AUSTIN OFFICE
11500 Metric Blvd.
Bldg. M-1, Ste. 150
Austin, TX 78758
Phone: 512.821.2081
Fax: 512.821.2085
TBPE Firm Registration No. 812

MEMORANDUM

DATE: June 26, 2020
TO: Andrew Cannon
CC: Luis Diaz
FROM: JD Allen
RE: RGVMPO 2045 MTP – Freight Needs Assessment

Introduction

This memo documents the methods and findings of the Rio Grande Valley Metropolitan Planning Organization (RGVMPO) freight needs assessment. Findings will provide input into the final RGVMPO 2045 MTP update. An inventory of the RGV Metropolitan Area Boundary's (MAB) multimodal freight system and an assessment of existing freight transportation system conditions and performance serve as the major framework for the needs assessment. The most up-to-date public data and information provided in statewide and regional planning documents informed the analysis. This assessment incorporates several components from TxDOT's Texas Freight Mobility Plan, and reports freight performance measures, where data is available, that correspond with the goals and performance measures identified in the RGVMPO 2045 MTP update to ensure federal compliance. Analysis findings identify deficiencies of the RGVMPO multimodal freight system and inform the process of developing investment strategies and freight projects that address identified deficiencies and support economic growth.

The RGVMPO study area is a multimodal freight and international trade hub due to its location on the United States – Mexico border and the Gulf of Mexico. This creates a unique need for freight connectivity in the region. The RGVMPO multimodal freight network serves critical connections throughout the RGVMAB, state of Texas, United States, and beyond through an intricate network of freight facilities. This includes major interstate and highway infrastructure, railroads, sea and inland ports, and airports, all interconnected to efficiently move goods throughout the region and beyond. The following sections further detail the RGVMAB's freight system to provide an inventory of assets for condition and performance analyses.

Freight Roadway Network

The Freight Roadway Network was defined based on a combination of sources that identify major roadways in the region that support freight truck traffic, including the Interstate Highway System, the National Highway System (NHS), the Texas Statewide Freight Network, and the Texas Trunk System, which defines rural/off-system roadways capable of handling freight. The identified Freight Roadway Network includes major facilities that accommodate long-haul freight, such as I-2, I-69C/US 281, I-

69E/US-77, Military Highway/US-281, SH 107, US-83, SH 100, SH 48, Padre Boulevard, as well as other roadways that provide first-mile/last-mile access and egress for drayage and local delivery.

Table 1 shows the roadways within the RGVMAB that have the significant volumes representing a combination of long-haul freight, drayage, and commercial vehicles.

Table 1: 2019 RGVMPO Major Freight Corridors

Roadway	From	To	Avg. Truck Volume*	Significance
I-2	FM 494	I-69E	1,246	Major regional east-west connector
I-69C	FM 107	I-2	1,195	Connection to I-2 / Pharr Reynosa International Bridge
I-69E	I-2	SH 48	943	Connection between Brownsville and Harlingen / I-2 / Veterans International Bridge Los Tomates; gateway to US 77 / coastal trade hubs
SH 48 / SH 100	I-69E	Padre Blvd	685	Direct connectivity to Port of Brownsville and South Padre Island
US-281	FM 107	North RGVMAB Boundary	572	Major regional north-south connector; gateway to other major freight hubs regionally / nationally

**Based on system distribution of truck volume – peak hour flow mean of 406*

Figure 1 through **Figure 4** present the Freight Roadway Network**.** **Figure 1** shows the designated freight network at the regional extent for the RGVMPO 2045 MTP. **Figure 2** through **Figure 4** display the same information at more detailed extents.

Figure 1: RGVMPO Freight Network Roadway Assets and Truck Flow – 2019 Existing Conditions

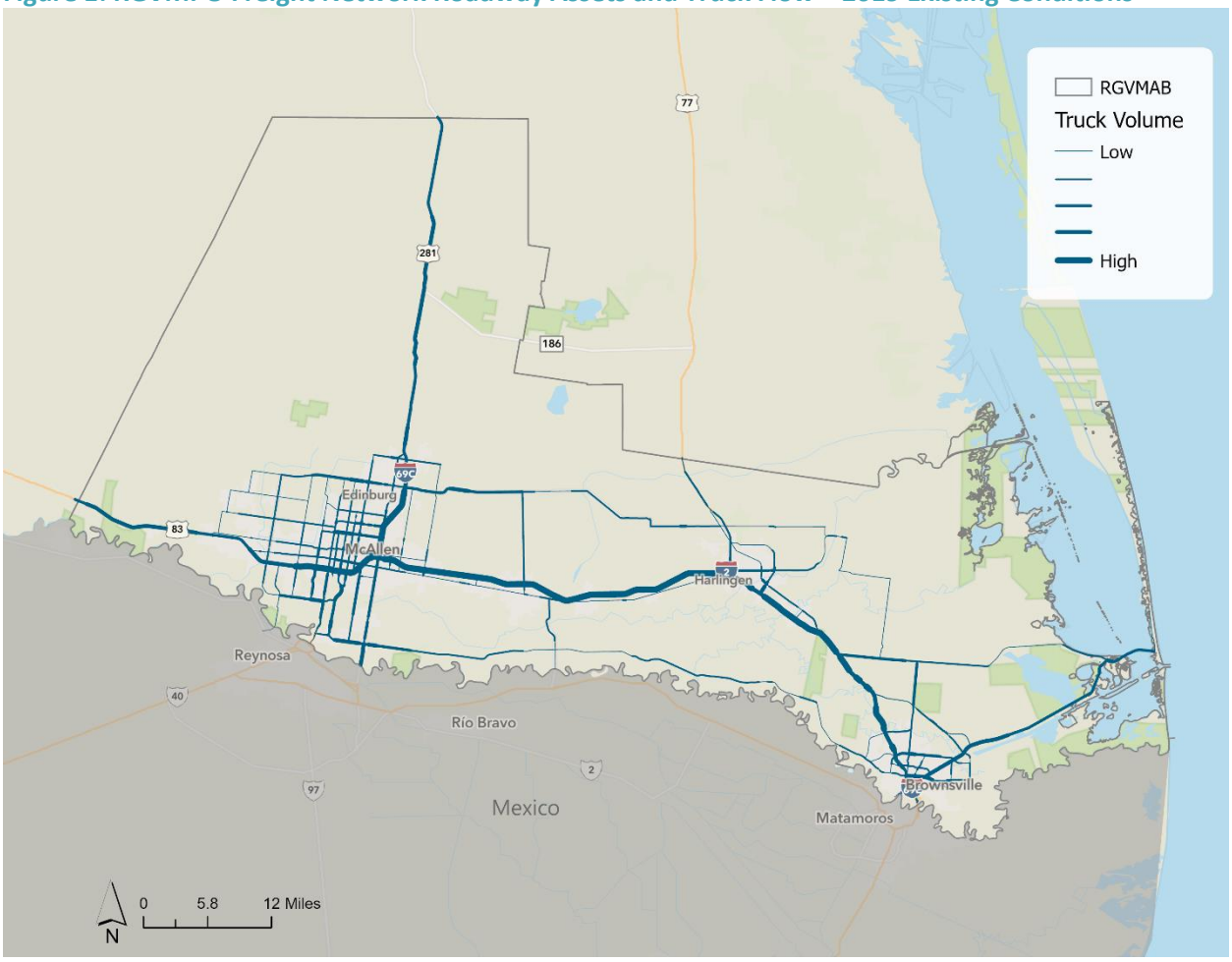


Figure 2: 2019 RGVMPO Freight Network Roadway Assets and Truck Flow – McAllen/Edinburg Area

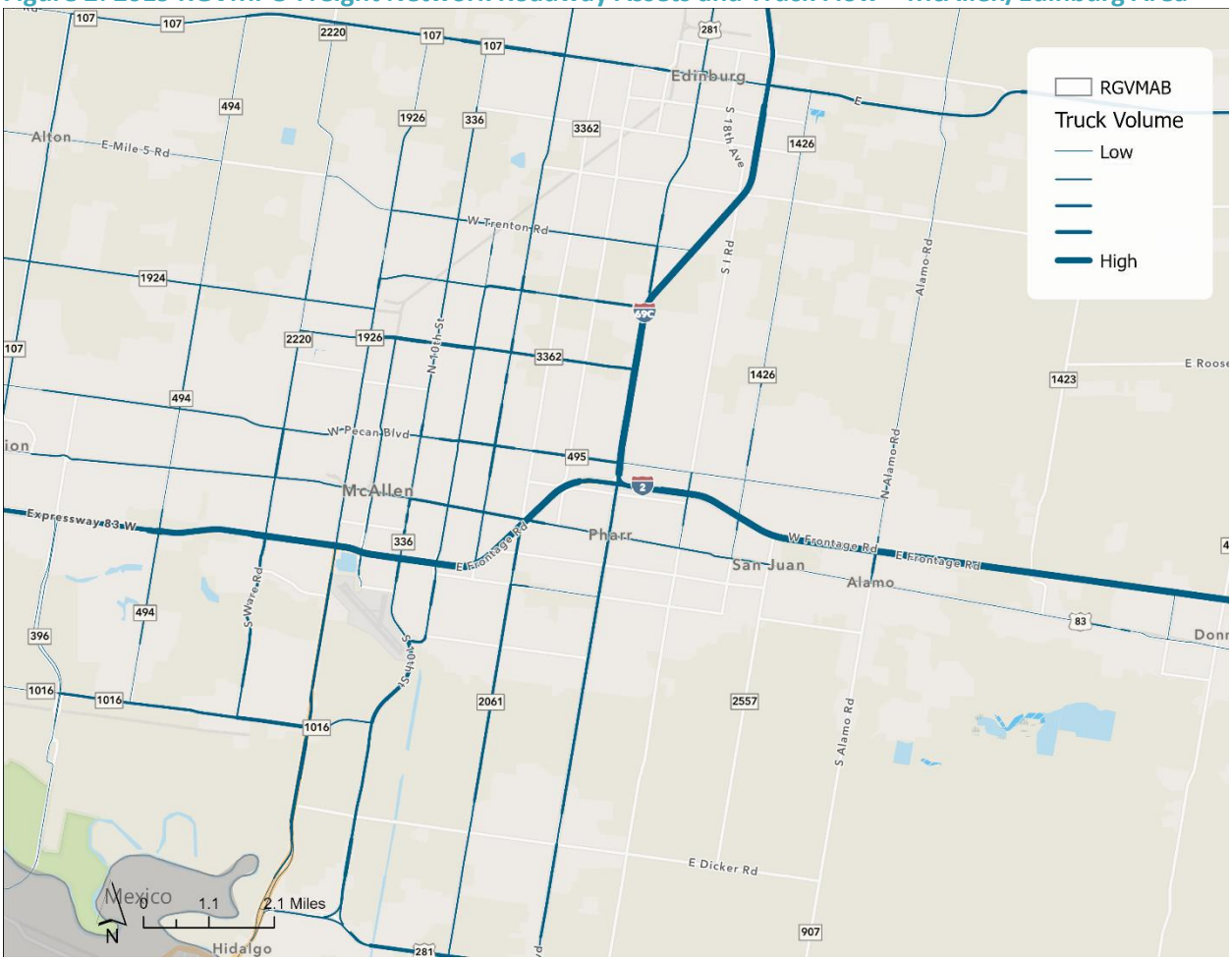


Figure 3: 2019 RGVMPO Freight Network Roadway Assets and Truck Flow – Harlingen/San Benito Area

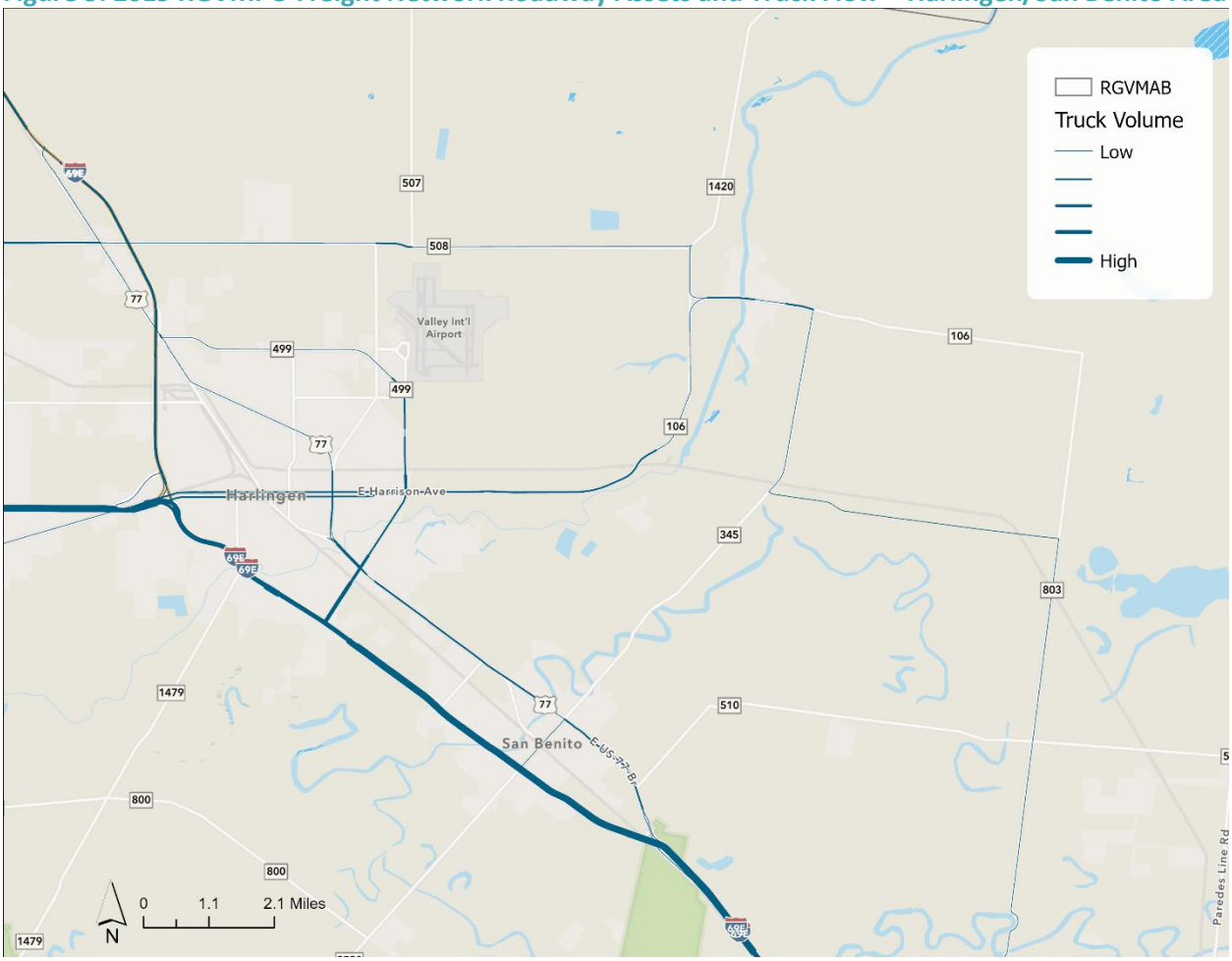
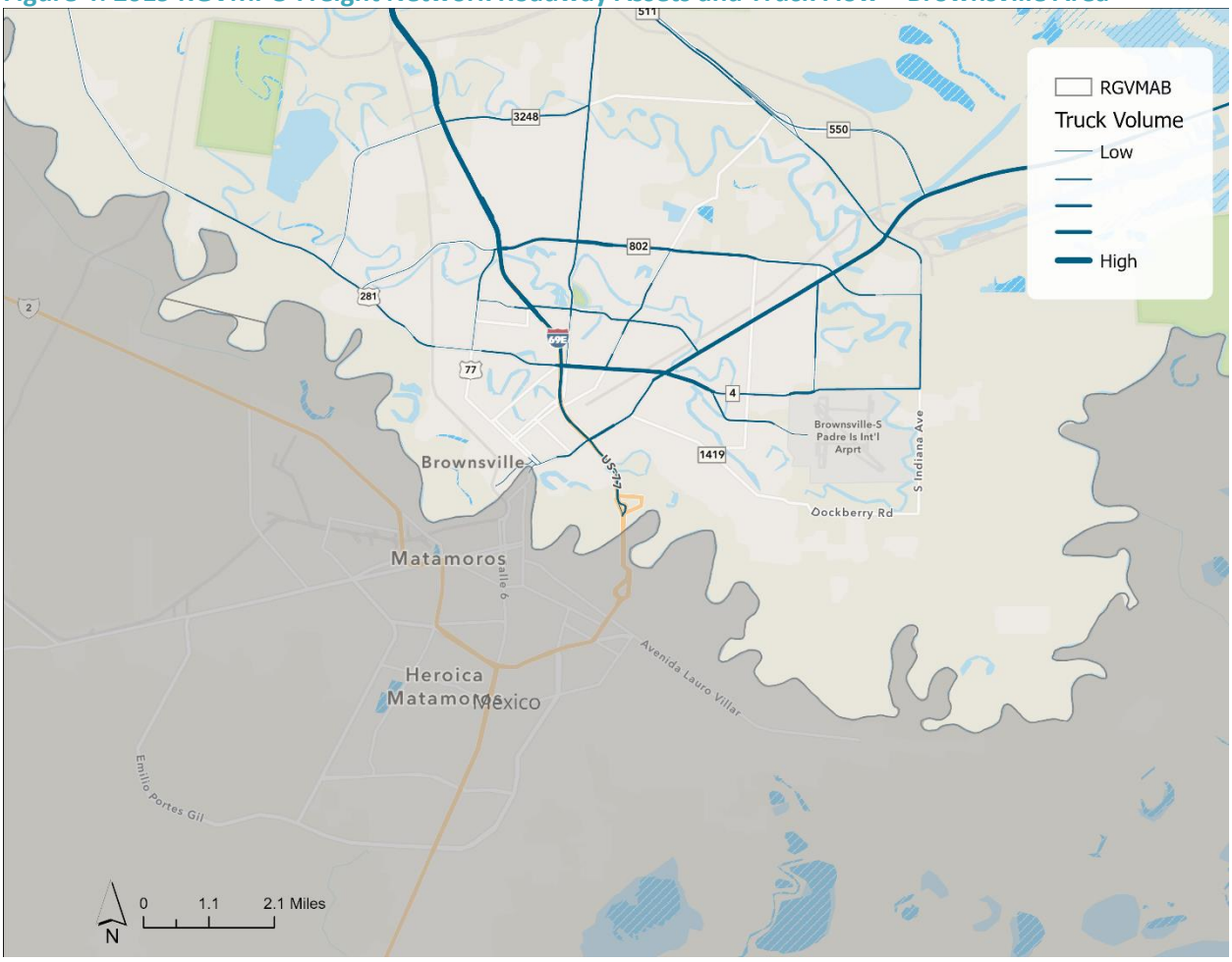


Figure 4: 2019 RGVMPO Freight Network Roadway Assets and Truck Flow – Brownsville Area



Conditions and Performance

Trucks carry more freight tonnage than any other single mode (rail, water, and air) operating in the Texas multimodal freight transport system. The roadway network is critical to the movement of freight within, into, and out of the RGVMAB. It is critical that the RGVMPO's roadways provide safe, efficient, reliable routes for the movement of goods. If supply chains that rely on consistent deliveries are interrupted due to congestion, industries and local businesses may incur additional costs. Regionally, unreliable roadway segments, congestion, and/or delay on the freight network can make an area unattractive to business development that needs reliable roadways that support safe, efficient freight mobility. Further, poor system performance on the primary freight routes can cause freight spillover to facilities that are not meant for such tonnage, causing strain on roadways and creating potential safety issues for surrounding communities. The following sections analyze the conditions and performance of the freight roadway network assets previously discussed, and review future no-build conditions to create a picture of where future strain may occur on the RGVMPO freight network.

Truck Travel Time Reliability Index

Truck travel time reliability index (TTTRI) is an indicator of unexpected delay or the predictability of congestion. TTTRI is an important measure to consider for freight analysis as many businesses rely on predictable, just-in-time freight deliveries as part of their operations. If businesses can anticipate certain

levels of congestion, they are able to plan their deliveries and operations around that congestion and avoid missed deliveries and unnecessary delays.

TTTRI is a metric that indicates freight reliability and FHWA provides data resources for reporting TTTRI values specifically for interstate segments. Using FHWA's 2019 National Performance Management Data Set (NPMRDS) truck travel time data, the metric was calculated as a ratio of the 50th percentile of truck travel time to the 95th percentile truck travel time for a given segment.[1] A value above 1.5 indicates a segment that is unreliable for truck travel, and the higher the value, the more unreliable the segment.

Table 2 displays interstate segments found to have index values greater than 1.5, based on the 2019 TTTRI data. For contiguous roadway segments containing values above 1.5, segment TTTRI was averaged to create an index value representative of the corridor.

Table 2: RGVMPO 2019 Interstate Segments; TTTRI Greater than 1.5

Roadway	Direction	From	To	Avg. TTTRI
I-2	EB	US Business 83	Goodwin Rd	1.81
	EB	Shary Rd.	S. 10th St.	3.31
	EB	E. Jackson Rd.	N. Gumwood St.	2.82
	WB	Cesar Chavez Rd.	N. Gumwood St.	3.13
	WB	E. Jackson Rd.	S. 23rd St.	3.62
	WB	Goodwin Rd.	US Business 83	3.19
I-69C	NB	I-2 Junction	E. Sioux Rd.	3.19
	NB	E. Canton Rd.	E. Iowa Rd.	1.84
	SB	Minnesota Rd.	I-2 Junction	3.45
I-169	EB	I-69E Junction	Paredes Line Rd.	2.08
	WB	Paredes Line Rd.	I-69E Junction	2.62
I-69E	NB	Arroyo Blvd.	I-169 Junction	1.67
	NB	Veterans International Bridge at Los Tomates	Paredes Ave.	2.25
	SB	E. 12th St.	Veterans International Bridge at Los Tomates	2.33

Figure 5 presents all interstate segments in the RGVMAB with an index score that indicates that travel times on the segment are unreliable. **Figure 6** and **Figure 7** further detail the areas containing these segments.

[1] Methodology for calculating TTTR was taken from FHWA guidance calculating national performance measures (https://www.fhwa.dot.gov/tpm/guidance/hif18040.pdf)

Figure 5: RGVMPO 2019 Interstate Segments; TTTRI Greater than 1.5

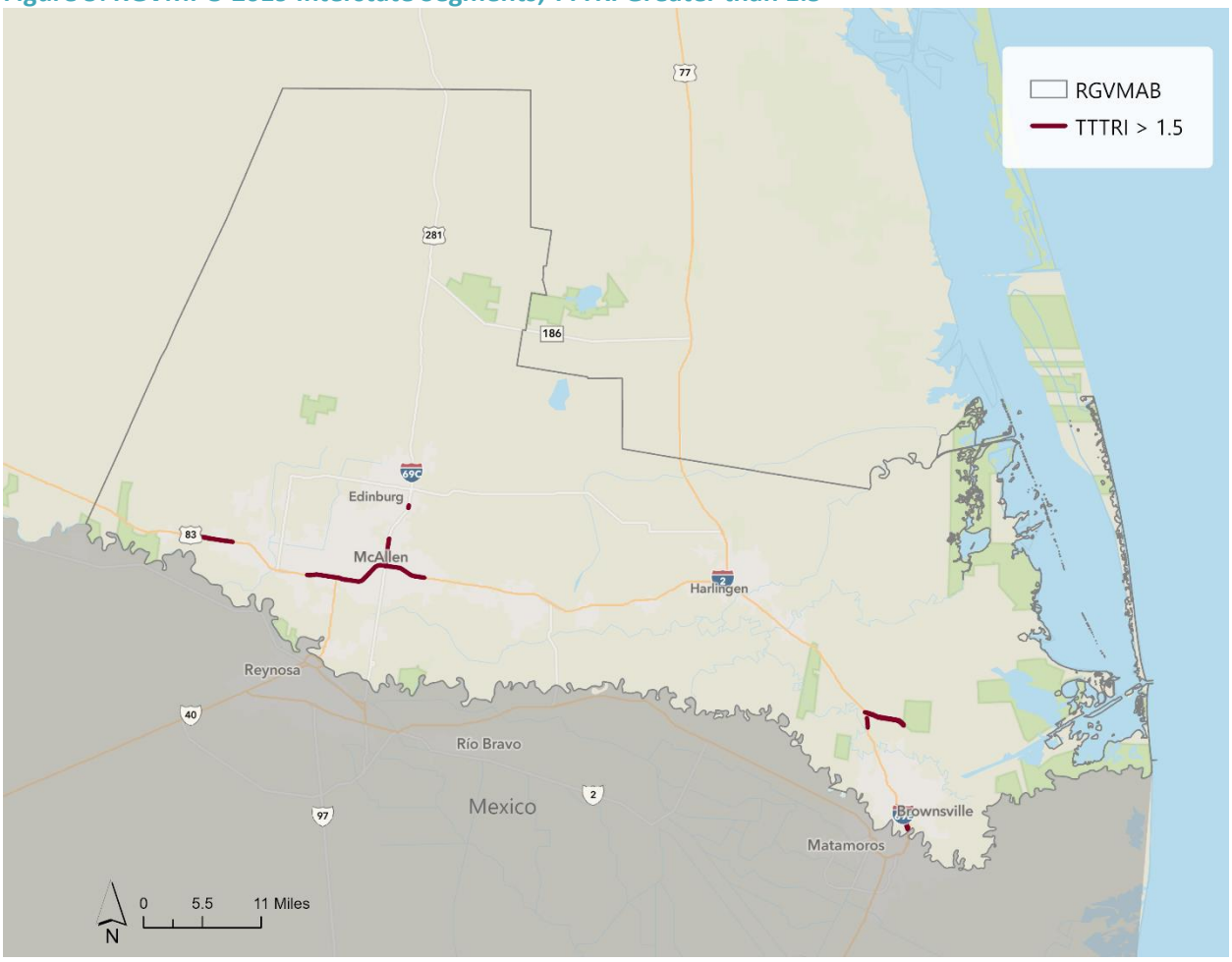


Figure 6: McAllen/Edinburg Area 2019 Interstate Segments; TTTRI Greater than 1.5

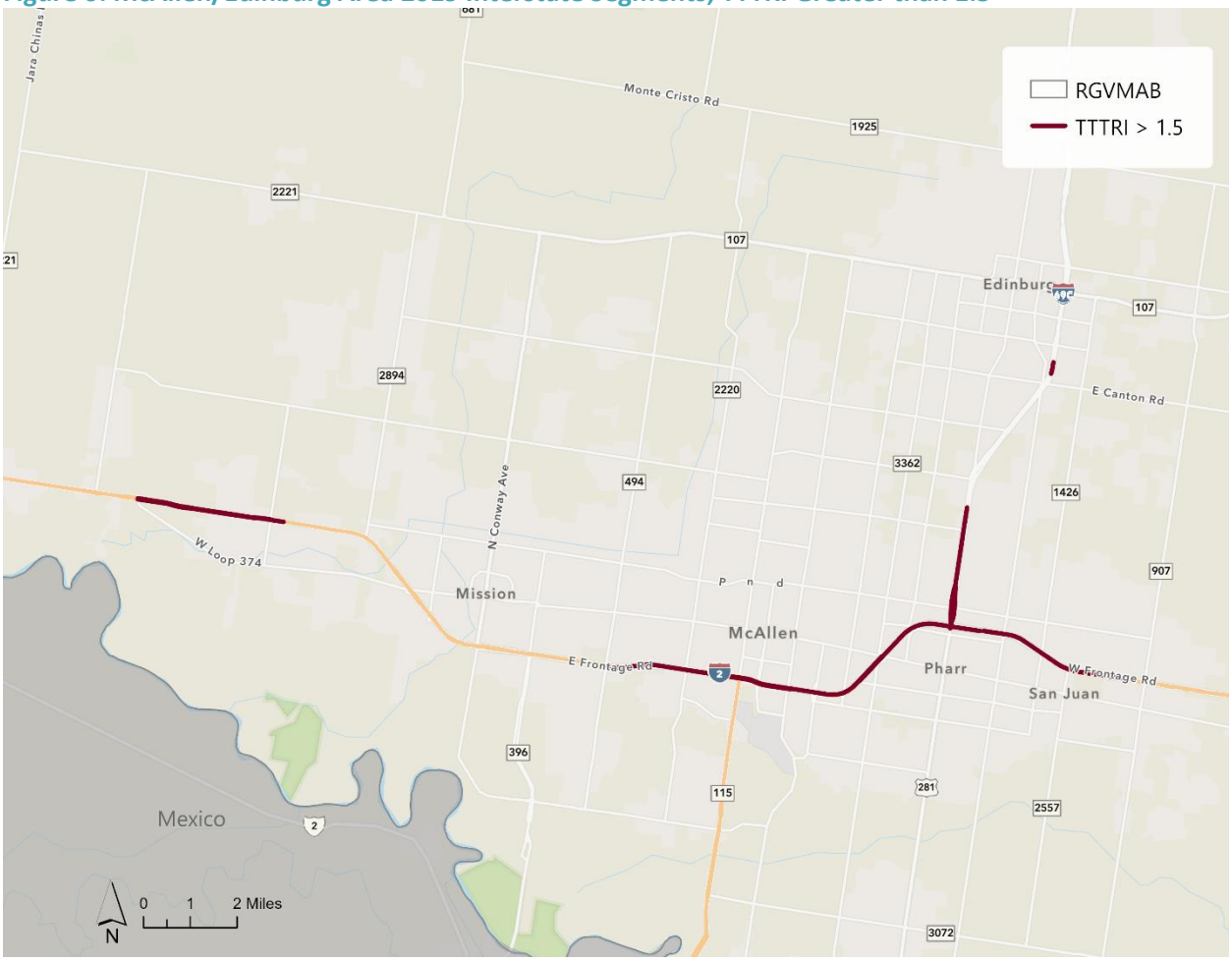
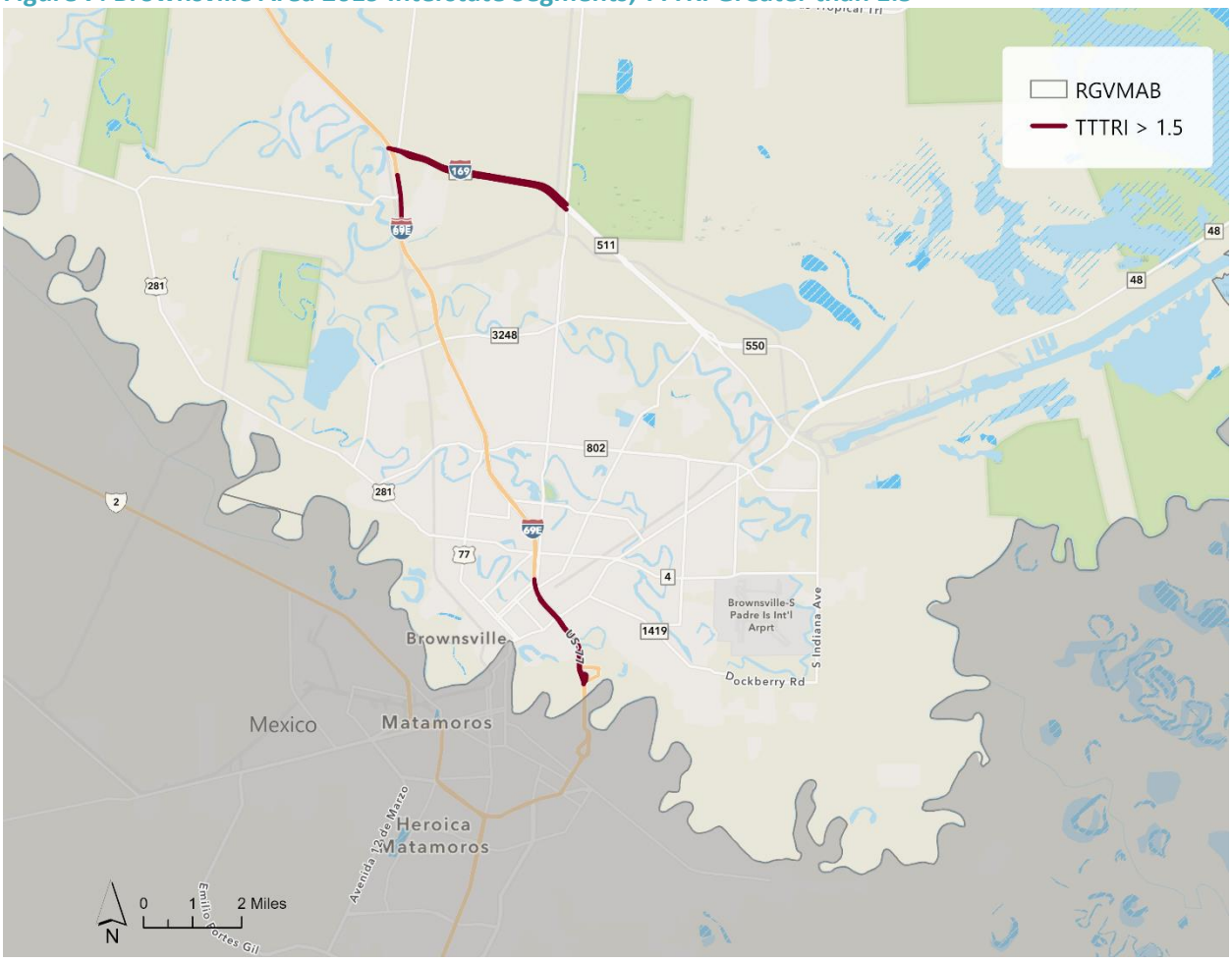


Figure 7: Brownsville Area 2019 Interstate Segments; TTTRI Greater than 1.5



Congestion/Level-of-Service

Level-of-service (LOS) is an indicator of congestion on a scale from A to F, with A representing a high-quality level-of-service under which the traveler experiences free-flow traffic conditions and F represents a failure in service delivery under which the traveler experiences severe congestion with major delays.

The LOS values are roughly correlated to the volume to capacity (VC) ratios reported for the roadway segments being analyzed. RGVMAB LOS was calculated using VC ratios from the RGVMPO TDM. **Figure 8** and **Figure 9** display average peak period (AM and PM peak travel periods) LOS within the RGVMAB. The following breaks were used to provide LOS values, and derive from guidance published by the TxDOT Transportation Planning and Programming (TPP) division:

- LOS A: Less than 0.33
- LOS B: 0.33 to 0.55
- LOS C: 0.55 to 0.75
- LOS D: 0.75 to 0.90
- LOS E: 0.90 to 1.00
- LOS F: Greater than 1.00

Figure 8 presents 2019 peak period LOS for the RGVMPO freight network and displays high levels of congestion along major freight corridors throughout the region. Largely contiguous areas displaying issues (i.e. LOS E and F) are seen in the McAllen/Edinburg area, Brownsville, and along Military Highway/US 281 from S 15th Street (McAllen to Honeydale Road (Brownsville). Poor LOS values also tend to exist near intermodal freight facilities and freight generators, such as major airports (McAllen-Miller International, VIA, and Brownsville-SPI Airport) and major port facilities, Port of Harlingen, Brownsville, and Port Isabel).

Not only is congestion inconvenient to freight traffic, but it also comes with a cost. With the e-commerce boom in full swing, the movement of goods is at a higher demand than ever, and when goods do not arrive on time there are inherently costs due to congestion. According to Texas A&M Transportation Institute's (TTI) 2019 Urban Mobility Report, truck congestion costs totaled $40 million annually in McAllen and $10 million annually in Brownsville.

Figure 8: RGVMPO Freight Network LOS – 2019 Peak Period Existing Conditions

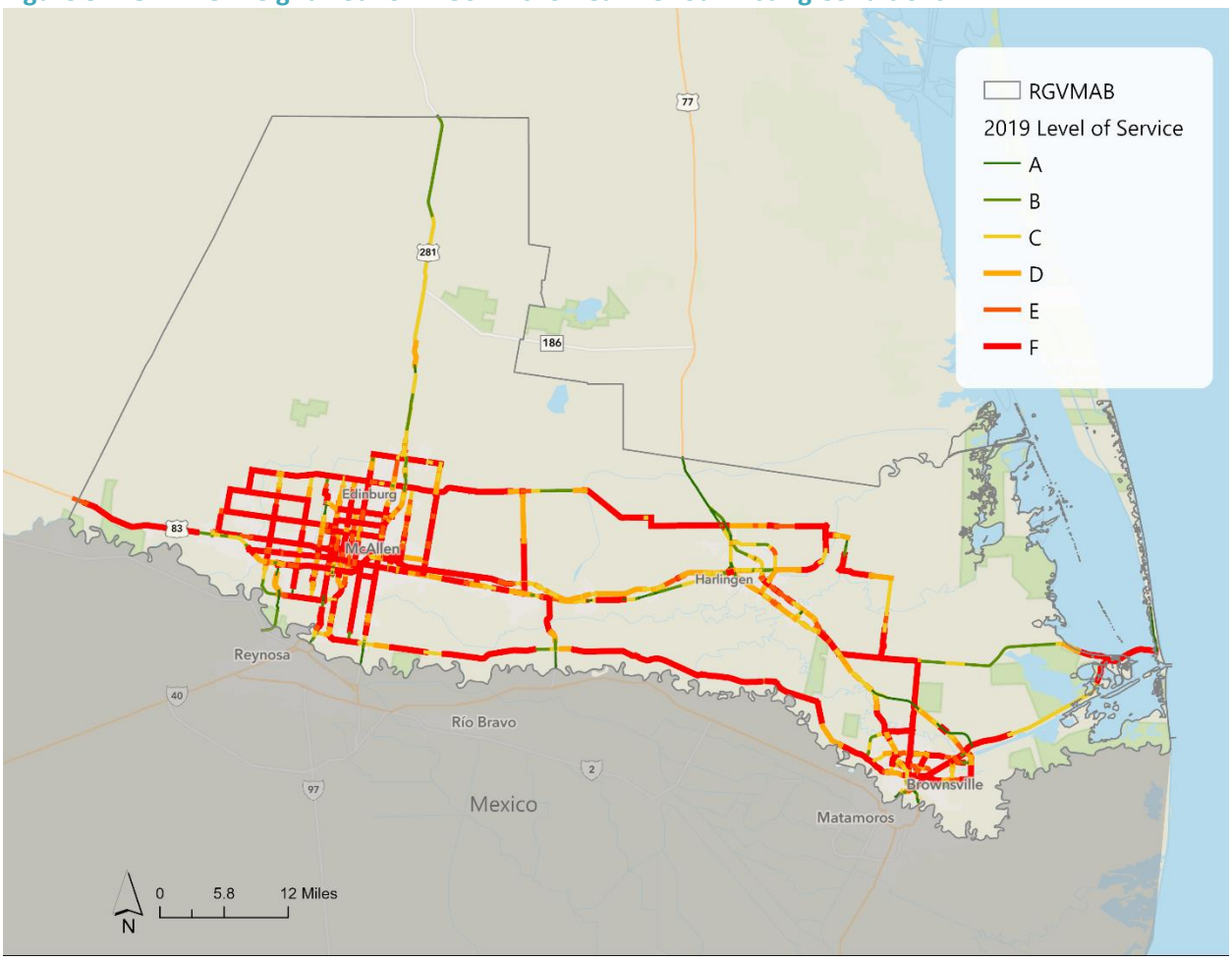


Figure 9 presents RGVMPO freight network LOS for the 2045 no-build scenario. This displays where the system will experience strain if no improvements were to be made following the 2019 E+C network build out. Based on TDM outputs, it is apparent that the RGVMPO freight network will experience poor peak period LOS throughout the system, with a vast majority of roadway segments falling within LOS E and LOS F. This suggests that most freight corridors will be experiencing volumes well above their existing

capacity, which could result in much more truck delay, causing freight drivers to try and find alternate routes. This can cause freight to use roadways which are not designed for such tonnage, in turn creating negative safety and financial impacts throughout the region.

Figure 9: RGVMPO Freight Network LOS – 2045 Future Peak Period Conditions

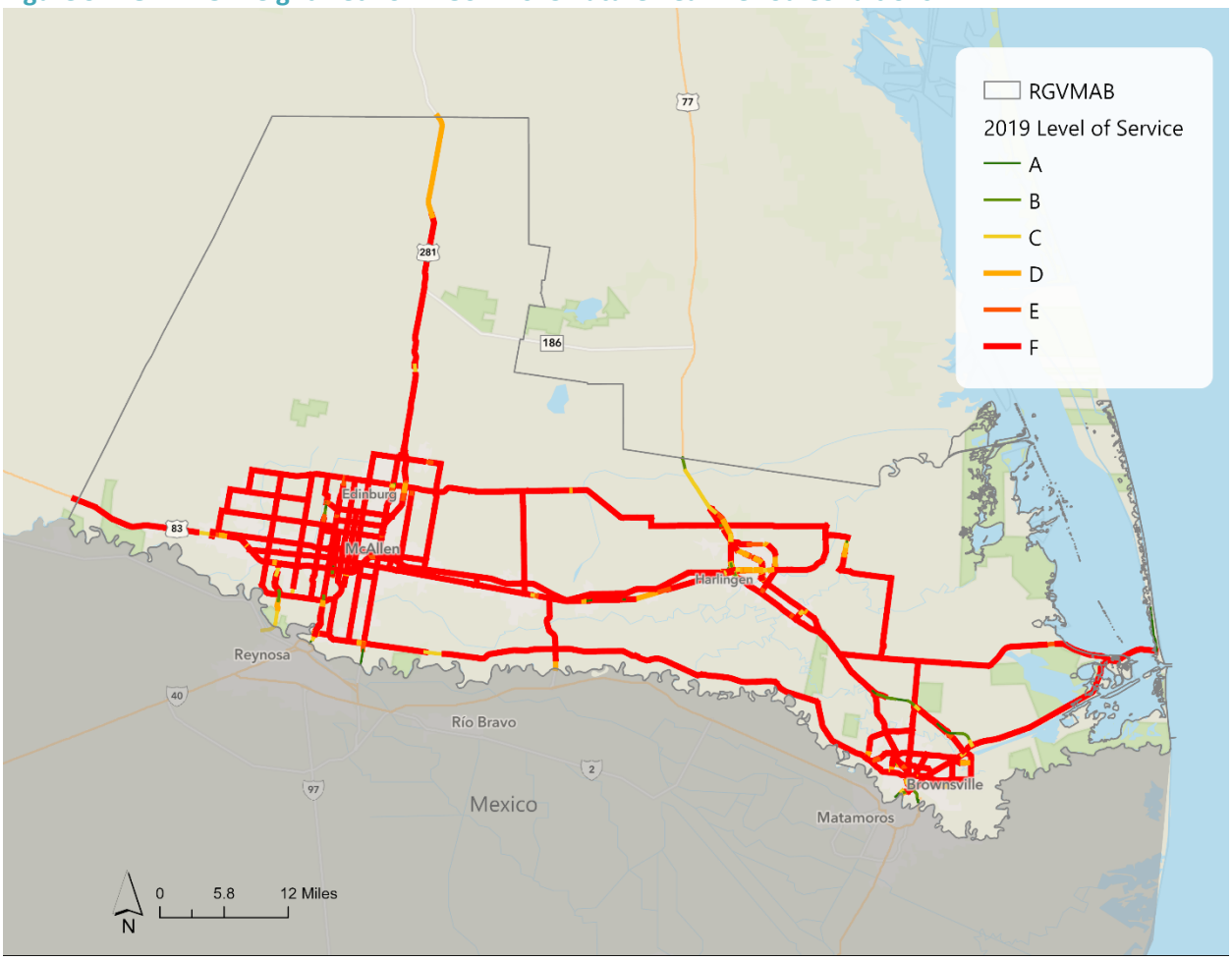


Table 3 uses TDM outputs based on a separate quantitative analysis to further identify and rank the RGVMAB's top congested freight corridors. Results are the product of a weighted average ranking based on excess delay based on several delay measures calculated from TDM output data, listed below:

- *Volume Capacity (V/C) Ratio* – The ratio of traffic flow to maximum allowable traffic flow on a roadway segment, where a ratio of 1 represents a segment at full capacity and higher values indicate more severe congestion.
- *Travel Time Index (TTI)* – The ratio of travel time during peak travel periods (congested time) required to make the same trip at free-flow speeds.
- *Vehicle Hours of Delay* – This represents additional hours spent in traffic due to congestion on the roadway network. This measure indicates the amount of extra time it takes travelers to reach conditions compared to free-flow conditions.

The top 5% of congested segments on the roadway network were identified based on V/C ratio. Segments were selected to create contiguous corridors experiencing severe congestion. Corridors were then ranked separately for each measure, which generated a final weighted average ranking. This analysis helps highlight roadways more local/rural in nature, potentially suffering from congestion due to major roadways/thoroughfares causing route deviations, traffic spillover, etc.

Table 3: Top 10 Most Congested Freight Corridors – 2019 Existing Conditions

Roadway	Jurisdiction	From	To	V/C Ratio	TTI	Weekday Hours of Delay
US 281	Brownsville	.4 mi E of W Alton Gloor Blvd	Bus Hwy 77	3.11	15.33	135,402
SH 107	Harlingen	Hooks E Hodges Rd	Tamm Ln	2.07	4.08	147,098
Expy 83	Hidalgo County	Tom Gill Rd	Western View Dr	1.96	3.37	248,138
FM 681	Hidalgo County	Moorefield Rd	FM 2993	1.97	3.46	73,098
US 281/S Cage Blvd	Pharr	W Juan Balli Rd	W Ridge Rd	1.69	2.30	160,222
US 281	Hidalgo County	S Cage Blvd	.4 mi E of Tower Rd	1.82	2.78	63,360
SH 48	Cameron County	Marine Way Rd	SH 550	1.69	2.26	84,394
FM 803	Cameron County	SH 100	Iowa Gardens Rd	1.87	2.99	27,282
US 281	La Paloma/San Pedro	FM 732	FM 1732	1.63	2.32	69,464
SH 100	Cameron County	South Shore Dr	Padre Blvd	1.67	2.21	97,608

Freight Generators and Intermodal Facilities

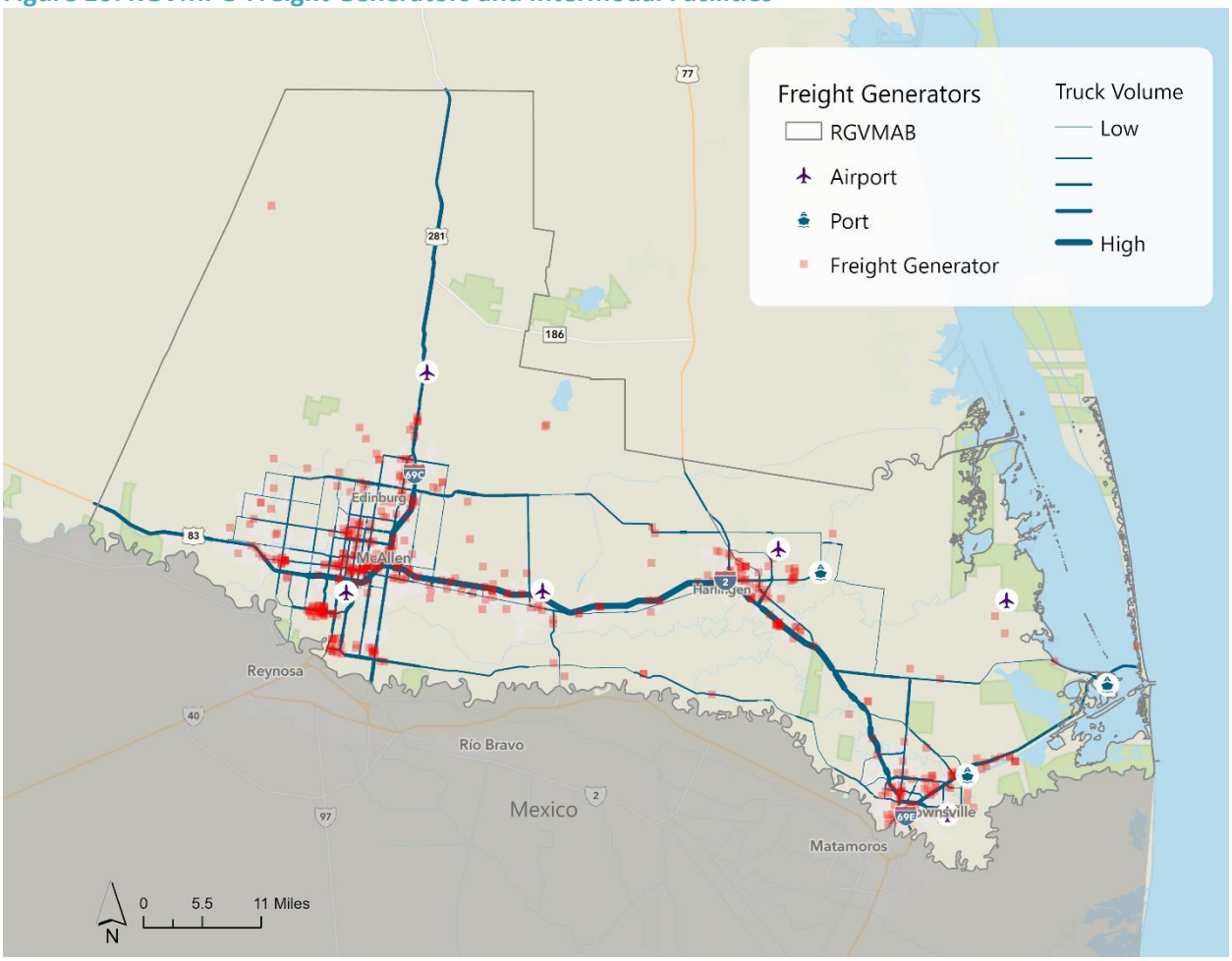
Figure 10 through **Figure 15** identify the locations of freight generators and intermodal facilities in the RGVMAB in relation to the RGVMPO freight network. Freight generators are represented by concentrations of employment in the following industries: natural resources extraction, utilities, constructions, manufacturing, wholesale trade, and transportation/warehousing jobs. Generators tend to cluster near intermodal facilities. Intermodal facilities represent break of bulk points where cargo changes freight mode. Such activity occurs in the RGVMPO at the following facility types:

- Airports that host cargo providers/deliveries.
    - This includes McAllen-Miller International, VIA, and Brownsville-SPI International
    - VIA experienced a 2019 landing cargo weight of 365 million pounds, while Brownsville-SPI International experienced 45 million pounds in cargo weight in the same year (an increase of 504%)[2], suggesting significant growth occurring in the RGVMAB.
- Port infrastructure is found throughout the RGVMAB in the form of the Port of Harlingen and Port of Brownsville.
    - The Port of Brownsville handles nearly 11.3 million tons of freight cargo annually.[3]

[2] Source: https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats
[3] Port of Brownsville, 2019 (https://www.portofbrownsville.com)

- The Port of Harlingen handles 1.7 tons of cargo annually.[4]

Figure 10: RGVMPO Freight Generators and Intermodal Facilities



[4] Port of Harlingen, 2019 (http://portofharlingen.com)

Figure 11: RGVMPO Freight Generators and Intermodal Facilities – Edinburg

Figure 12: RGVMPO Freight Generators and Intermodal Facilities – Weslaco/I-2 Corridor

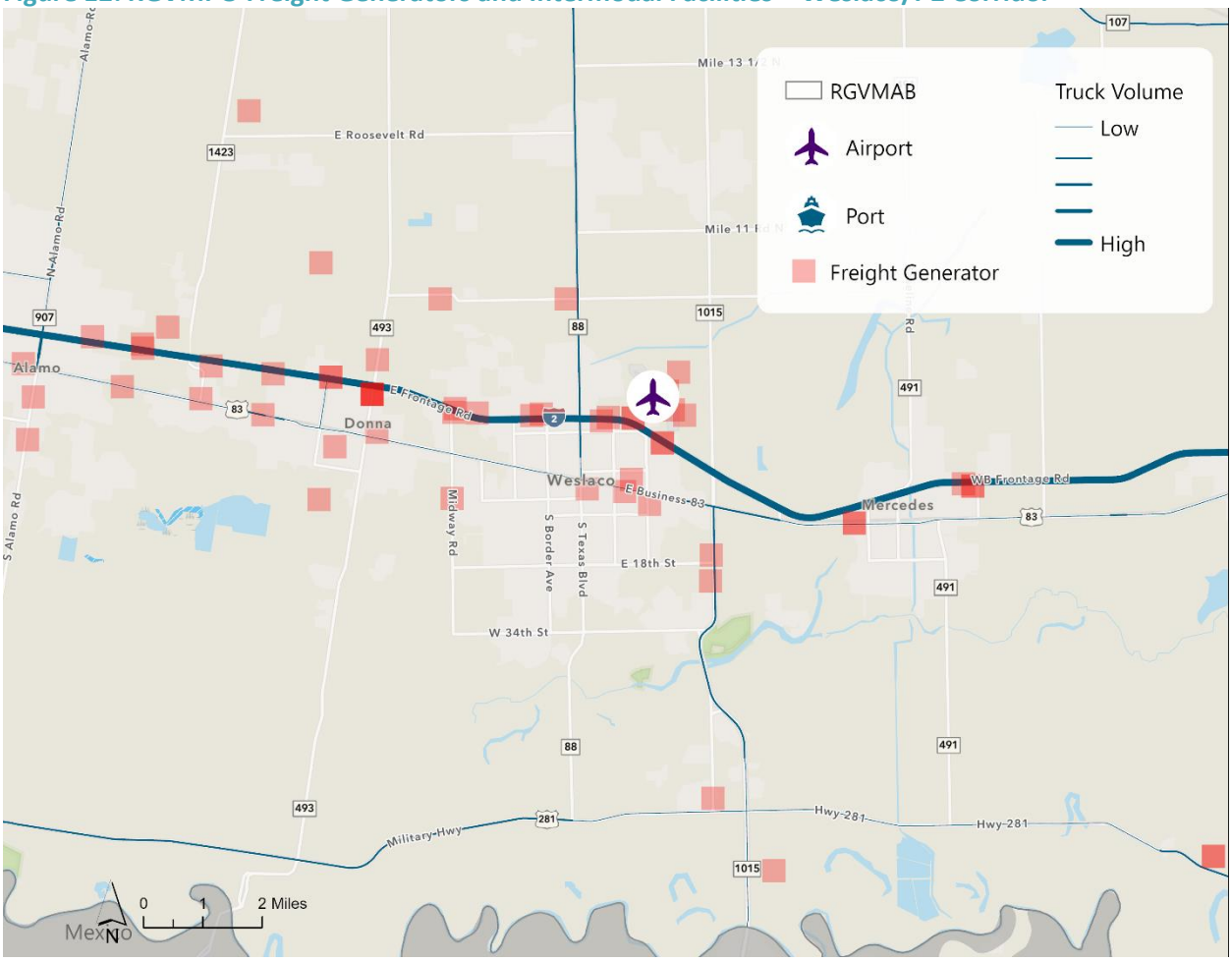


Figure 13: RGVMPO Freight Generators and Intermodal Facilities – Harlingen

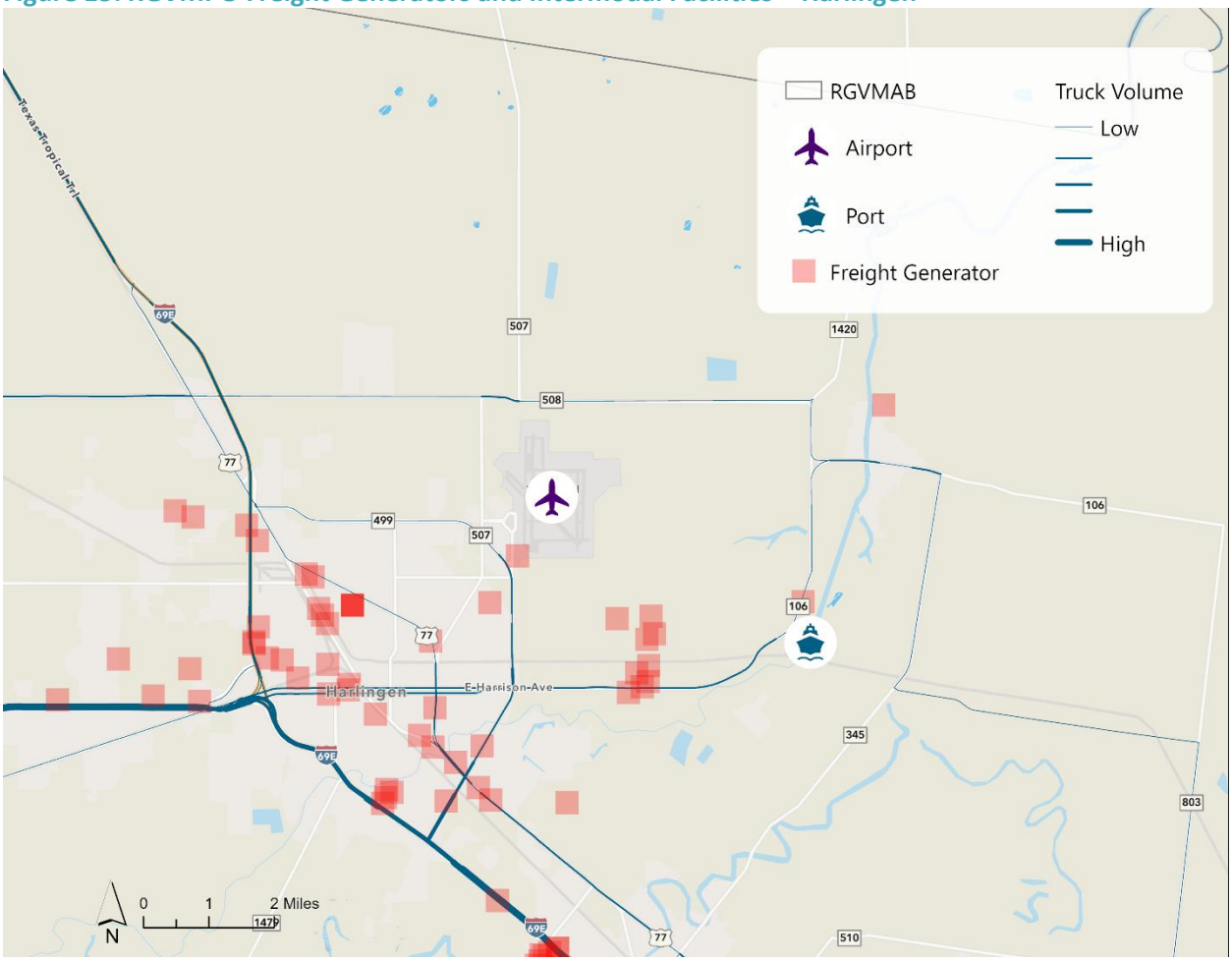


Figure 14: RGVMPO Freight Generators and Intermodal Facilities – Brownsville Area

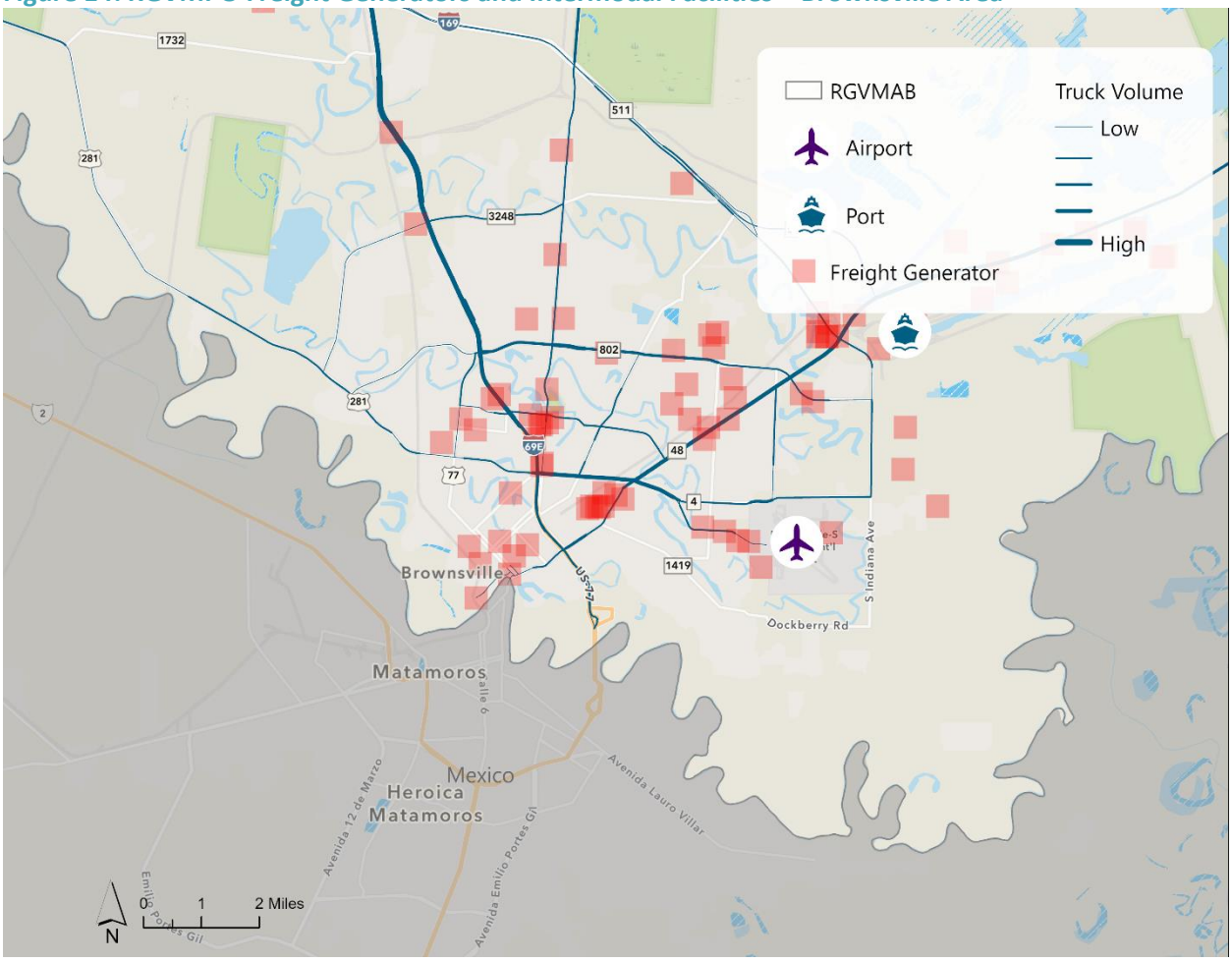
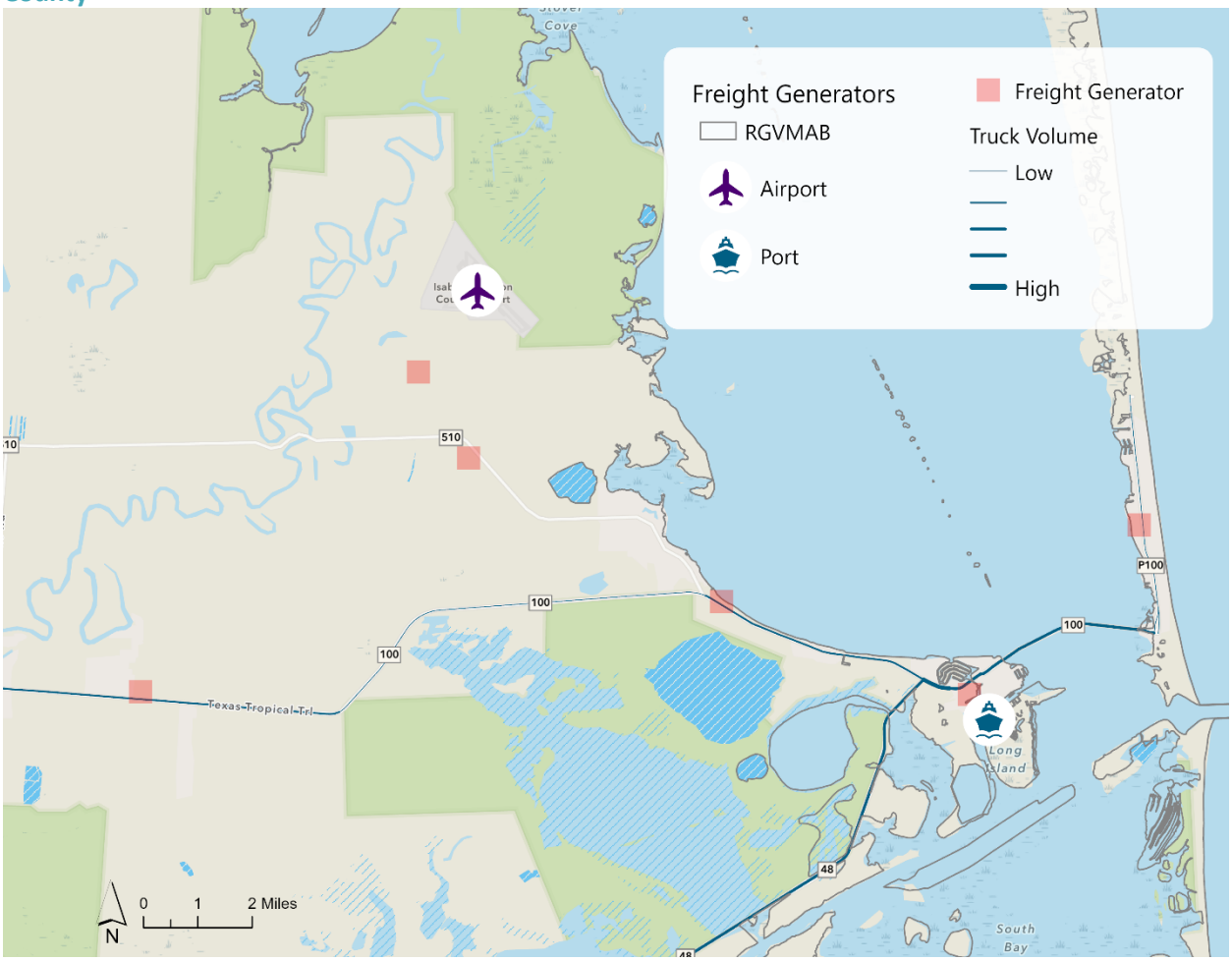


Figure 15: RGVMPO Freight Generators and Intermodal Facilities – South Padre Island/Cameron County



Border Crossings

The RGVMAB contains 11 border crossings (including roadway and railway infrastructure) that facilitate the movement of goods between the region and Mexico. Due to this large quantity of border crossing assets, the RGVMPO serves as a substantial region for border trade activity:

- Approximately $22.7 billion in exports and $29.6 billion in imports occurred in 2018;[5]
- Nearly 1,000,000 trucks and 1,000 trains entered the RGVMAB from Mexico in 2018; and
- Inbound trucks from Mexico increased by 35% between 2010 and 2018.

Accordingly, it is important to understand current conditions of the RGVMPO's border crossing facilities. **Table 4** below presents border crossing modes, and highlights changes in commercial truck traffic volume from 2008 to 2018 from the 2019 TxDOT-TPP Texas-Mexico International Bridges and Border Crossings Study. Bolded rows represent border crossings which allow commercial truck access.

[5] U.S. Department of Transportation, 2018 (https://www.bts.gov/transborder

Table 4: RGVMPO Border Crossing Modes and Change in Truck Volume (2008 to 2018)

Border Crossing	POV	Ped	Bus	Rail	Truck	Truck Volume
Texas-Mexico Border Region	X	X	X	X	X	34.5%
Los Ebanos Ferry	X	X				
Anzalduas Int Bridge	X		X			
McAllen-Hidalgo Int Bridge	X	X	X			
Pharr-Reynosa Int Bridge*	**X**	**X**	**X**		**X**	36%
Donna Int Bridge	X					
Weslaco-Progreso Int Bridge*	**X**	**X**	**X**		**X**	14%
Free Trade Bridge*	**X**	**X**	**X**		**X**	4%
Brownsville West Rail Bridge				X		
B&M Bridge	X	X				
Gateway Int Bridge	X	X	X			
Veterans Int Bridge at Los Tomates*	**X**	**X**	**X**		**X**	7%

*Border Crossing experiencing commercial truck traffic

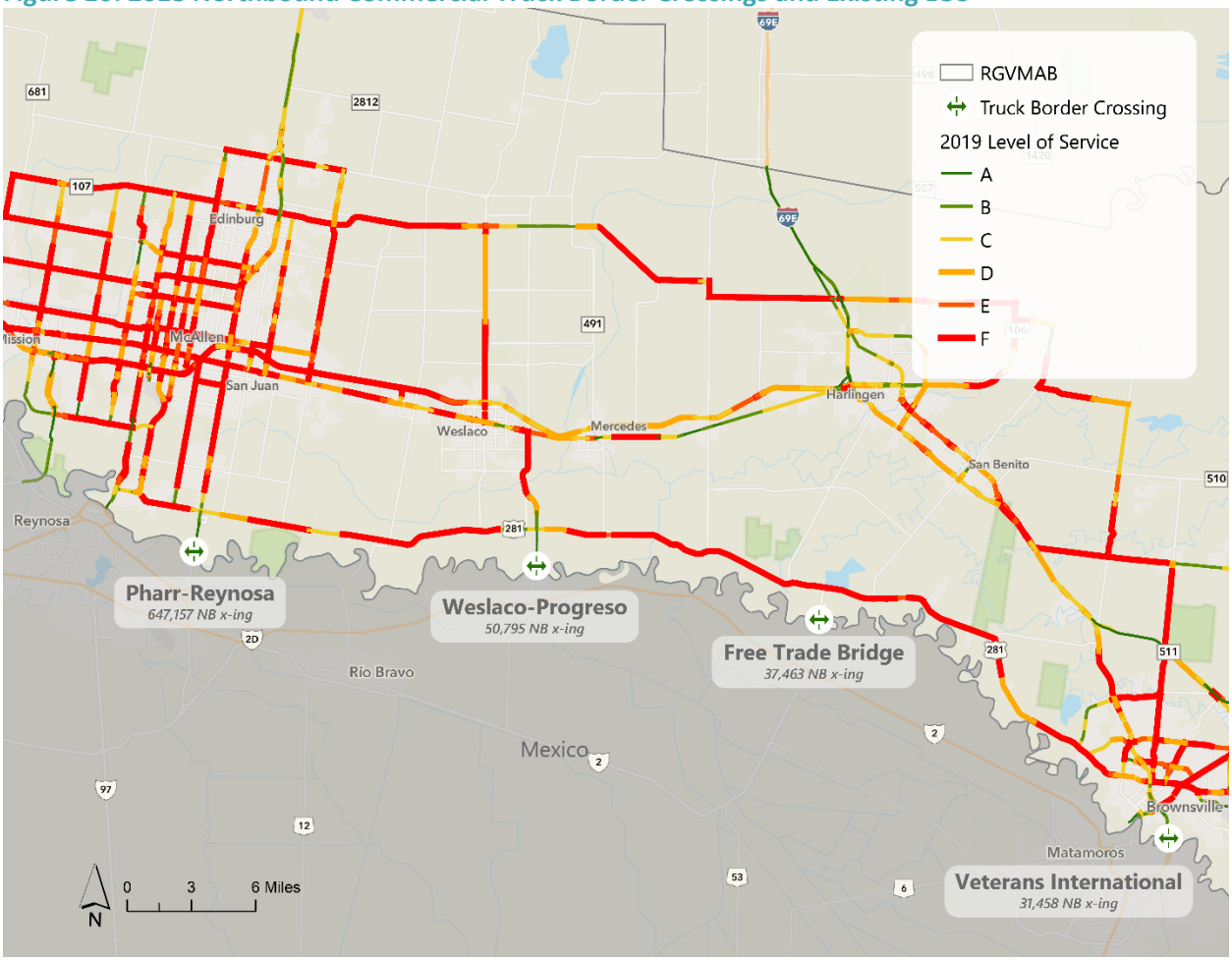
Out of the 11 total RGVMPO border crossings, four allow commercial truck traffic: Pharr-Reynosa, Weslaco-Progreso, Free Trade Bridge, and Veterans International. All 4 facilities have seen an increase in truck volume since 2008, with Pharr-Reynosa (36%) outpacing the volume change seen throughout the Texas-Mexico border region. This may be due to the unique trade atmosphere which occurs within the RGVMAB. While rules, included in the NAFTA, allowing Mexican truckers to drive in the US were never substantially implemented, transportation within Cameron and Hidalgo Counties is allowed.[6] This United States-Mexico-Canada Agreement (USMCA) renews the rule allowing Mexican trucks to travel in the Rio Grande Valley and prevents any expansion of Mexican trucks and drivers operating in the US beyond the Rio Grande Valley zone and similar border areas.

This is key for trade incorporating Maquiladoras. Maquiladoras are foreign-owned factories, that import parts from abroad, and build products for export. Inspired by NAFTA, many foreign companies opened maquiladoras in Mexico in recent years. Changes to the NAFTA agreement under the USMCA have begun to stimulate the development of maquiladoras on the US side of the border. Keith Patridge, president, and CEO of the McAllen Economic Development Corporation recently announced three new companies expanding in Reynosa. Accordingly, such developments appear to continue to drive border trade in the RGVMAB moving forward, adding to the importance of efficient and safe freight facilities in the region.

Figure 16 presents the four border crossing facilities which contain commercial truck traffic, displaying each facility's 2018 northbound crossings and the RGVMPO freight network's existing LOS. While immediate border connections show relatively low congestion, surrounding roadway segments already display high strain (LOS E and F).

[6] 49 U.S.C. §13506

Figure 16: 2018 Northbound Commercial Truck Border Crossings and Existing LOS



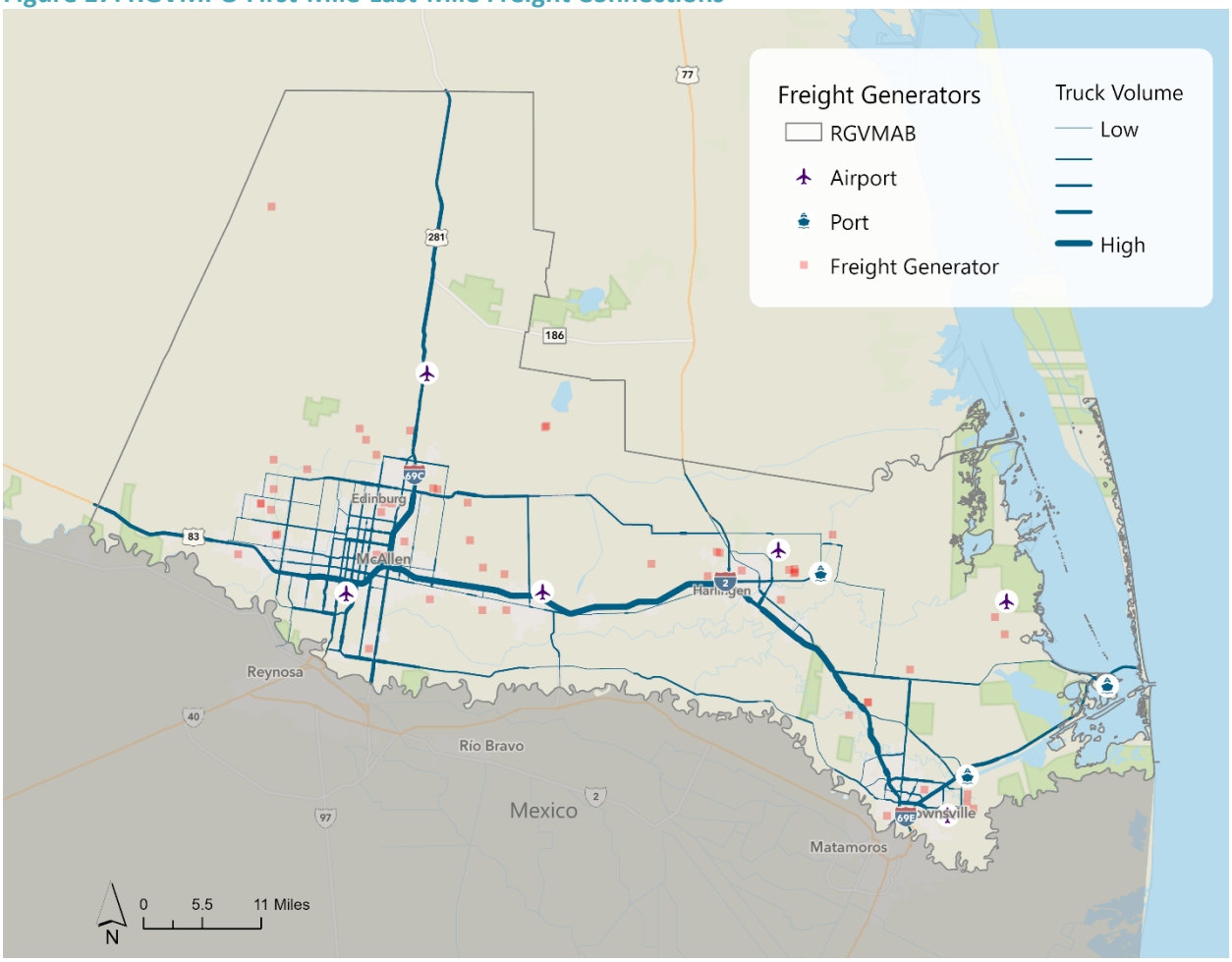
In order to maintain consistency with statewide/regional border crossing planning, it is important that RGMPO considers recently completed and potential facility upgrades, which are listed below by facility:

- Pharr-Reynosa International Bridge
  - $20.1 million in CBI funds for permanent border inspection facility and connection to state highway system
  - $3.7 million in CBI funds for ITS implementation and additional northbound approach lanes and inspection booths
- Weslaco-Progreso International Bridge
  - No upcoming Improvements
- Free Trade Bridge
  - Improvements to Free Trade Commerce Center, a 750-acre industrial park which is a foreign trade zone
- Veterans International Bridge at Los Tomates
  - No Upcoming improvements

Drayage/Internal Movement

Drayage (also known as cartage) refers to truck pickup from or delivery to ports, border points, or intermodal terminals with both the trip origin and destination occurring in the same urban area. In essence, it is the movement of goods between terminals, intermodal facilities, and freight generators. While available data was not discernable enough to distinguish drayage movement, it is important to understand that this first-mile-last-mile issue in freight is an important concept for the improvement of not only the freight network but the entire RGVMPO roadway network. This traffic can have significant impacts to LOS and multimodal transportation as it tends to deviate from strictly freight facilities and intertwine with automobile, transit, and active transportation ROW. In order to highlight areas which may either experience drayage traffic or freight traffic on inadequate facilities, the project team conducted a buffer analysis to highlight freight generators at or greater than .5 miles from the defined freight network (**Figure 17**).

Figure 17: RGVMPO First-Mile-Last-Mile Freight Connections



Per TxDOT's 2009 study, *The Impact of Port, Rail, and Border Drayage in Texas*, several recommendations have been studied to reduce drayage interactions within urban roadway networks. One method is to improve terminal operations. This includes actions such as: lowering car-dray interactions; creating exclusive times for dray trucks to operate; extending operations of terminals; replacing portion of truck drayage with alternative modes that do not share road ROW; reducing the

amount of deadheading in a system; and creating a terminal appointment system to decrease idling/queuing (using RFID and/or GIS technology for fleets).

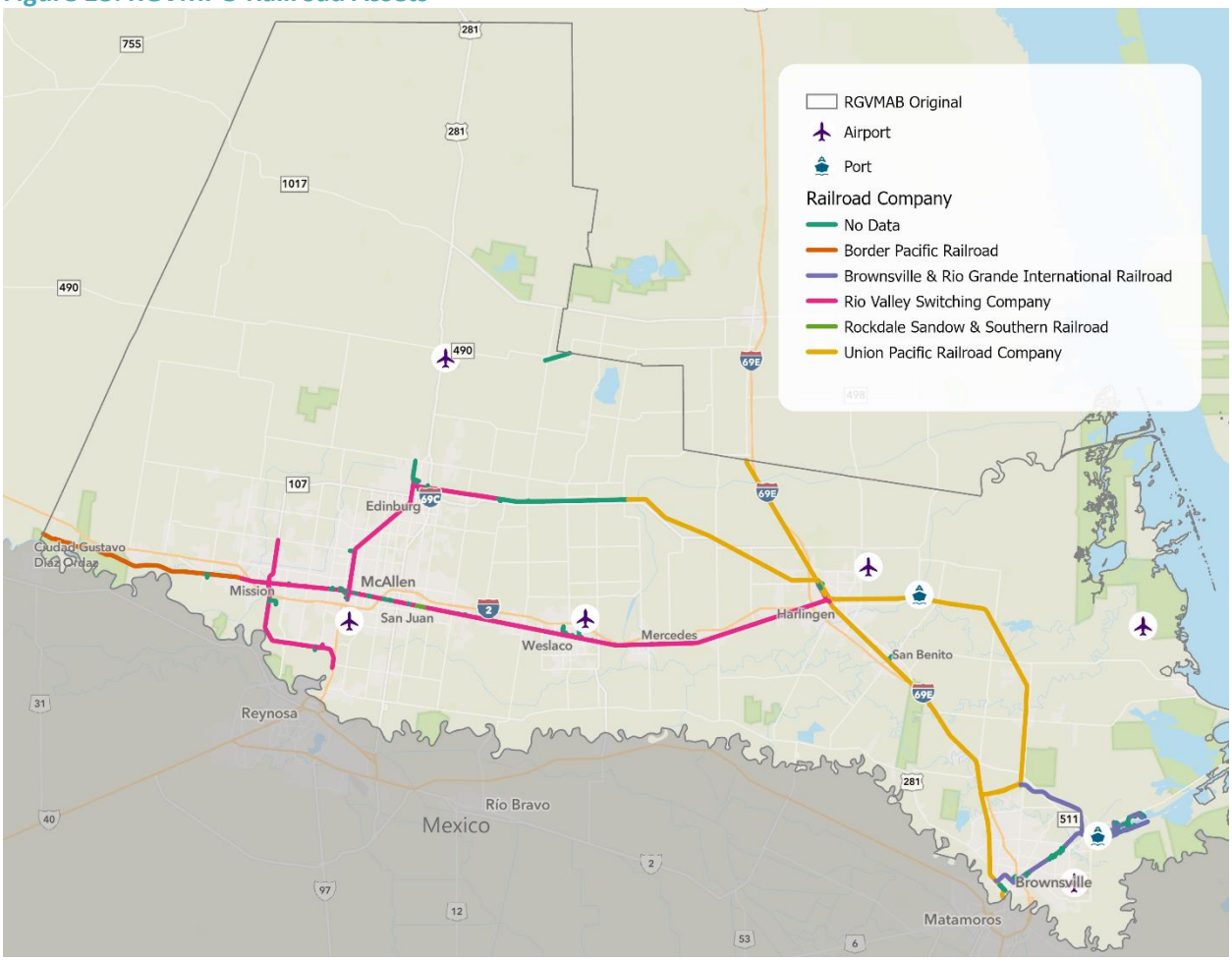
Another tactic is to modernize drayage fleets, which includes actions such as replacing trucks/retrofitting engines and creating truck licensing programs to ban older models. Further research has been conducted on diverting drayage to rail. These initiatives include the addition of on-dock/near-dock rail shuttles, container carrying barge shuttles, and education on the savings realized in pavement preservation, congestion, safety, and air quality. It must be noted that these recommendations are generalized and come with many obstacles, the main being difficulty in shifting current terminal operation methods.

Railroad Network

RGV's inland and border location creates opportunity for the region, as the area has become a crossover station for both international and domestic rail freight traffic (specifically east-west traffic in the United States) (**Figure 18**). Both the Union Pacific Railroad (UP) and BNSF Railway (BNSF) connect with the Ferrocarril Mexicano Railroad (FXE) in Ciudad Juarez and Chihuahua, Mexico, producing 11% of all border crossing rail freight in Texas annually. Two bridges exist on either side of the Paso Del Norte Border Crossing Bridge. While both train traffic volume and loaded container counts have decreased significantly since 2007, both measures have steadily increased over the last 5 – 6 years.

The RGV region contains roughly 535 miles of railroad facility, 8 miles of rail bridges, and 6 railyards. The UP line stretches throughout the MPO Region, with the Sunset route connecting the region to Southern California, Houston, Dallas, and Chicago. The BNSF facility begins in RGV and extends north into New Mexico, where a terminal exists to direct traffic further north or onto an east-west route. The majority of freight that passes through RGV is directed outside of the region and primarily to the west coast (90%).

Figure 18: RGVMPO Railroad Assets



Truck Parking

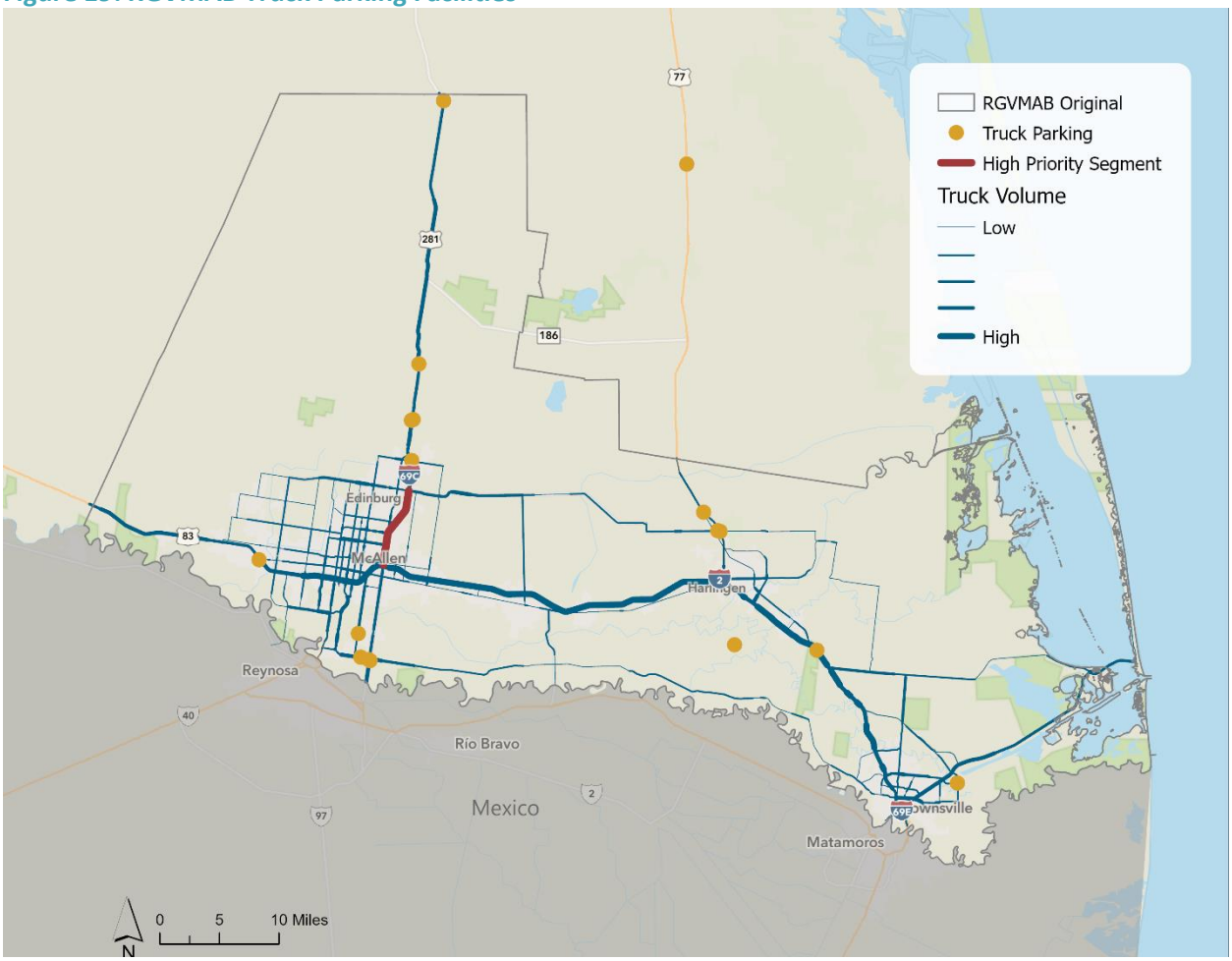
In 2012, the U.S. Congress enacted Jason's Law (Section 1401 of the Moving Ahead for Progress in the 21st Century) to address the lack of legal truck parking facilities. Jason's Law established a "national priority on addressing the shortage of long-term parking for commercial motor vehicles on the National Highway System to improve the safety of motorized and non-motorized users and for commercial motor vehicle operators." The law also states that FHWA Division Offices should provide technical assistance to State agencies to update State freight plans and investment programs to support commercial motor vehicle parking solutions, both for facilities and technology for commercial motor vehicle parking information systems (FHWA, 2019).

Federal regulations on hours of service (HOS) for commercial truck drivers (49 C.F.R. §395), often referred to as the "11-14-10 rule", require that drivers can drive no more than 11 hours in a single day (with up to 3 additional hours of non-driving on-duty time) after which a period of 10 hours of rest is then required before going back on-duty to operate their vehicle again. Other regulations can require longer rest periods. Complying with these regulations can require that the driver find a legal parking spot to obtain the required rest during long haul trips. Finding that legal parking spot is often difficult, as

there is often both a shortage of legal parking spots available as well as a lack of a system that indicates where any available legal parking spots can be found on a real time basis.

A lack of rest areas for truck drivers can also lead to tired drivers staying on the road longer or parking in unsafe locations (e.g., shoulders or exit ramps) that are not designed to handle heavy cargo traffic. It is crucial to the safety of the nation's truck drivers to provide them with facilities where they can pull off to rest. **Figure 19** shows the location of known, major truck parking facilities in the RGVMAB reported in the 2020 TxDOT Truck Parking Study for the Pharr District.[7] The study provided data on ownership (public or private), parking capacity, and high priority roadway segments for additional truck parking amenities. Roadway segment priority was data driven and considered capacity need (peak hour parking demand per mile), safety need (severity of crashes involving parked trucks), and freight network significance determined by the Freight System Designation (FSD) score developed from the 2018 Texas Freight Mobility Plan. All data provided for public parking facilities recommended facility expansion and upgrade, suggesting existing high capacity parking at peak hour time (1:00 am to 2:00 am).

Figure 19: RGVMAB Truck Parking Facilities



[7] Source: http://www.movetexasfreight.com/

Conclusion

The RGVMPO contains an intricate multimodal freight system with regional and national significance. Roadway, rail, port, and border crossing infrastructure work in conjunction to create one of the most production freight regions in the country. Therefore, it is critical to understand existing conditions of the network, especially areas experiencing strain, as the RGVMPO and planning partners move forward with the MTP update process. The following summarizes key findings from the freights needs assessment to help guide future planning decisions in the RGVMAB:

- NPMRDS TTTR analysis displays several areas experiencing unreliable travel times which may impact on-time delivery of freight and freight deviations onto surrounding infrastructure. Areas include:
    - I-2 from Bus 83 to Goodwin Road (westbound and eastbound)
    - I-2 from Shary Road to Cesar Chavez Road
    - I-69C southbound from Minnesota Rd to the I-2 junction
    - I-69C northbound between E Canton Road and E Iowa Road
    - I-169 westbound and eastbound from the I-69E Junction to Paredes Line Road
    - I-69E northbound from Arroyo Boulevard
- The TDM projects majority of the network to experience severe peak hour LOS conditions by 2045.
- Due to the many intermodal facilities and geographical location of the RGVMAB, the region contains a large number of freight generators. It is important to consider connectivity of such generators to intermodal facilities to help control freight network deficiencies.
- The RGVMAB contains several border crossing facilities, four of which allow commercial/freight truck traffic. Of the four, the Pharr-Reynosa International Bridge experiences the highest amount of northbound freight crossing (a 36% increase from 2008 to 2018, compared to the statewide 34.5% increase).
- Drayage movement should play a key role in the advancement of the RGVMPO freight network. Several freight generators are located off the designated freight network and require either drayage vehicles or possibly in some cases actual freight trucks to travel on local roads. This may provide issues with road maintenance, roadway safety, and congestion.
- Due to the amount of freight traffic in the region, the RGVMAB contains a mix of public and private parking facilities. Based on the 2019 TxDOT Truck Parking Study, there is only one major roadway segment that is rated as a high priority for truck parking investment. This area is in the Pharr/Edinburg area of the RGVMAB.

It must be noted that the project team understands current challenges presented by COVID-19 and the ensuing recession, and its effects on freight travel within the RGVMAB. Previous downturns and other indicators suggest that these effects will be short-term. Due to the long-term nature of this MTP update, these assumptions of short-term impacts were kept in mind, and analysis was conducted assuming freight transport to return to normal levels soon.

As previously mentioned, freight plays an essential part in the RGVMPO's livelihood and economic growth. To ensure an efficient and safe roadway network, it is critical to take these findings into consideration moving forward with the MTP update process.