6. FREIGHT

INTRODUCTION

Transportation systems not only move people throughout a region, but they also support the movement of goods in the form of freight, which is a vital component of the region's economy and quality of life. For a freight system to perform well, delays along the transportation system that freight relies on should be minimized and traffic should be predictable. The impacts of a system that allows freight vehicles to move efficiently throughout the region include improved mobility, as freight trucks are a major source of traffic, and improved economic vitality. Destino 2045 considers not only the freight roadway network but airports, railroads, and intermodal facilities as well, as all play a major role in freight movement in and out of the region.

The Destino 2045 roadway freight analysis focuses on identifying the amount of delay along a locally-defined freight network. The El Paso MPO regional freight network is based on a combination of other freight networks established by FHWA and TxDOT, as well as roadways in the region which experience large amounts of current or forecasted freight traffic. The networks that serve as the basis of the Destino 2045 freight roadway network include the primary highway freight system (PHFS) from FHWA's national highway freight network (NHFN) and TxDOT's Highway Freight Network. Using the El Paso TDM network, which includes an estimate of freight vehicle usage along every link in the region, additional road segments were added to the Destino 2045 freight network if the 2045 forecasted truck traffic was greater than 4,000 daily trucks and/or truck traffic was more than 50% of total daily traffic. Roads providing connectivity to ports of entry (POE) and other major corridors were also included. The findings associated with analysis of the freight network serve to indicate how the freight system is currently performing and is expected to perform in the future in terms of congestion and annual delay. The analysis also serves to locate freight network deficiencies throughout the region.

Figure 6.1 displays the Destino 2045 freight network symbolized by the amount of daily forecasted freight traffic for the 2045 forecast year. Major highway facilities such as IH 10, US 54, and Loop 375 are forecasted to experience the most substantial freight traffic in 2045. Global Reach Drive and Sergeant Major Boulevard, providing connectivity to Fort Bliss, also are forecasted to produce high levels of freight traffic compared to other roadways in the region. There is a significant drop off in freight volume outside of the major highway facilities; however, emphasis corridors such as Zaragoza Road, Mesa Street, Horizon Boulevard, Alameda Avenue, and Dyer Street experience notable levels of freight traffic.

Figure 6.2 shows freight generators in the region based on employment data for industries that typically produce freight traffic, such as natural resources extraction, utilities, construction, manufacturing, wholesale trade, and transportation/warehousing, in relation to freight facilities. The majority of the 267 miles of railroad in the region is owned by BNSF and Union Pacific, with only a small portion in Fort Bliss owned by United States Gypsum. The region also includes three public airports that serve freight traffid in addition to Biggs Army Airfield in Fort Bliss. El Paso International Airport (EPIA) is the largest of the airports handling over 510 million pounds of air cargo in 2016. In comparison to the 13 other major airports in Texas and New Mexico for which cargo data is collected, EPIA handles the sixth highest amount of cargo.

FIGURE 6.1: EL PASO MPO REGION FREIGHT NETWORK TRUCK FLOWS; 2045

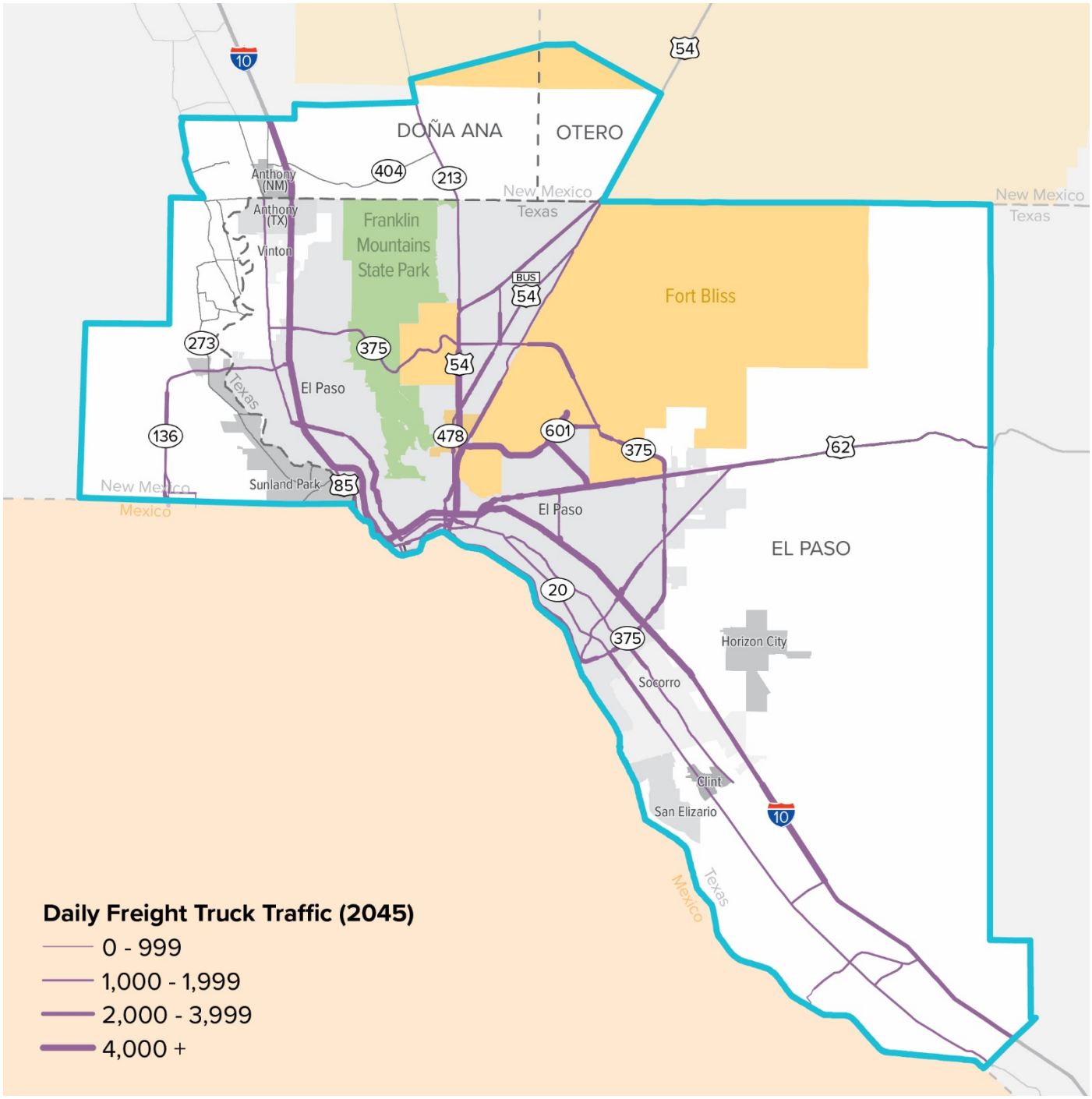
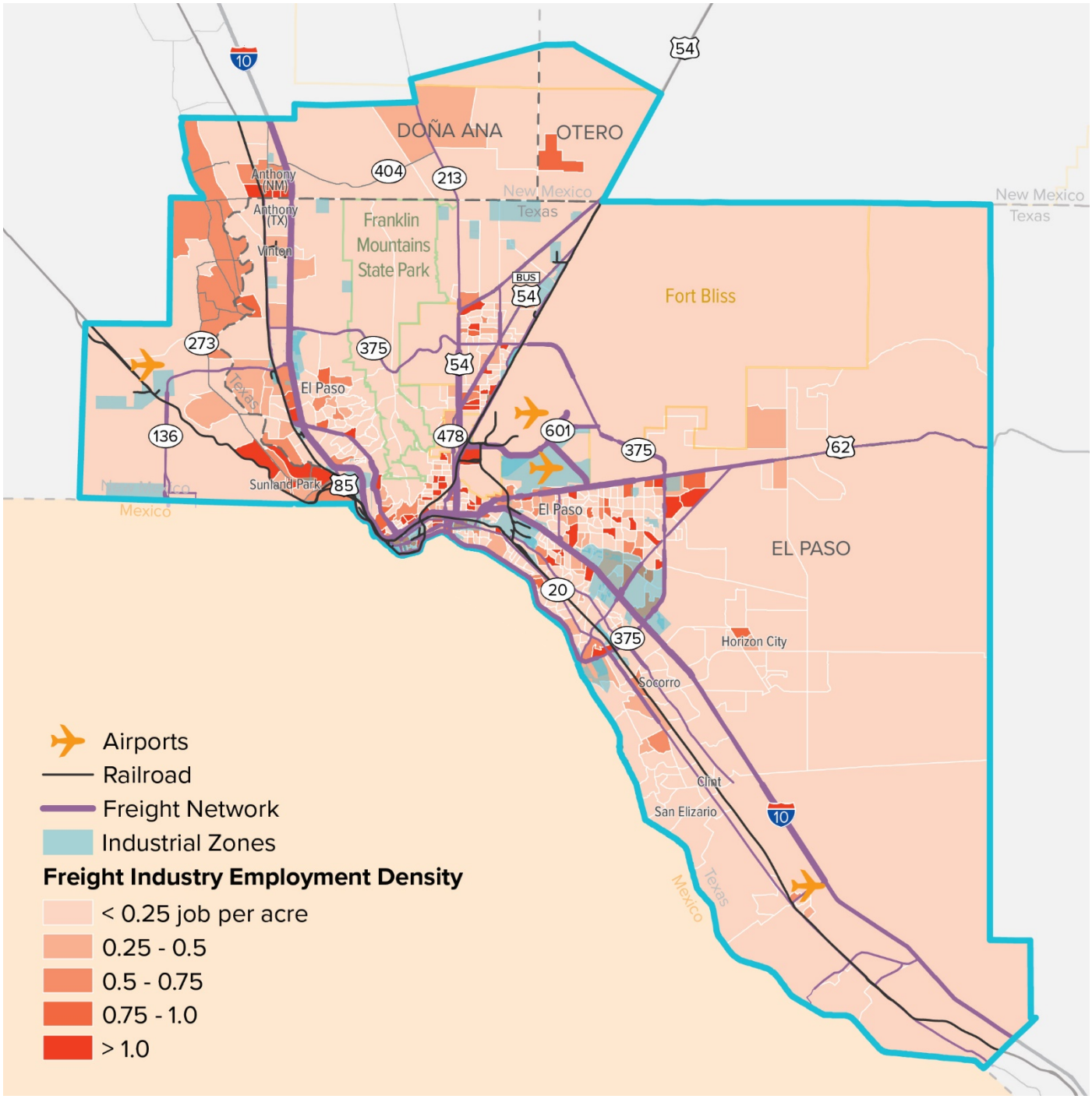


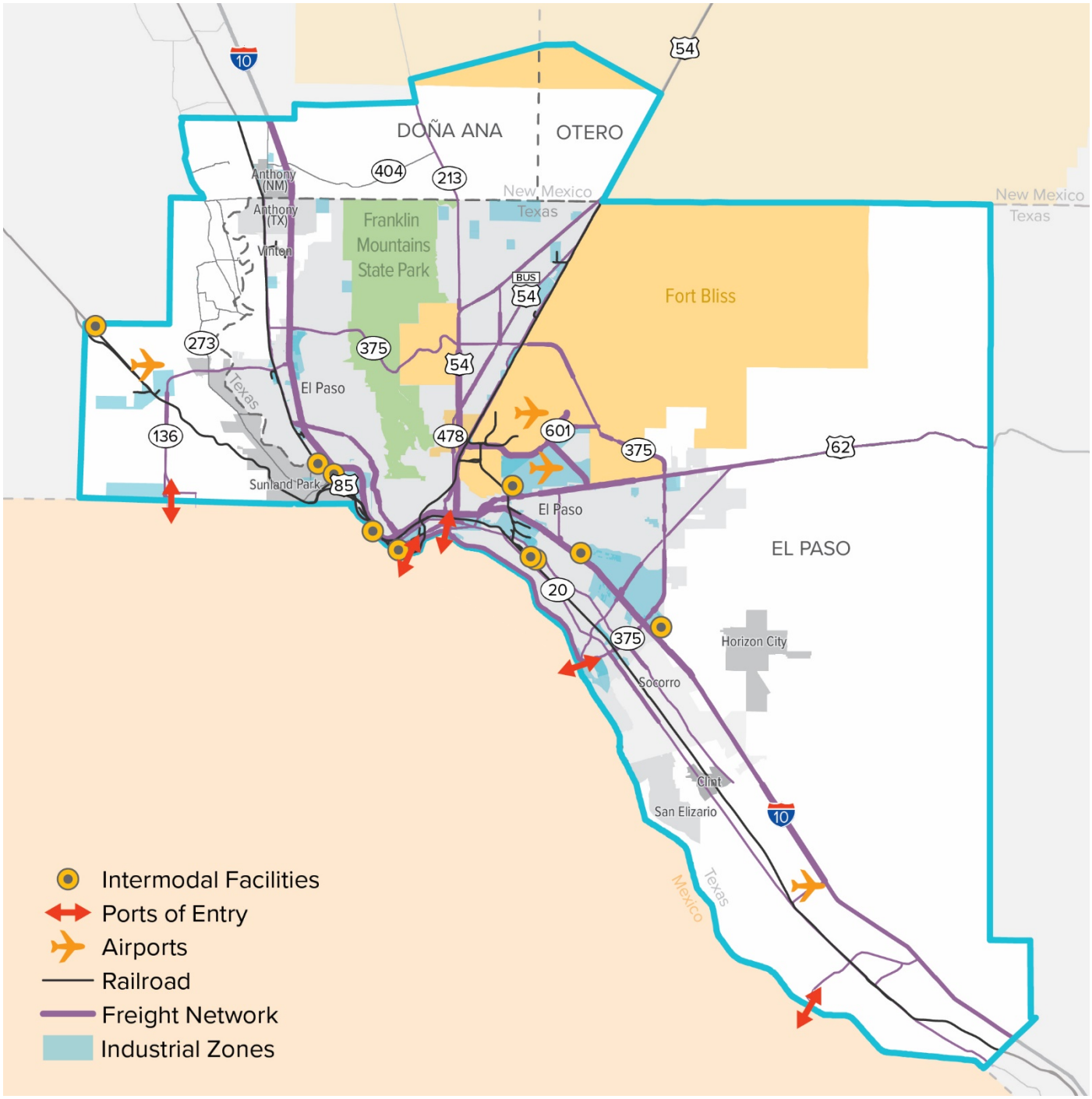
FIGURE 6.2: REGIONAL FREIGHT GENERATORS



INTERMODAL FACILITIES

Intermodal freight facilities are defined as facilities where freight is transferred from one mode of transportation to another without handling the freight itself. A typical example of an intermodal facility would be a railyard where shipping containers are unloaded from trains onto freight trucks. Figure 6.3 displays intermodal facilities in relation to major freight generators, industrial and manufacturing zones, and freight transportation facilities in the El Paso MPO region. Intermodal terminal facilities are primarily concentrated along IH 10, SH 20, and Loop 375. Intermodal facilities are also well connected with ports of entry (POE) along the Mexico border. All intermodal facilities are rail and truck transfer facilities except for El Paso International Airport which has air and truck transfers. Therefore, transfer facilities are substantially concentrated along the rail lines throughout the region.

FIGURE 6.3: INTERMODAL FACILITIES AND PORTS OF ENTRY



FREIGHT ROADWAY NETWORK CONGESTION ANALYSIS

The Destino 2045 freight network congestion analysis uses peak period congestion measures produced from the 2045 El Paso Travel Demand Model (TDM) to identify congestion hotspots and determine the amount of delay forecasted to occur along the freight roadway network. The congestion index for both the 2012 and 2045 freight networks (Figures 6.4 and 6.5) shows how peak period congestion along the freight roadway network is anticipated to change over time if no improvements are made to the system. Compared to areas with high industrial/manufacturing employment growth for the region, the figures show that increases in congestion generally correlate with large increases in employment.

When comparing the freight network congestion index from 2012 to 2045, congestion is anticipated to become significantly worse throughout the entire freight roadway network by 2045, assuming no improvements are made to the roadway system beyond existing and committed projects. In fact, delay along the freight network is forecasted to increase by 16.4 million vehicle hours between 2012 and 2045. In the forecast year, virtually the entire length of IH 10—the primary freight corridor in the region—from Socorro to Vinton is expected to experience heavy congestion during peak periods. Table 6.1 below shows truck traffic and congestion statistics compared to the entire freight network, revealing that this portion of IH 10 is more congested than the rest of the freight network on average during the peak period. The table also shows that roughly 34% of the delay on the freight network occurs on IH 10.

TABLE 6.1: IH 10 FREIGHT TRAFFIC AND CONGESTION STATISTICS; 2045

ROAD	SEGMENT	% TRUCK VMT	AVG. MAX V/C RATIO	ANNUAL DELAY (VEHICLE HOURS)
Freight Network	-	11%	0.81	21,234,460
IH 10	Eastlake Blvd. - Vinton Rd.	12%	0.95	7,189,780

Other highly congested roadway segments along the freight network are shown in Table 6.2. These segments were identified by taking the top 10% most congested portions of the freight network and aggregating adjacent congested segments. Single segments that were not connected to other congested segments and segments with less than 10,000 truck VMT were not included in this selection. This list of segments is meant to show where there is significant congestion on the freight network on facilities that experience relatively high amounts of freight traffic.

TABLE 6.2: TOP CONGESTED FREIGHT NETWORK SEGMENTS; 2045

ROAD	SEGMENT	% TRUCK VMT	AVG. MAX V/C RATIO	ANNUAL DELAY (VEHICLE HOURS)
Sergeant Major Blvd.	Global Reach Dr. - Anzio Way	26%	2.42	572,520
Loop 375	Spur 601 - Montana Ave.	9%	1.72	1,512,160
Global Reach Dr.	Spur 601 - Montana Ave.	17%	1.55	675,220
Montana Ave.	Hawkins Blvd. - Lee Trevino Dr.	9%	1.55	792,220
Loop 375	Railroad Dr. - Sergeant Major Blvd.	11%	1.47	567,580

FIGURE 6.4: FREIGHT NETWORK CONGESTION INDEX; 2012

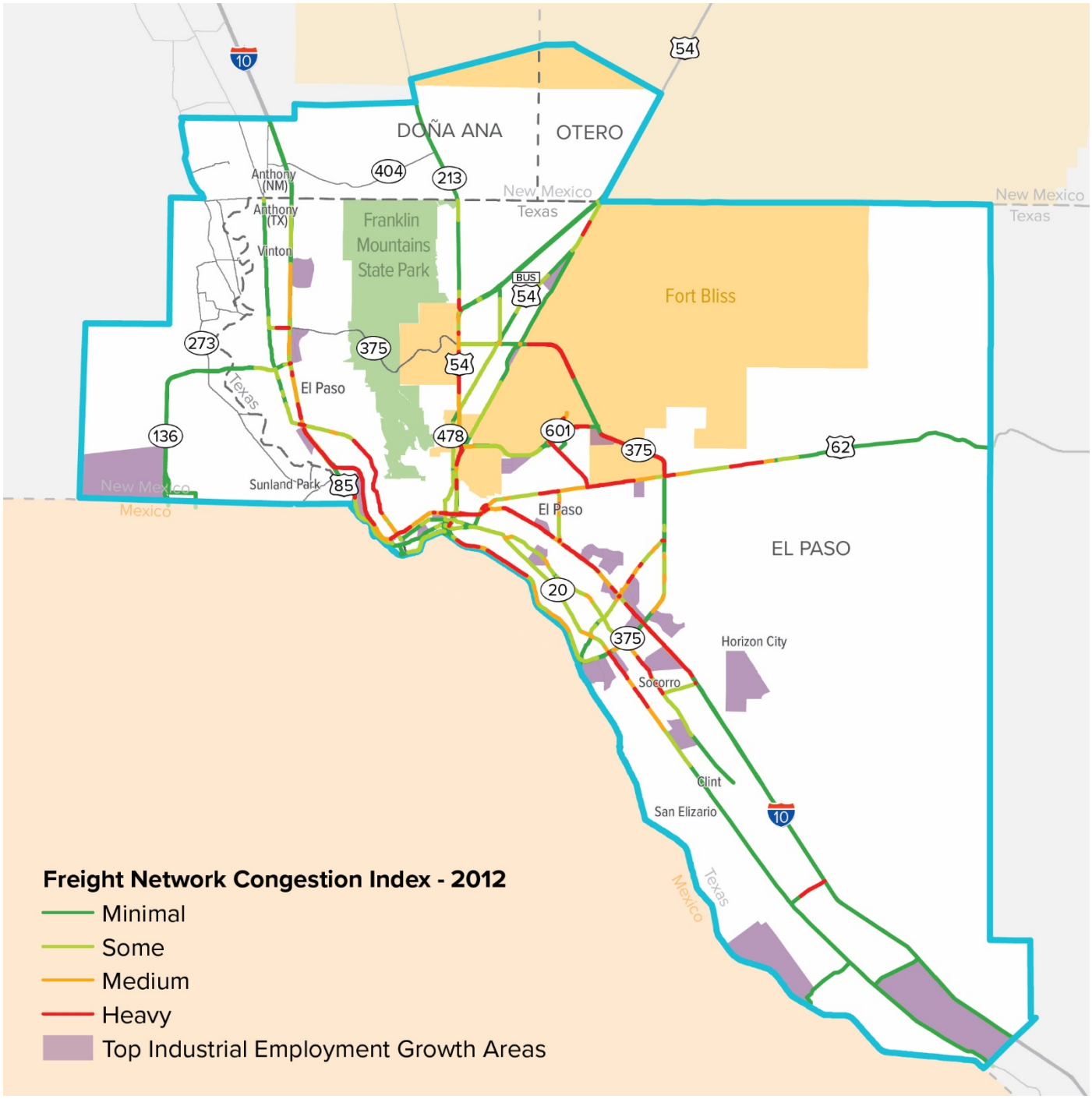
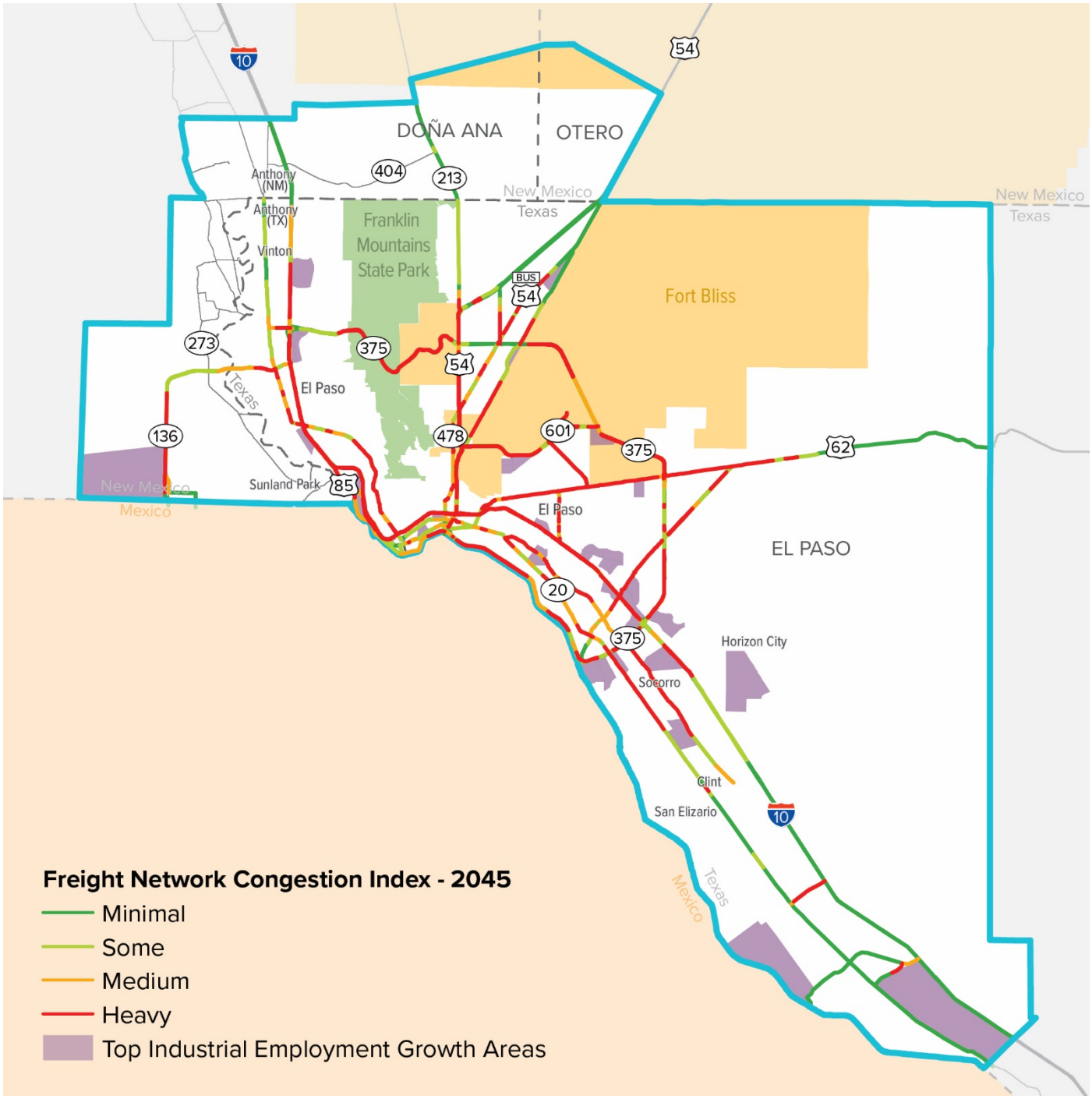


FIGURE 6.5: FREIGHT NETWORK CONGESTION INDEX; 2045



Comparing changes in vehicles hours of delay between time periods shows which facilities along the freight network are expected to experience higher increases in congestion relative to other facilities. Figure 6.6 shows the change in annual delay between 2012 and 2045 for major regional highways, while Figure 6.7 shows the same for other facilities included in the freight roadway network. These figures reveal that Doniphan Drive, Global Reach Drive., Pete Domenici Memorial Highway, and Sergeant Major Boulevard are anticipated to experience the highest percentage increases in delay by 2045. Among the major highways, Loop 375 is shown to experience the biggest increase in delay; however, IH 10 is still estimated to experience roughly 3 million more vehicle hours of delay in 2045, comparatively.

FIGURE 6.6: MAJOR HIGHWAY ANNUAL VEHICLE HOURS OF DELAY; 2012 TO 2045

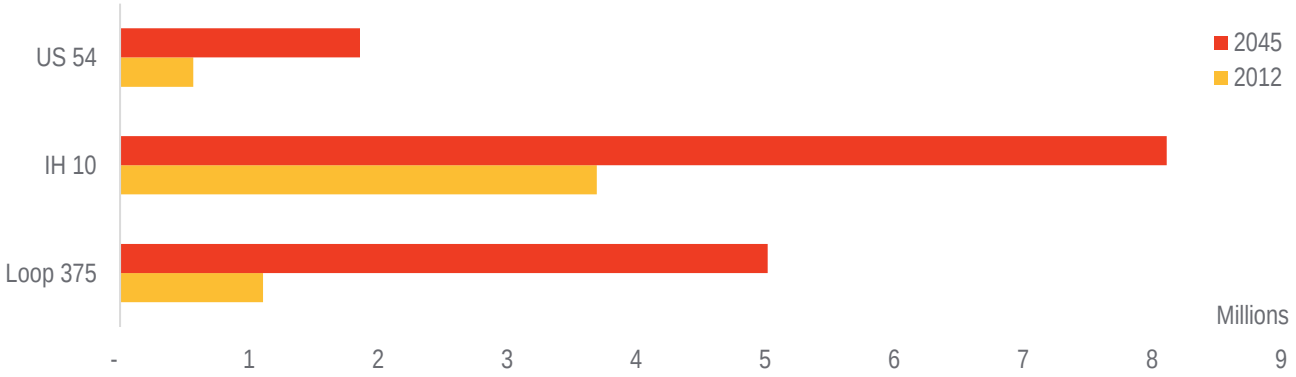
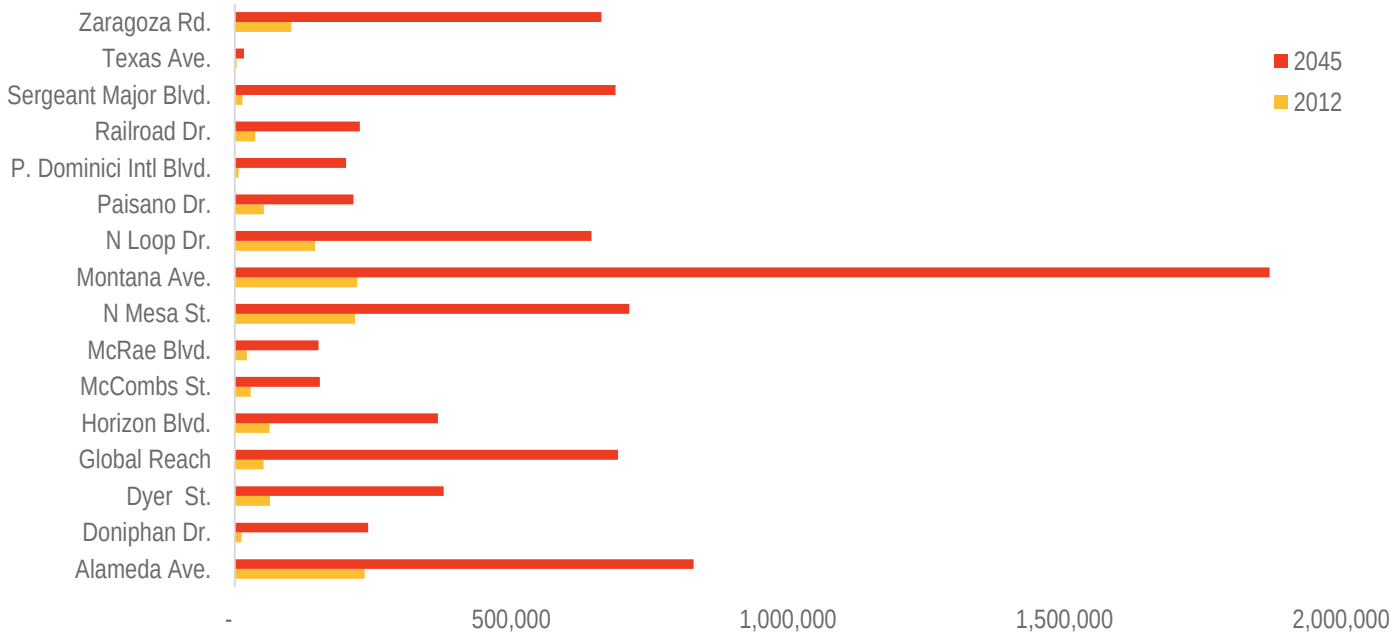


FIGURE 6.7: FREIGHT ROADWAY NETWORK ANNUAL VEHICLE HOURS OF DELAY; 2012 TO 2045



CONCLUSIONS

The El Paso MPO Region is one of the most active land port regions in the United States and serves as a critical transfer point for goods crossing the United States-Mexico border. Accordingly, addressing current and future freight transportation issues is crucial to the region's economic success. Specific issues revealed in this freight analysis include congestion and delays along IH 10, Loop 375, Global Reach Dr., Montana Ave., and Sergeant Major Blvd. Forecasts reveal that congestion is expected to become a major issue along freight corridors near EPIA and the southwestern portion of Fort Bliss, which are major freight terminals that also include intermodal transfer facilities. Some of this congestion is likely due to significant population and employment growth in the area. For the freight system to improve and continue to support regional economic vitality, it is crucial that projects selected as a part of Destino 2045 address these identified freight issues, as well as others highlighted in this analysis.