	NO ☐	Acres Irrigated 185,330 / Average Farm Size 463
Major Crop(s) Grain Sorghum	Farmable Land In Govt. Jurisdiction Acres: 639,936 % 63		Amount of Farmland As Defined in FPPA Acres: 521,634 % 52
Name of Land Evaluation System Used LESA	Name of State or Local Site Assessment System NONE		Date Land Evaluation Returned by NRCS 9-20-2004

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	88	297		
B. Total Acres To Be Converted Indirectly	0	0		
C. Total Acres In Site	88	297		
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	88	297		
B. Total Acres Statewide Important or Local Important Farmland	0	0		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.0001	0.0004		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	60	60		
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	55	55		

ART VI *(To be completed by Federal Agency)* Site Assessment Criteria *Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)				
2. Perimeter In Non-urban Use	(10)				
3. Percent Of Site Being Farmed	(20)				
4. Protection Provided By State and Local Government	(20)				
5. Distance From Urban Built-up Area	(15)				
6. Distance To Urban Support Services	(15)				
7. Size Of Present Farm Unit Compared To Average	(10)				
8. Creation Of Non-farmable Farmland	(10)				
9. Availability Of Farm Support Services	(5)				
10. On-Farm Investments	(20)				
11. Effects Of Conversion On Farm Support Services	(10)				
12. Compatibility With Existing Agricultural Use	(10)				
TOTAL SITE ASSESSMENT POINTS	160				
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100				
Total Site Assessment *(From Part VI above or local site assessment)*	160				
TOTAL POINTS *(Total of above 2 lines)*	260				

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐

Reason For Selection: A= Alternative 3 B= Alternative 4

Name of Federal agency representative completing this form:	Date:

(See Instructions on reverse side)

Form AD-1006 (03-02)

U.S. Department of Homeland Security
FEMA Region 6
800 North loop 288
Denton, TX 76209-3698

FEMA

FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION VI
MITIGATION DIVISION

PUBLIC NOTICE REVIEW

☐ **We have no comments to offer** ☒ **We offer the following comments**

WE WOULD REQUEST THAT THE LOCAL FLOODPLAIN ADMINISTRATOR BE CONTACTED FOR THE REVIEW AND POSSIBLE PERMIT REQUIREMENTS FOR THIS PROJECT

REVIEWER Tommie Gilchrist **DATE** 6-29-04

7 Floodplain KOHurley

MT DIVISION
DATE RECEIVED
12-17-04

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Kyle Mills
Regional Environmental Officer
Federal Emergency Management Agency
Region IV, Federal Center
800 North Loop 288
Denton, TX 76201

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Mills:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Federal Emergency Management Agency as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

Any information provided will become part of the master plan documentation regarding necessary steps to be taken by the City of McAllen in the future to address environmental concerns. Should you not anticipate any impacts in your area of jurisdiction or expertise as a result of potential construction of the proposed projects, written verification of such would be

appreciated. It is recognized that any future project would require a specific environmental assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

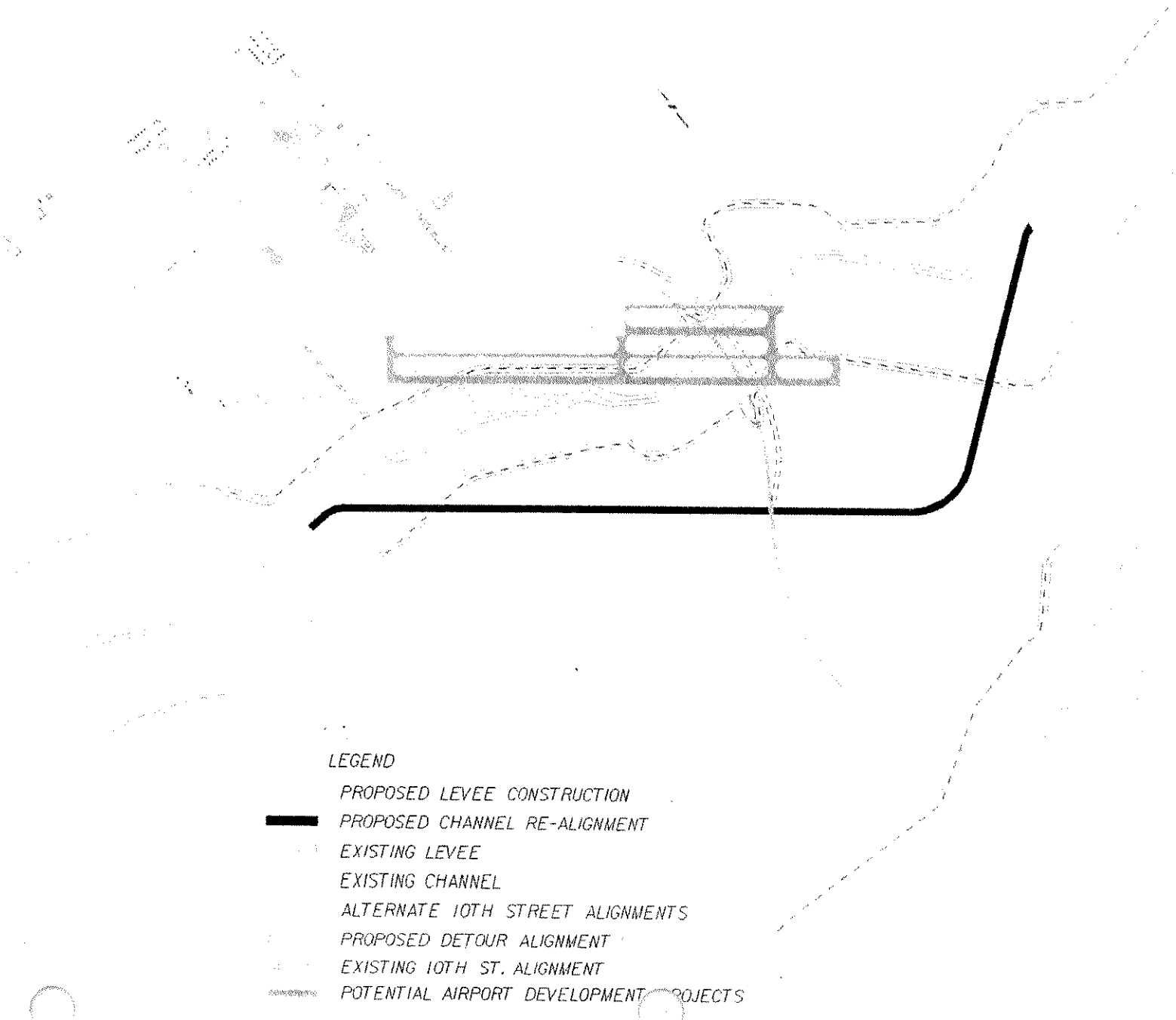
cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

SCALE 1" = 2,000'

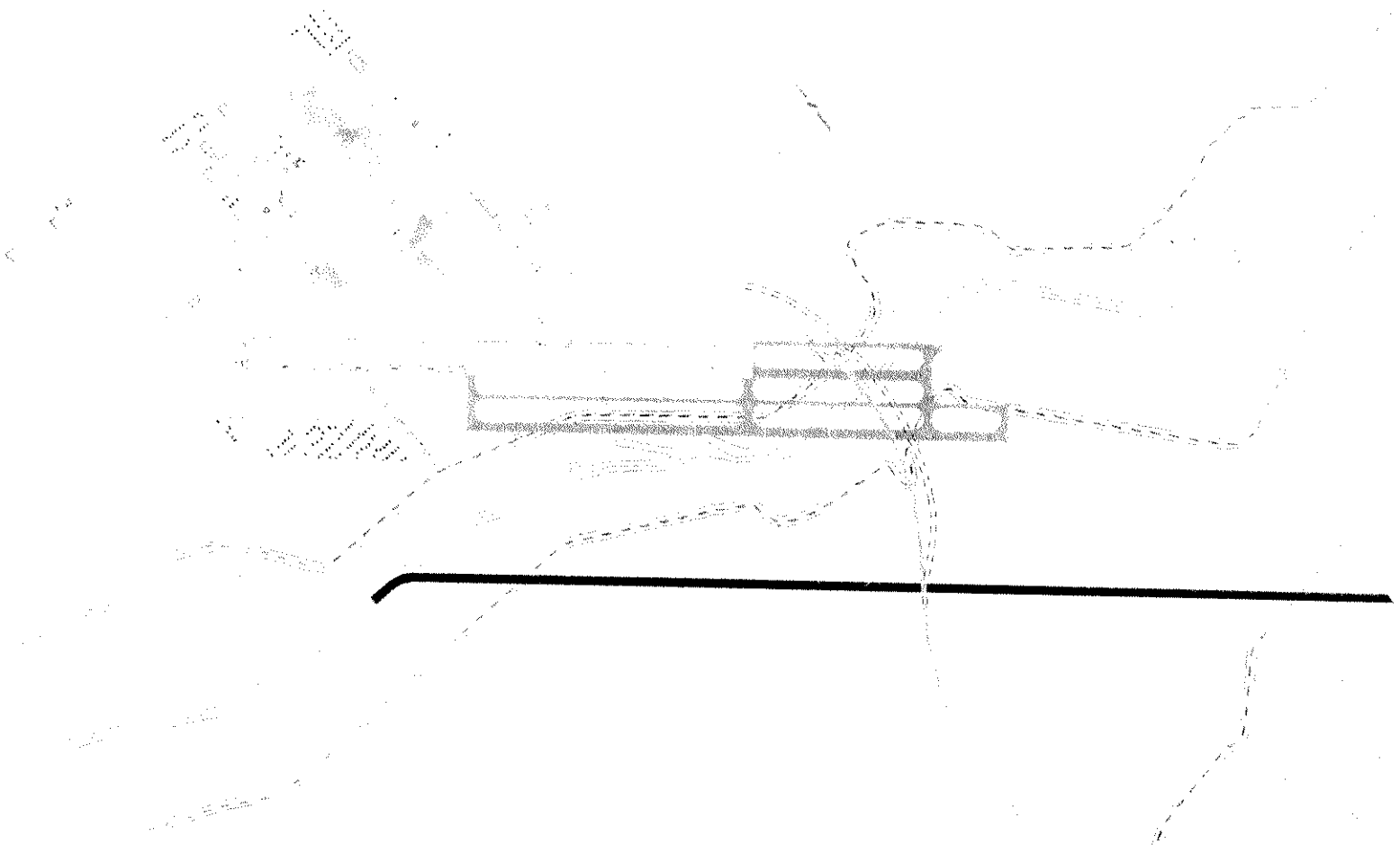
AMBIOTEC GROUP

McAllen-Miller International Airport McAllen, Texas	Topographic Map

ALTERNATIVE 3



ALTERNATIVE 4



LEGEND

- PROPOSED LEVEE CONSTRUCTION
- PROPOSED CHANNEL RE-ALIGNMENT
- EXISTING LEVEE
- EXISTING CHANNEL
- ALTERNATE 10TH STREET ALIGNMENTS
- PROPOSED DETOUR ALIGNMENT
- EXISTING 10TH ST. ALIGNMENT
- POTENTIAL AIRPORT DEVELOPMENT PROJECTS

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Ecological Services - LRGV Sub Office
Phone: (956) 784-7560 Fax: (956) 787-0547
Rt. 2 Box 202-A
Alamo, TX 78516
July 19, 2004

Mr. Mark Haws, P.G.
Senior Consultant
Ambiotec Group
5420 Paredes Line Road
Brownsville, TX 78526

Re: Consultation No.: 2-11-04-T-0328

Dear Mr. Haws;

This responds to your June 10, 2004 letter requesting the U.S. Fish and Wildlife Service (Service) for information for the McAllen-Miller International Airport, McAllen, TX. Your letter included two (2) alternatives, Alternatives 3 and 4, that propose runway extensions to the southeast of the existing runway, and may include the extension of the runway from 2,500 to 10,000 feet, a proposed parallel runway, proposed relocation of 10th Street, as well as relocation of a portion of the Mission Pilot Channel. Relocation of the levees for the International Boundary & Water Commission (IBWC) is also in the proposal.

Under Section 7(a)(2) of the Endangered Species Act (ESA), the federal action agency, the Federal Administration (FAA), is responsible for determining the effects of their actions on listed species or critical habitat (50 CFR § 402.14 [a]) and is ultimately responsible for section 7 obligations. Non-federal representatives (i.e. consultants, state agencies, county or local officials) may request and receive species lists, prepare environmental documents, biological assessments, and provide information for formal consultations. However, the Service requires the action agency to designate the non-federal representative in writing. Non-federal representatives should provide supporting information to the federal action agency for their evaluation. After evaluating the potential for effect, one of the following determinations is made by the federal action agency.

No effect – the action agency determines its proposed action will not affect federally listed species or critical habitat. No section 7 consultation is necessary and the Service believes the agency has complied with Section 7(a)(2) of the ESA by making the determination. However, if the project changes or additional information on the distribution of listed or proposed species becomes available the project should be reanalyzed for effects not previously considered.

Is not likely to adversely effect – the action agency determines their project may affect listed species and or critical habitat, however, the effects are expected to be discountable, or insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effects. The action agency should seek written concurrence from the Service that adverse effects have been eliminated. If agreement cannot be reached the agency is advised to initiate formal consultation.

Is likely to adversely affect – the action agency determines adverse effects to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. If the overall effect of the proposed action is beneficial to the listed species but also is likely to cause some adverse effects to individuals of

that species, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires formal section 7 consultation.

The Service recommends the action agency maintain a complete record of evaluation for all determinations, including steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related articles. The Service's Consultation Handbook is available online http://endangered.fws.gov/consultations/s7hndbk/s7hndbk.htm) for further information on definitions and process.

Federally Listed Species
We have enclosed a list of federally listed or proposed threatened and endangered species that have been documented or are known to occur in Hidalgo County. Species information may be obtained at http://ifw2es.fws.gov/endangeredspecies/lists/. The species information should help you determine if suitable habitat for these listed species exists in any of the proposed project areas or if project activities may affect species on-site, off-site, and/or result in a take of a federally listed species.

A take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. In addition to the direct take of an individual animal, habitat destruction or modification can be considered take, regardless of whether it has been formally designated as critical habitat, if it would result in the death or injury of wildlife by removing essential habitat components or impairing essential behavior patterns, including breeding, feeding or sheltering.

Section 7
Section 7 of the Endangered Species Act (ESA) requires that all Federal agencies consult with the Service to ensure that actions authorized, funded or carried out by such agencies do not jeopardize the continued existence of any listed threatened or endangered species or adversely modify or destroy critical habitat of such species. *It is the responsibility of the Federal action agency to determine if the proposed project may affect threatened or endangered species.* If a "may affect" determination is made, the Federal agency shall initiate the formal section 7 consultation process by writing to: Field Supervisor; U.S. Fish and Wildlife Service; c/o TAMU-CC, Campus Box 338; 6300 Ocean Drive; Corpus Christi, Texas 78412. If no effect is evident, no further consultation is needed; however, we would appreciate the opportunity to review the criteria used to arrive at that determination.

The Service recommends the action agency and/or non-federal representative maintain a complete record that identifies steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related articles. The Service's Consultation Handbook is available at http://endangered.fws.gov/consultations/s7hndbk/s7hndbk.htm for further information on definitions and process.

Section 10
If there is no federal involvement and the proposed project is being funded or carried out by private interests and/or non-federal government agencies, and the project as proposed may affect listed species, a Section 10(a)(1)(B) permit is recommended. The Habitat Conservation Planning Handbook is available at http://endangered.fws.gov/hcp/hcpbook.html.

State Listed Species
The State of Texas protects certain species. Please contact the Texas Parks and Wildlife Department (Endangered Resources Branch), Fountain Park Plaza Building, Suite 100, 3000 South IH-35, Austin, Texas 78704 (telephone 512/912-7011) for information concerning fish, wildlife, and plants of State concern or visit their website at http://www.tpwd.state.tx.us/nature/endang/animals/mammals/.

Migratory Birds
The Migratory Bird Treaty Act implements various treaties and conventions for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful. Many may nest in trees, brush areas or other suitable habitat. The Service recommends activities requiring vegetation

removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals, nests or eggs. If project activities must be conducted during this time, we recommend surveying for nest prior to commencing work. If a nest is found, and if possible, the Service recommends a buffer of vegetation (≥ 25 ft) remain around the nest until young have fledged or the nest is abandoned. A list of migratory birds may be viewed at http://migratorybirds.fws.gov/intrnltr/mbta/proposedbirdlist.pdf.

Wetlands

Wetlands and riparian zones provide valuable fish and wildlife habitat as well as contribute to flood control, water quality enhancement, and groundwater recharge. Wetland and riparian vegetation provide food and cover for wildlife, stabilize banks and decrease soil erosion. These areas are inherently dynamic and very sensitive to changes caused by such activities as overgrazing, logging, major construction, or earth disturbance. Executive Order 11990 asserts that each agency shall provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial value of wetlands in carrying out the agency's responsibilities. Construction activities near riparian zones should be carefully designed to minimize impacts. If vegetation clearing is needed in these riparian areas, they should be re-vegetated with native wetland and riparian vegetation to prevent erosion or loss of habitat. We recommend minimizing the area of soil scarification and initiating incremental re-establishment of herbaceous vegetation at the proposed work sites. Denuded and/or disturbed areas should be re-vegetated with a mixture of native legumes and grasses. Species commonly used for soil stabilization are listed in the Texas Department of Agriculture's (TDA) Native Tree and Plant Directory, available from TDA at P.O. Box 12847, Austin, Texas 78711. The Service also urges taking precautions to ensure sediment loading does not occur to any receiving streams in the proposed project area. To prevent and/or minimize soil erosion and compaction associated with construction activities, avoid any unnecessary clearing of vegetation, and follow established rights-of-way whenever possible. All machinery and petroleum products should be stored outside the floodplain and/or wetland area during construction to prevent possible contamination of water and soils. No permanent structures should be placed in the 100-year floodplain.

If your project will involve filling, dredging, or trenching of a wetland or riparian area it may require a Section 404 permit from the U.S. Army Corps of Engineers (COE). For permitting requirements please contact the U.S. Corps of Engineers, District Engineer, P.O. Box 1229, Galveston, TX 77553-1229, (409) 766-3002.

Beneficial Landscaping

In accordance with Executive Order 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping, where possible, any landscaping associated with project plans should be limited to seeding and replanting with native species. A mixture of grasses and forbs appropriate to address potential erosion problems and long-term cover should be planted when seed is reasonably available. Although Bermuda grass is listed in seed mixtures, this species and other introduced species should be avoided as much as possible. The Service also recommends the use of native trees, shrubs and herbaceous species that are adaptable, drought tolerant and conserve water.

Service Response

Please note that the Service strives to respond to requests for project review within 30 days of receipt, however, this time period is not mandated by regulation. Responses may be delayed due to workload and lack of staff. Failure to meet the 30-day timeframe does not constitute a concurrence from the Service that the proposed project will not have impacts to threatened and endangered species.

The proposed project alternatives listed in your letter also may require the relocation of levees used for flood control. Please contact the International Boundary & Water Commission (IBWC) for permit requirements and more information. Please contact them at International Boundary and Water Commission, 325 Golf Course Road, Mercedes, TX 78750, Phone (956) 565-3159.

As stated above, a list of federally designated endangered and threatened species that occur in Hidalgo County is enclosed. If we can be of further assistance, please contact Brunilda Fuentes-Capozello (956-784-7631), or Ernesto Reyes, Jr. on this letterhead.

Sincerely,

Ernesto Reyes Jr.

Ernesto Reyes, Jr.
Fish & Wildlife Biologist

For
Allan M. Strand
Field Supervisor

cc: Field Supervisor, U.S. Fish and Wildlife Service, Corpus Christi, TX

Attachment

Federally Listed as Threatened and Endangered Species of
Corpus Christi Ecological Services Field Office
Area of Responsibility
April 7, 2004

DISCLAIMER

County-by-County lists containing species information is available at the U.S. Fish and Wildlife Service's (Service), Southwest Region, web site http://ifw2es.fws.gov/endangeredspecies/lists/. This list is based on information available to the Service at the time of preparation. This list is subject to change, without notice, as new biological information is gathered and should not be used as the sole source for identifying species that may be impacted by a project.

Candidate Species and Species of Concern currently have no legal protection under the Endangered Species Act. However, they may be protected under other Federal and/or State laws. If you find you have potential project impacts to these species the Service would like to provide technical assistance to help avoid or minimize adverse effects. Addressing these species at this stage could better provide for overall ecosystem health in the local area and may avert potential future listing.

Migratory Species Common to many or all Counties: Statewide or area-wide migrants are not included by county, except where they breed or occur in concentrations. Species listed specifically in a county have confirmed sightings. If a species is not listed they may occur as migrants in those counties.

Least tern	(E ~)	*Sterna antillarum*
Whooping crane	(E w/CH)	*Grus americana*
Bald eagle	(T)	*Haliaeetus leucocephalus*
Piping plover	(T w/CH)	*Charadrius melodus*
Loggerhead shrike	(SOC)	*Lanius ludovicianus*
White-faced ibis	(SOC)	*Plegadis chihi*

Hidalgo County

Northern aplomado falcon	(E)	*Falco femoralis septentrionalis*
Gulf Coast jaguarundi	(E)	*Herpailurus yagouaroundi cacomitli*
Ocelot	(E)	*Leopardus pardalis*
Star cactus	(E)	*Astrophytum (=Echinocactus) asterias*
Texas ayenia	(E)	*Ayenia limitaris*
Walker's manioc	(E)	*Manihot walkerae*
Audubon's oriole	(SOC)	*Icterus graduacauda audubonii*
Brownsville common yellowthroat	(SOC)	*Geothlypis trichas insperata*
Ferruginous hawk	(SOC)	*Buteo regalis*
Loggerhead shrike	(SOC)	*Lanius ludovicianus*
Northern gray hawk	(SOC)	*Buteo nitidus maximus*
Sennett's hooded oriole	(SOC)	*Icterus cucullatus sennetti*
Texas Botteri's sparrow	(SOC)	*Aimophila botterii texana*
Texas olive sparrow	(SOC)	*Arremonops rufivirgatus rufivirgatus*
Tropical parula	(SOC)	*Parula pitiayumi nigrilora*
White-faced ibis	(SOC)	*Plegadis chihi*
Coues' rice rat	(SOC)	*Oryzomys couesi aquaticus*

Reticulate collared lizard	(SOC)	*Crotaphytus reticulatus*
Texas horned lizard	(SOC)	*Phrynosoma cornutum*
Black-spotted newt	(SOC)	*Notophthalmus meridionalis*
Rio Grande lesser siren	(SOC)	*Siren intermedia texana*
Bailey's ballmoss	(SOC)	*Tillandsia baileyi*
Falfurrias (milkvine) anglepod	(SOC)	*Matelea radiata*
Runyon huaco	(SOC)	*Manfreda longiflora*
Runyon's water-willow	(SOC)	*Justicia runyonii*
Small papillosus	(SOC)	*Echinocereus papillosus* var. *angusticeps*
Texas windmill-grass	(SOC)	*Chloris texensis*
Subtropical blue-black tiger beetle	(SOC)	*Cicindela nigrocoerula subtropica*
Maculated manfreda skipper	(SOC)	*Stallingsia maculosus*

INDEX

E	=	Species in danger of extinction throughout all or a significant portion of its range.
T	=	Species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
C	=	Species for which the Service has on file enough substantial information to warrant listing as threatened or endangered.
CH	=	Critical Habitat (in Texas unless annotated ‡)
P/	=	Proposed ...
P/E	=	Species proposed to be listed as endangered.
P/T	=	Species proposed to be listed as threatened.
TSA	=	Threatened due to similarity of appearance.
SOC	=	Species for which there is some information showing evidence of vulnerability, but not enough data to support listing at this time.
□	=	with special rule
‡	=	CH designated (or proposed) outside Texas
~	=	Protection restricted to populations found in the "interior" of the United States. In Texas, the least tern receives full protection, except within 50 miles (80 km) of the Gulf Coast.

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Gary D. Logston, AICP
HNTB Corporation
5910 W. Plano Parkway, Suite 200
Plano, Texas 75093

Re: McAllen Airport

Dear Gary:

Enclosed for your records are copies of the letters mailed to the various agencies requesting environmental review relating to the runway expansion project.

If you have any questions, please call me at (956) 423-7807.

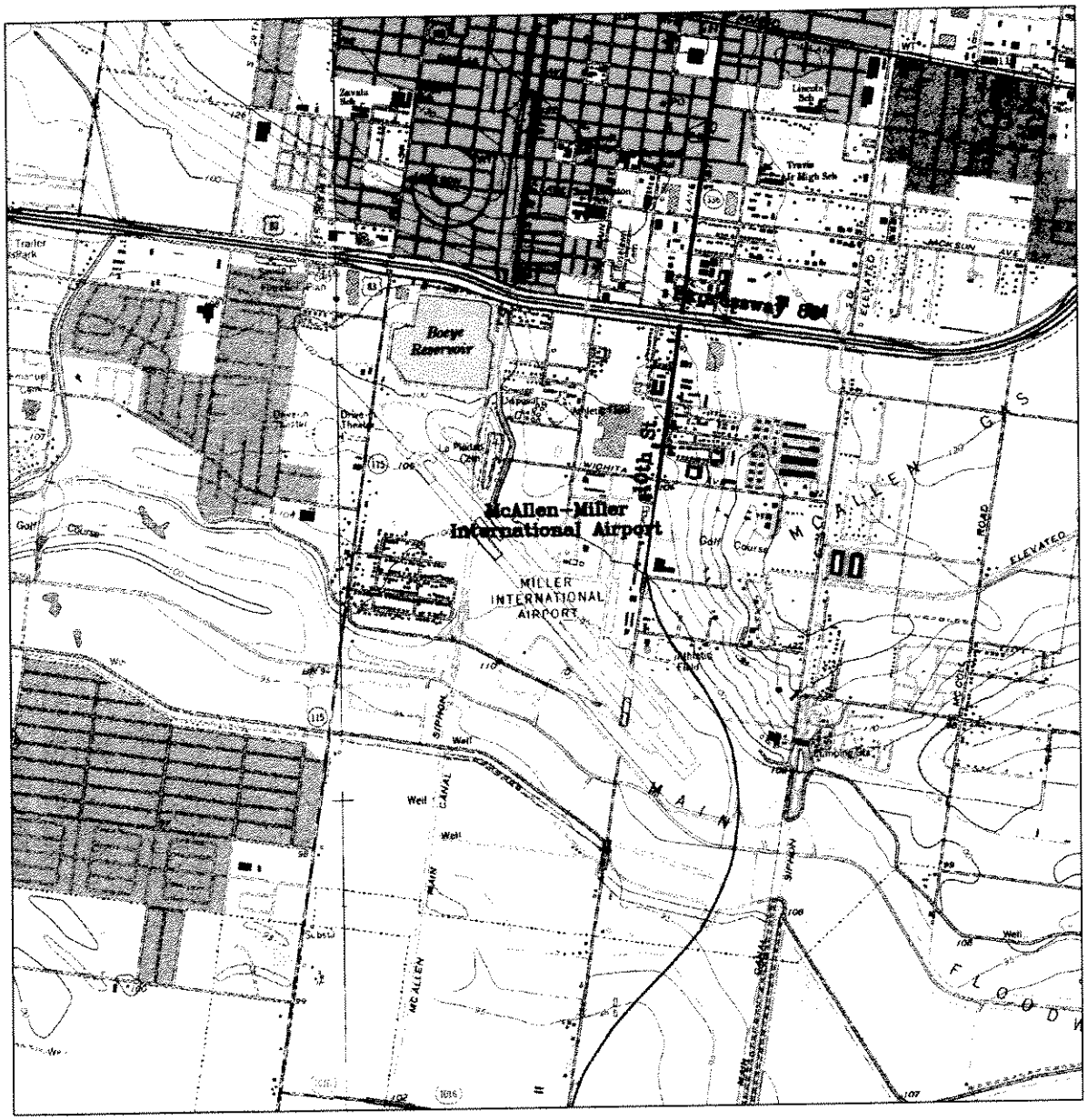
Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

5420 Paredes Line, Rd., Brownsville, TX 78526
(956) 548-9333 (956) 548-9399 Fax

1101 East Harrison Ave., Harlingen, TX 78550
(956) 423-7807 (956) 423-7905 Fax



SCALE 1" = 2,000'

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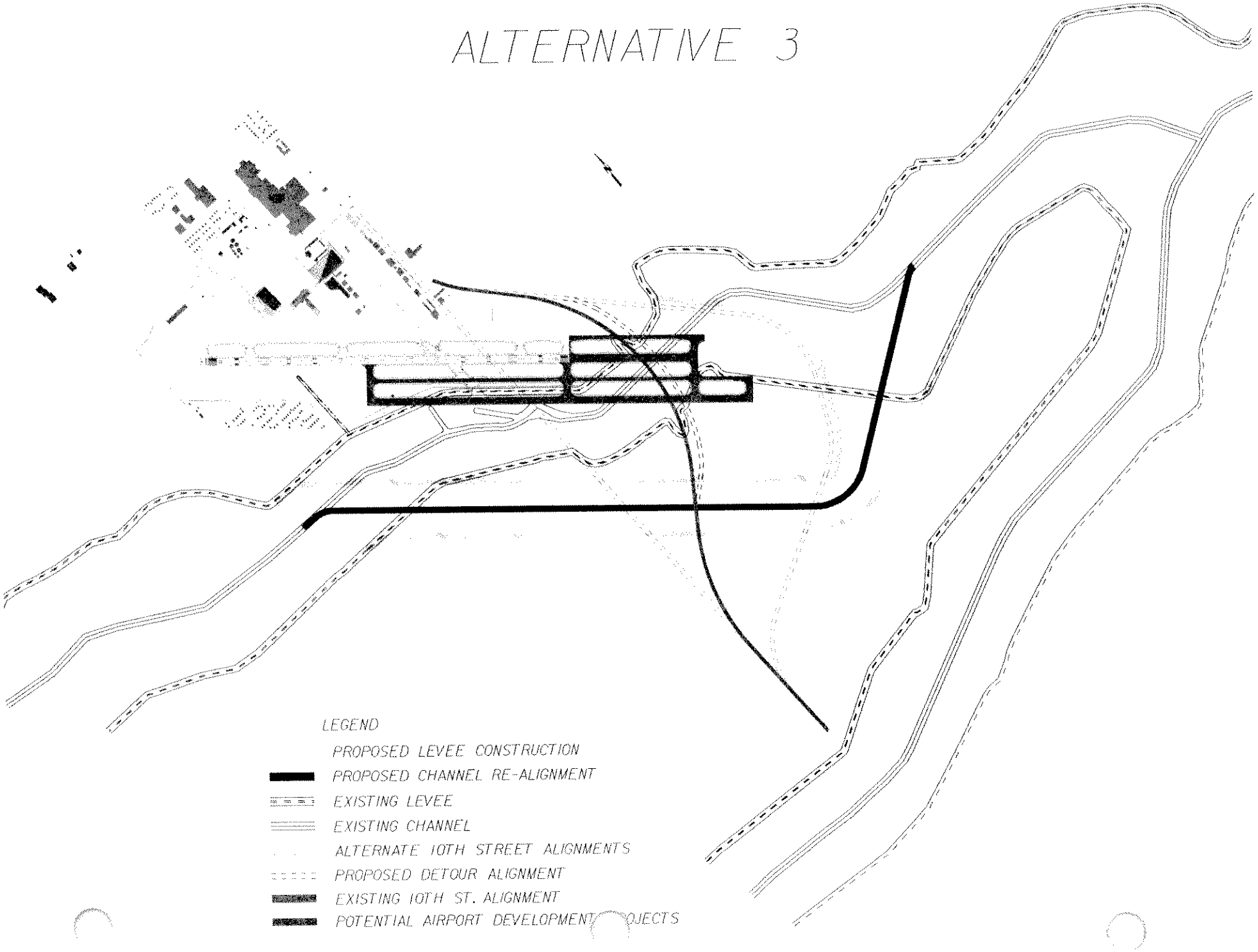
McAllen-Miller International Airport McAllen, Texas	Topographic Map

ALTERNATIVE 3



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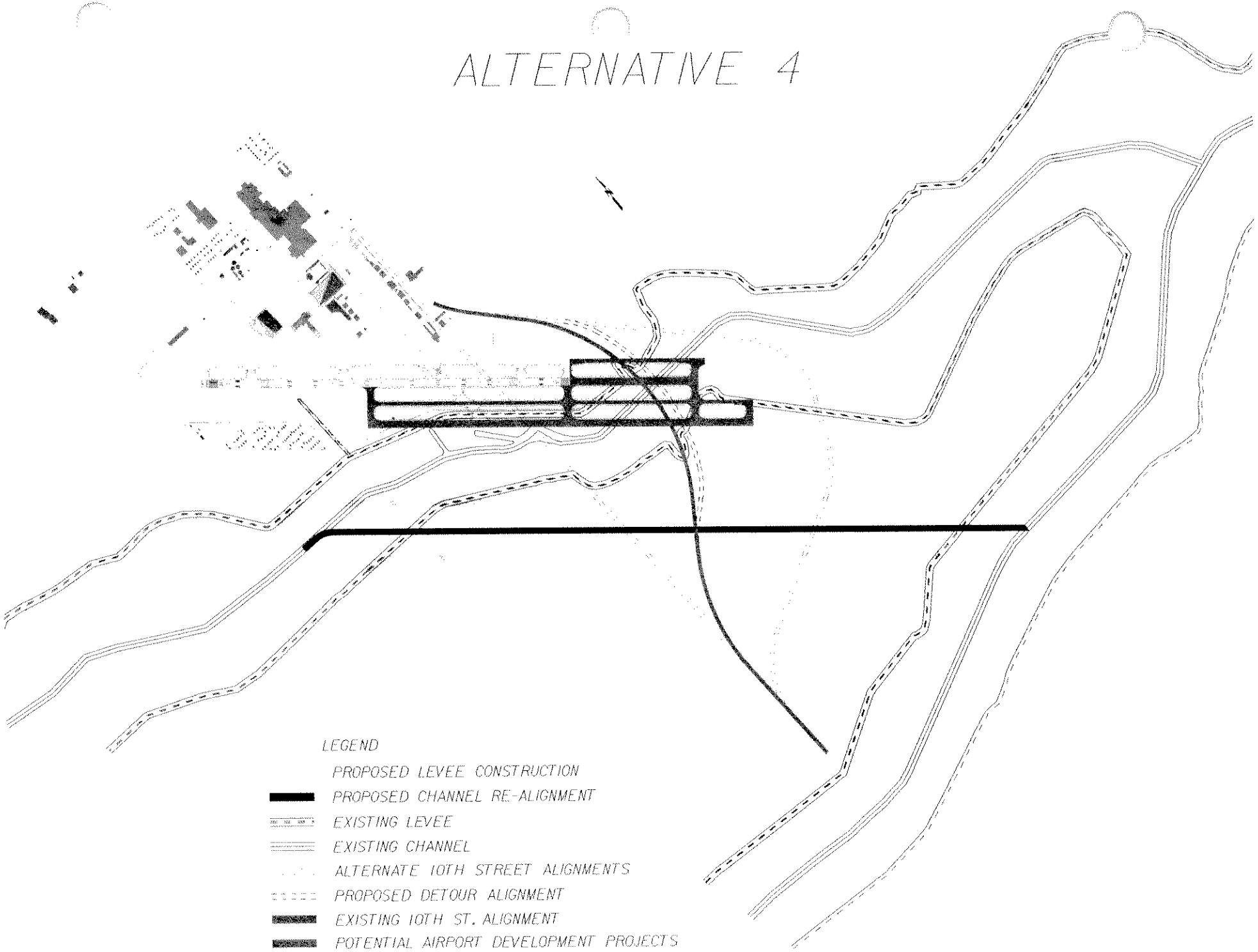

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Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Gary Lantrip
Environmental Specialist
Texas Department of Transportation
125 East 11th Street
Austin, TX 78701

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Lantrip:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Texas Department of Transportation as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

Any information provided will become part of the master plan documentation regarding necessary steps to be taken by the City of McAllen in the future to address environmental concerns. Should you not anticipate any impacts in your area of jurisdiction or expertise as a result of potential construction of the proposed projects, written verification of such would be appreciated. It is recognized that any future project would require a specific environmental

3420 Paredes Line Rd., Brownsville, TX 78526
(956) 548-0443 (956) 548-0380 Fax

1101 East Harrison Ave., Harlingen, TX 78550
(956) 423-7807 (956) 423-7905 Fax

assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
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Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Andrew Sansom
Executive Director
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Sansom:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Texas Parks and Wildlife Department as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Ms. Cynthia Beeman
Acting Director, History Program Division
Texas Historical Commission
P.O. Box 12276
Austin, TX 78744

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Ms. Beeman:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Texas Historical Commission as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

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Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Butch Smith
Director
Governor's Office of Budget and Planning
P.O. Box 12428
Austin, TX 78711

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Smith:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Governor's Office of Budget as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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(956) 423-7807 (956) 423-7905 Fax

assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
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Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. John P. Burt
State Conservationist
U.S. Department of Agriculture
Natural Resources Conservation Service
101 South Main Street
Temple, TX 76501

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Burt:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the U.S. Department of Agriculture as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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(956) 423-7807 (956) 423-7905 Fax

appreciated. It is recognized that any future project would require a specific environmental assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Jeffrey Saitas
Executive Director
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Saitas:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

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The purpose of this letter is to obtain early guidance from the Texas Commission on Environmental Quality as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

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Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Ernesto Reyes
U.S. Fish and Wildlife Service
LRGV National Wildlife Refuge
Rt. 2 Box 202-A
Alamo, TX 78516

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Reyes:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the LRGV National Wildlife Refuge as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

Any information provided will become part of the master plan documentation regarding necessary steps to be taken by the City of McAllen in the future to address environmental concerns. Should you not anticipate any impacts in your area of jurisdiction or expertise as a result of potential construction of the proposed projects, written verification of such would be appreciated. It is recognized that any future project would require a specific environmental

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assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Thomas Cloud, Jr.
Field Supervisor
U.S. Department of the Interior
Fish and Wildlife Service
Ecological Services
711 Stadium Drive, Suite 252
Arlington, TX 76011

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Cloud:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the U.S. Department of the Interior Fish and Wildlife Service as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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result of potential construction of the proposed projects, written verification of such would be appreciated. It is recognized that any future project would require a specific environmental assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

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Thank you very much for your valuable assistance.

Sincerely,

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Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Ms. Singrid Clift
Research Associate
Bureau of Economic Geology
University Station, Box X
Austin, TX 78576

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Ms. Clift:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Bureau of Economic Geology as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Kenneth N. Jones, Jr.
Executive Director
Hidalgo County Metropolitan Planning Organization
311 North 15th Street
McAllen, TX 78501-4705

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Jones:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Hidalgo County Metropolitan Planning Organization as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
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Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Greg Cooke
Regional Administrator
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, TX 75202

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Cooke:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the U.S. Environmental Protection Agency as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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appreciated. It is recognized that any future project would require a specific environmental assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Kyle Mills
Regional Environmental Officer
Federal Emergency Management Agency
Region IV, Federal Center
800 North Loop 288
Denton, TX 76201

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Mills:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Federal Emergency Management Agency as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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If an you have any questions, please do not hesitate to contact Gary Logston, Project Manager for the Master Plan, HNTB Corporation: telephone, (972) 628-3195; fax, (972) 661-5614; or email, glogston@hntb.com.

Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Craig Pedersen
Executive Administrator
Texas Water Development Board
1700 North Congress Avenue
P.O. Box13231
Austin, TX 78711

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Pedersen:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the Texas Water Development Board as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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appreciated. It is recognized that any future project would require a specific environmental assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

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Thank you very much for your valuable assistance.

Sincerely,

AMBIOTEC ENVIRONMENTAL CONSULTANTS, INC.

Marc Haws, P.G.
Sr. Consultant

cc: Mr. Derald Lary, Director of Aviation, McAllen-Miller International Airport
Mr. Gary Logston, HNTB Corporation

AMBIOTEC
GROUP

Civil and Environmental Engineers, Scientists and Construction Managers

June 10, 2004

Mr. Eduardo Stein
U.S. Department of Agriculture
Agricultural Research Center
2415 E. Hwy 83
Weslaco, TX 78596

RE: Master Plan Environmental Overview
Potential Runway Extension, Relocation of Tenth Street and Ultimate Runway Construction
McAllen Miller International Airport

Dear Mr. Stein:

The City of McAllen, Texas is preparing a 20-year Airport Master Plan for the McAllen- Miller International Airport. The primary project that may be recommended will be the extension of Runway 31 (toward the southeast) by approximately 2,900 feet to 10,000-feet. In addition, future plans may consider the ultimate construction of a future parallel runway.

Construction of a future runway extension to Runway 31 will require the relocation of Tenth Street around the end of the runway or under the airport (if a tunnel option is recommended) as well as the relocation of a portion of the Mission Pilot Channel.

The purpose of this letter is to obtain early guidance from the U.S. Department of Agriculture as part of the environmental overview to the airport master plan. We request that you provide the City with information that you will require to comply with your agency's environmental documentation and permitting requirements as well as any specific issues that you might identify for resolution in future environmental documentation, should these projects advance to the environmental assessment stage.

For your review, we provide the following materials: a portion of a topographic map identifying the project area and two project alternatives. The attached alternatives are labeled Option 3 and Option 4 and represent two potential relocation alternatives for the Mission Pilot Channel. Also, both identify possible relocation alternatives for Tenth Street (through the airport via tunnel or relocation around the future extended runway).

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assessment prepared in accordance with the National Environmental Policy Act (NEPA) and the Federal Aviation Administration's Order 5050.4A, Environmental Handbook.

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Marc Haws, P.G.
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