CHAPTER 1: PURPOSE AND NEED

1.0 Introduction

The Texas Department of Transportation (TxDOT) is proposing to construct the Loop 375 Border Highway West Extension Project to address needed improvements to system capacity and reliability and regional system linkage for the El Paso, Texas Metropolitan area. The proposed project is a four-lane controlled access facility that would begin at Racetrack Drive near its intersection with Doniphan Road and extend to United States Highway (US) 54 near downtown El Paso, a distance of approximately nine miles (**Exhibit 1-1**). The proposed project would provide a continuation of Loop 375 to the west, thus establishing an additional safe and efficient
east-west travel corridor through the El Paso metropolitan area. The proposed project construction cost is approximately $500 million. Construction is anticipated to begin in the year 2015.

Portions of the proposed project (from Park Street to Schuster Avenue) are included in the current El Paso Metropolitan Planning Organization (MPO) *Mission 2035* Metropolitan Transportation Plan (MTP) **Appendix F**, as a 4-lane toll project. The entire proposed project from Racetrack Drive to US 54 is included in the Comprehensive Mobility Plan, adopted by the region in 2008 and will be included in the upcoming *Horizon Model 2040* MTP update. The project is a cooperative effort between TxDOT, the Camino Real Regional Mobility Authority (CRRMA), the City of El Paso and other participating agencies. TxDOT is carrying the project through the planning/environmental document phase. The implementation phase may be carried forward by either TxDOT or the CRRMA pending further discussions and agreements.

This State Environmental Impact Statement (EIS) was prepared in accordance with 43 Texas Administrative Code (TAC) Chapter 2 and evaluates the potential environmental, social and economic impacts of the proposed Loop 375 Border Highway West Extension Project.

1.1 Purpose of the Proposed Project

The purpose of the proposed project is to address insufficient **system capacity**, **reliability**, and **regional system linkage** to accommodate projected growth in regional east-west traffic by providing another high-speed continuous highway that extends from east to west through the El Paso metropolitan region.

Regional trends in population and employment growth are projected to increase the future traffic volumes along I-10, which will degrade east-west mobility. Within the past decade, the El Paso area grew by approximately 120,000 residents and within the past five years the area gained more than 20,000 jobs. Strong population and employment growth in the El Paso area are anticipated to continue, which would place an increasing demand on I-10 as the only continuous east-west route within the El Paso metropolitan region. Regional populations also affecting the El Paso region include approximately 1.5 million persons outside the MPO in adjacent Ciudad Juárez, Mexico (MTP 2010). The combined El Paso MPO-Ciudad Juárez regional population is anticipated to more than double to over 4 million people by 2035 (MPO 2010). **Table 1-1** shows the regional forecasts for population and employment in the El Paso MPO region.

Table 1-1: Regional Forecasts for Population and Employment in the MPO Region

Demographics	2010	2035	Percent (%) Change
Population	805,660	1,270,000	58
Employment	302,592	361,185	19.4

Source: El Paso MPO 2010

Based on project population growth a need for additional east-west highway capacity that allows for continuous movement through the El Paso region has been identified. Further, there is a need to provide a reliable alternate route to I-10, in the event of an incident resulting in the closing of one or more lanes. Finally, there is a need to provide for an additional high speed east-west link for the El Paso region. These issues have been studied in regional long range planning efforts since 1961. **Appendix M** contains a list of previous studies.

1.1.1 Need for the Proposed Project

Insufficient System Capacity

Within the next 10 years, growth in the study area is projected to exceed the capacity of I-10. As shown in **Table 1-2,** even with the proposed project in place, the volume to capacity (v/c) ratio for I-10 in the vicinity of Executive Center Boulevard is projected to be 0.91 in the Year 2015 (opening year for the proposed project) and exceed a v/c of 1.00 sometime between Year 2015 and Year 2025. The v/c ratio is a measure of the available capacity of a roadway. As the v/c approaches 1.00, the facility is nearing capacity failure (e.g. stop and go traffic). Capacity issues will continue to worsen on I-10 as the projected volumes for Year 2035 are approximately 120% higher than Year 2025.

Other than I-10, there is no continuous high speed east-west highway through El Paso. The only other highways that facilitate east-west traffic are US 85 (Paisano Drive) and Loop 375. However, US 85 has numerous signalized intersections and heavy pedestrian activity, and Loop 375 terminates at Santa Fe Street. Neither facility provides for high-speed movement through the El Paso region.

Expanding I-10 was analyzed but not considered feasible because an expansion of the facility to accommodate project growth in traffic would result in impacts to the University of Texas at El Paso (UTEP), the Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe (BNSF) Railway mainlines, historic neighborhoods, and numerous business and residences (TxDOT 1999). Further, an expansion of I-10 would not address the need for improved system reliability and linkage. If I-10 were closed because of a traffic incident, drivers would not have an alternate east-west high speed route to utilize.

Therefore, a need for additional east-west highway capacity that allows for continuous movement through the El Paso metropolitan region has been identified.

Table 1-2: Study Area Existing and Future Traffic

Location	2010 Traffic Count	2015 Forecast (ADT*)	2015 Capacity	2015 V/C Ratio	2025 Forecast (ADT*)	2025 V/C Ratio	2035 Forecast
Loop 375							
Loop 375 West of US 54/I-110	20,300	22,400	91,200	0.25	27,850	0.31	33,300
Loop 375 West of Proposed Interchange at Coles St.(W. of Mesa)	12,400	13,700	60,800	0.23	17,000	0.28	20,300
Loop 375 East of Proposed Interchange at Coles St.	18,200	20,285	42,848	0.47	39,600	62,400	0.63
Paisano Drive							
US 85 (Paisano Dr.) North of Executive Center Blvd.	23,000	29,300	36,800	0.80	36,350	0.99	43,400
US 85 (Paisano Dr.) South of Executive Center Blvd.	20,000	22,800	36,800	0.62	28,250	0.77	33,700
I-10							
I-10 West of US 54/I-110	183,000	202,500	300,400	0.67	247,850	0.83	293,200
I-10 South of Schuster Ave.	130,000	144,400	200,800	0.72	179,500	0.89	214,600
I-10 South of Executive Center Blvd. (4 lanes each direction)	131,000	144,700	200,800	0.72	179,900	0.90	215,100
I-10 North of Executive Center Blvd. (3 lanes each direction)	124,000	137,500	150,600	0.91	172,050	1.14	206,600

* ADT = Average Daily Traffic Volumes
Source: Enhanced Mission 2015 and 2035 Model using 2010 TxDOT Traffic Map (ftp://ftp.dot.state.tx.us/pub/txdot-info/tpp/traffic_counts/2008/elp_base.pdf), HNTB 2010

Insufficient System Reliability

I-10 is no longer a consistently reliable part of the highway system for east-west movement through El Paso, and its strategic purpose to facilitate interstate and international commerce and travel and support for national defense is compromised. As truck volumes rise from increasing international trade and passenger vehicle volumes increase from the regional population and employment growth, traffic incidents on I-10 in the study area are occurring more often.

Incidents on I-10 have historically caused freeway closures that can last for several hours, and bypassing incidents in the study area are often difficult due to the highway system's configuration from State Highway (SH) 20 (Mesa Street) to US 85 (Paisano Drive); US 85 (Paisano Drive) to Executive Center Boulevard; and Executive Center Boulevard to Schuster Avenue. Further, there are no frontage roads from downtown to Mesa Street.

Drivers travelling westbound on Loop 375 are currently required to exit at Santa Fe Street and turn right travelling at low speed limits with delays at intersection signals, travel north across three active rail lines and through areas of high pedestrian activity to the intersection with Paisano Drive. The driver must then turn left and travel westbound 3.5 miles on Paisano Drive to Executive Center Boulevard and then turn right, which is the next opportunity to connect to I-10 westbound (See **Figure 2-6**).

The MPO's *Mission 2035* traffic data was reviewed and evaluated for 2010 traffic conditions on I-10 and adjacent roadways within the study area following an I-10 incident resulting in freeway closure (**Exhibit 1-2**). **Table 1-3** below indicates the increase in traffic diverted from I-10 to each of the roadways shown within the study area as a result of these types of incidents.

Table 1-3: Diverted Traffic from Incidents on I-10 (2010)

Incident Location	Roadway	Diverted from I-10 (percent)
East of US 54, Between Raynolds and Chelsea	Gateway Boulevard West	39%
	East Yandell Drive	18%
	Trowbridge Drive	1%
	Montana Avenue	13%
	Alameda Avenue	11%
	East Paisano Drive	11%
	Delta Drive	3%
	Fred Wilson Avenue	2%
	Forrest Avenue	2%
	Timberwolf Drive	2%
	César Chávez (Loop 375)	2%
Between Sunland Park and Executive Center Blvd.	Transmountain Road	13%
	West Paisano Drive	36%
	North Mesa Street	48%

Sources: *Mission 2035* MTP, HNTB 2011

Table 1-4 compares the calculated crash rates to the statewide crash rate average for each facility type. Nine segments of I-10 within the study area were analyzed to identify concentrated areas of crashes on I-10.

Table 1-4: Study Area Roadway Crash Rates Compared to the Statewide Average (2007 – 2009)

Road Segment	Location	Crash Rate (Crashes per 100 MVMT)			
		2007	2008	2009	State Avg.
Loop 375	At Santa Fe Street	0*	90	24	288
Executive Center Boulevard	I-10 to US 85 (Paisano Drive)	895**	413**	827**	288
Loop 375	Santa Fe Street to Fonseca Drive	61	88	112	288
US 62	US 85 (Paisano Drive) to US 54	831**	820**	1009**	143
US 85	SH 20 to US 62	92	125	155**	143
West Schuster Avenue	SH 20 to I-10	803**	877**	475**	288
I-10	Mesa Street to Resler Drive	37	40	9	104
I-10	Resler Drive to Sunland Park Drive	139**	120**	246**	104
I-10	Sunland Park Drive to Paisano Drive	96	28	83	104
I-10	US 85 (Paisano Drive) to Executive Center Boulevard	45	32	56	104
I-10	Executive Center Boulevard to Porfirio Diaz Street	56	71	74	104
I-10	Porfirio Diaz Street to Mesa Street	105**	143**	171**	104
I-10	Mesa Street to Cotton Street	77	99	148**	104
I-10	Cotton Street to Piedras Street	93	81	126**	104
I-10	Piedras Street to Copia Street	118**	119**	155**	104

Source: TxDOT 2010
*No crashes recorded by TxDOT in 2007
**Exceeds the statewide average
Crash rate calculated based on 100 Million Vehicle Miles Traveled (MVMT)\

As noted above incidents on I-10 have historically caused freeway closures that can last for several hours and bypassing incidents in the study area is difficult. Therefore, a need to provide a reliable alternate east-west route for incident management has been identified.

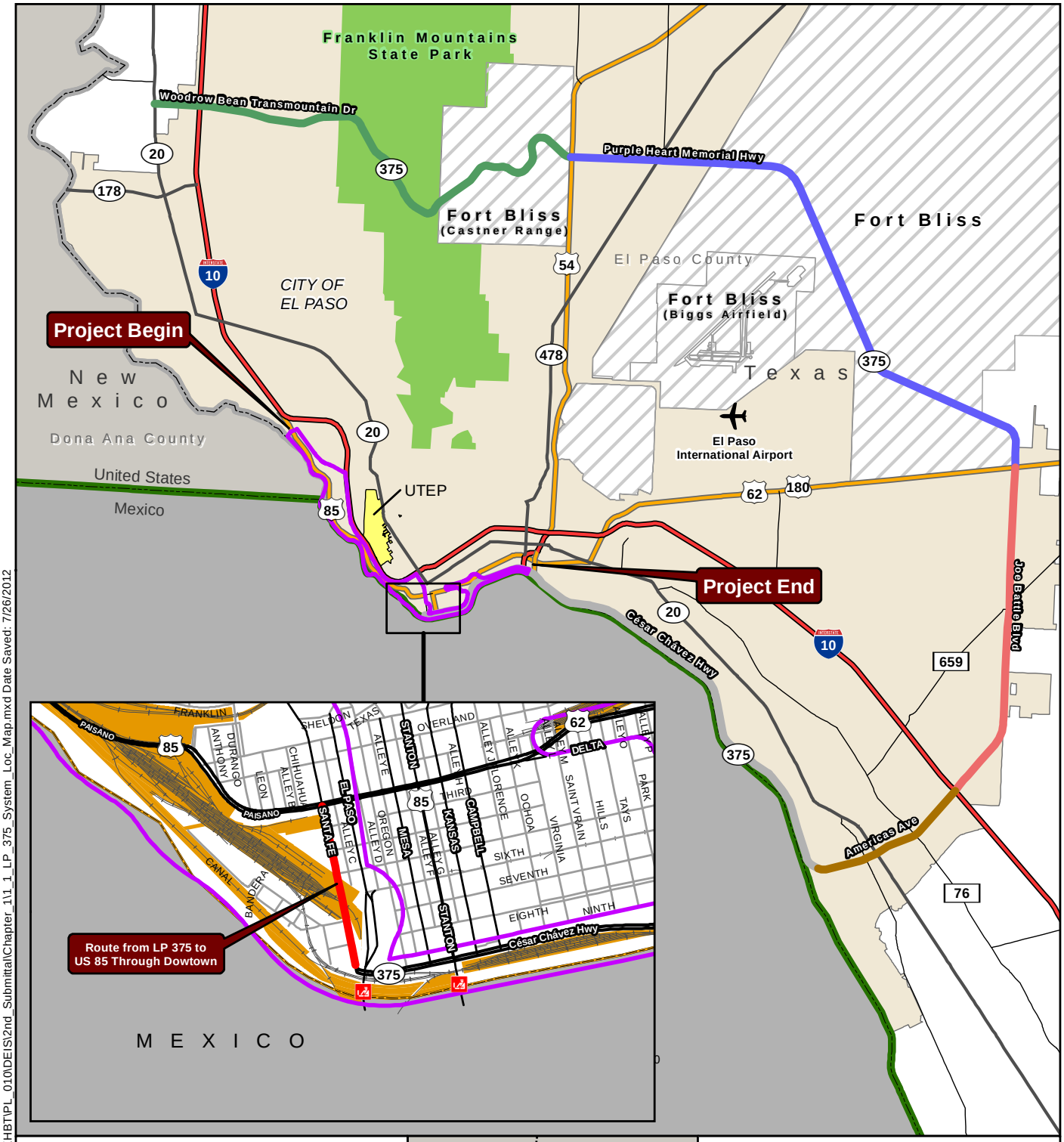
1.1.1.2 Insufficient Regional System Linkage

Other than I-10, there is no continuous free-flow route through the downtown area. The only other major facility that runs parallel to I-10 is US 85 (Paisano Drive); however, this facility has numerous signalized intersections and heavy pedestrian activity and does not provide a high-speed east-west linkage. Because of the reliability issues discussed above and insufficient capacity on the only continuous high speed east-west highway in the El Paso metropolitan Region there is a need to provide for an additional high speed east-west link for the El Paso region.

Chapter 1 Exhibits

Exhibit 1-1: Loop 375 System and Project Location Map

Exhibit 1-2: 2010 Incidents on I-10



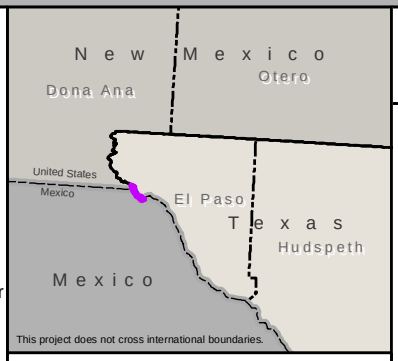
Path: \\Auswo0\jobs\42085 Border Hwy West\Techprod\GIS\MXD\EXHBT\PL_010\DEIS\2nd_Submittal\Chapter_1\1_1_LP_375_System_Loc_Map.mxd Date Saved: 7/26/2012

Port of Entry
International Boundary
Railroad
Study Area
City of El Paso
Railroad Yard
University of Texas El Paso
Texas
New Mexico
Franklin Mountains State Park
Fort Bliss
LP 375 System
Americas Ave
César Chávez Hwy
Joe Battle Blvd
Purple Heart Memorial Hwy
Woodrow BeanTransmountain Dr

N W E S

1:204,000
1 " = 17,000 '

0 8,500 17,000 Feet
0 1 2 Miles



Sources

City of El Paso: City of El Paso, 2010
Fort Bliss: City of El Paso, 2009
Franklin Mountains Park: City of El Paso, 2007
Ports of Entry: City of El Paso, 2005
Railroad Tracks: City of El Paso, 2005
Railroad Yards: TxDOT, 2010
Study Area: HNTB, 2012

Texas Department of Transportation

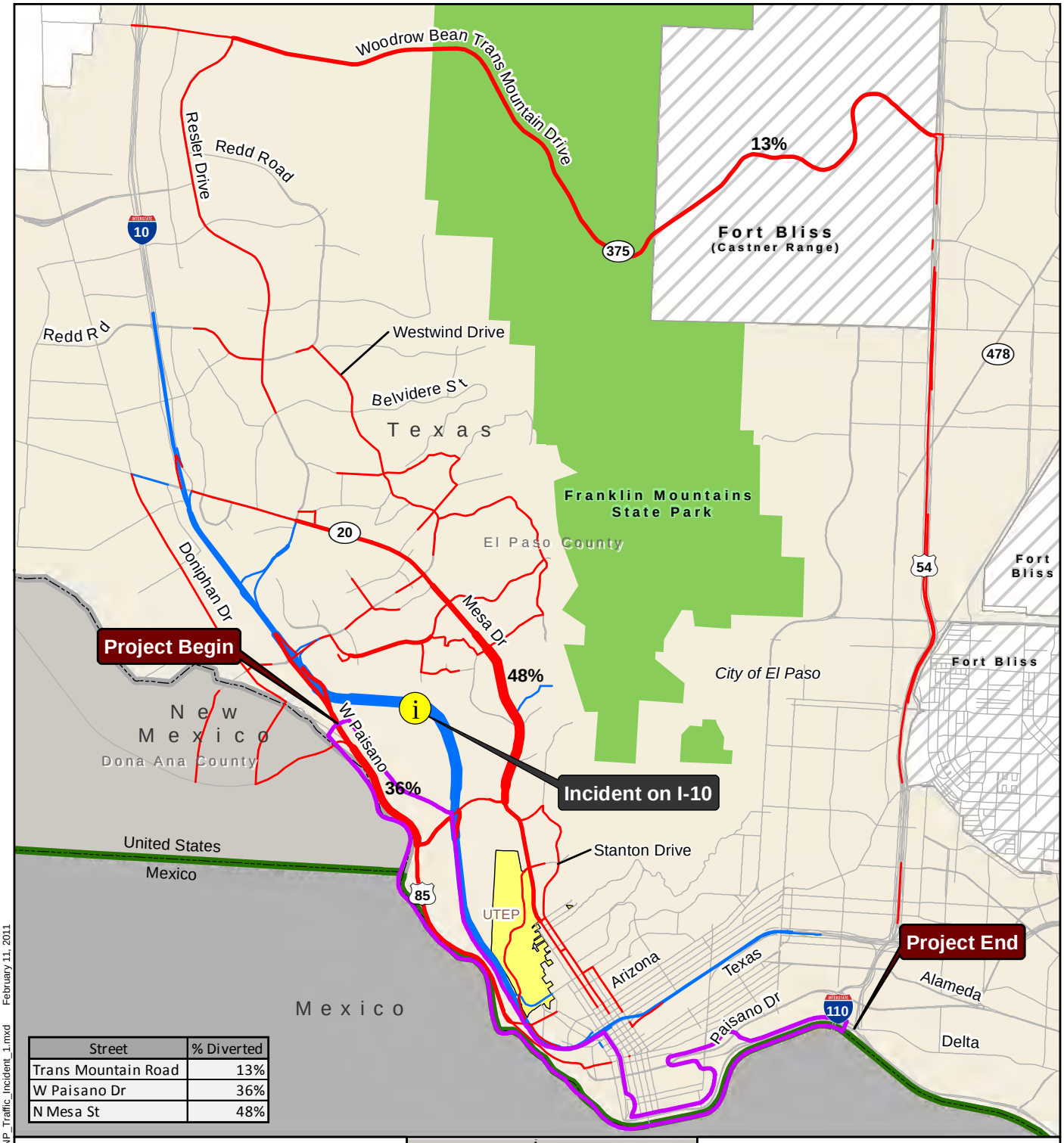
Loop 375 Border Highway West Extension Project

From Racetrack Drive to US 54

Exhibit 1-1
LP 375 System and Location Map

El Paso County, Texas
CSJ: 2552-04-027

DISCLAIMER: This map was generated by HNTB Corporation using GIS (Geographic Information Systems) software. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate.



Street	% Diverted
Trans Mountain Road	13%
W Paisano Dr	36%
N Mesa St	48%

Traffic Shift During Incident

- Increase in traffic count
- Decrease in traffic count
- Location of Incident

Magnitude of Shift

50000 25000 12500

- Study Area
- Franklin Mountains State Park
- City Limit
- Texas
- New Mexico
- Mexico
- University of Texas El Paso
- International Boundary

1:95,040

1 " = 7,920 '

0 2,640 5,280 Feet

0 1 2 Miles

Sources

City of El Paso Boundary: City of El Paso, 2010
Fort Bliss: City of El Paso, 2007
Franklin Mountains Park: City of El Paso, 2007
Study Area: HNTB, 2010
Traffic Data: El Paso MPO, 2010

Texas Department of Transportation

Loop 375 Border Highway West Extension Project

From Racetrack Drive to US 54

Exhibit 1-2, page 1
2010 Incident on I-10

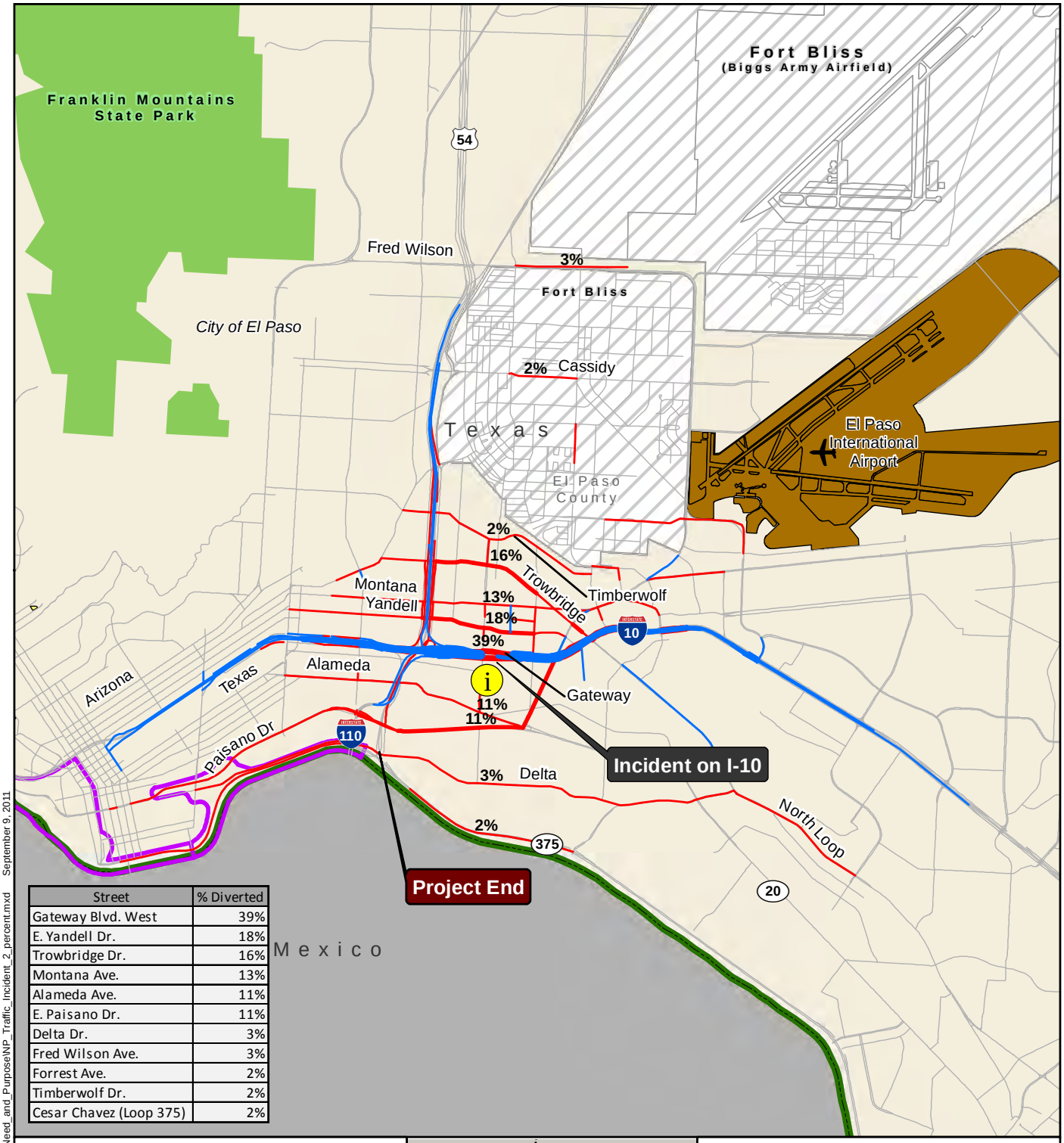
Between Sunland Park and Executive Center

Incident closing 1-10 both directions

El Paso County, Texas
CSJ: 2552-04-027

\\Ausw00\jobs\42085 Border Hwy West\Techprod\GIS\MXD\EXHBT\PL_010\DEIS\NP_Traffic_Incident_1.mxd February 11, 2011

DISCLAIMER: This map was generated by HNTB Corporation using GIS (Geographic Information Systems) software. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate.



Street	% Diverted
Gateway Blvd. West	39%
E. Yandell Dr.	18%
Trowbridge Dr.	16%
Montana Ave.	13%
Alameda Ave.	11%
E. Paisano Dr.	11%
Delta Dr.	3%
Fred Wilson Ave.	3%
Forrest Ave.	2%
Timberwolf Dr.	2%
Cesar Chavez (Loop 375)	2%

Traffic Shift During Incident

- Increase in traffic count
- Decrease in traffic count
- Location of Incident

Magnitude of Shift

50000 25000 12500

- Study Area
- El Paso International Airport
- Franklin Mountains State Park
- Fort Bliss
- City Limit
- Texas
- New Mexico
- Mexico
- University of Texas El Paso
- International Boundary

N W E S

1:79,200

1 " = 6,600 '

0 2,500 5,000 Feet

0 0.75 1.5 Miles

Sources

City of El Paso Boundary: City of El Paso, 2010
Fort Bliss: City of El Paso, 2007
Franklin Mountains Park: City of El Paso, 2007
Study Area: HNTB, 2010
Traffic Data: El Paso MPO, 2010

Texas Department of Transportation

Loop 375 Border Highway West Extension Project

From Racetrack Drive to US 54

Exhibit 1-2, page 2
2010 Incident on I-10

East of US 54 between Raynolds and Chelsea

Incident closing 1-10 both directions

El Paso County, Texas
CSJ: 2552-04-027

\\Ausw00\jobs\42085 Border Hwy West\Techprod\GIS\MXD\EXHIBIT\PL_010\DEIS\Need_and_Purpose\NP_Traffic_Incident_2_percent.mxd September 9, 2011

DISCLAIMER: This map was generated by HNTB Corporation using GIS (Geographic Information Systems) software. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate.