

# Memorandum

**DATE:** April 29, 2024  
**TO:** Victoria MPO  
**CC:**  
**FROM:** ATG|DCCM  
**RE:** Congestion Analysis

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## Roadway Congestion

The roadway network is the backbone of the regional transportation system. An efficient roadway system can have cascading benefits for economic development and quality of life. For this reason, it is important to understand current and future roadway conditions, needs, and deficiencies. The following analysis looks at existing and future traffic trends by utilizing the recently updated Victoria MPO Travel Demand Model (TDM), as developed by the Texas Department of Transportation (TxDOT) and the Texas Transportation Institute (TTI).

### Level of Service

Level of Service (LOS) is utilized as the performance measure for this analysis of roadway congestion. The level of service is determined by a ratio of volume to capacity (VOC), which is the ratio of actual daily peak traffic flow to the maximum allowable traffic flow on a road segment.

The best level of service is rated as A, while the worst service conditions are rated as F. A level of service rating of F has a VOC ratio of 1 or greater, meaning that there are more vehicles using the road than the road can handle.

#### Level of Service Ratings

- A** = Free flowing traffic
- B** = Reasonably free flowing traffic
- C** = Stable flow, but drivers are restricted in choosing speeds
- D** = Approaching unstable flow
- E** = Unstable flow; may have short stoppages
- F** = Unacceptable congestion; stop-and-go traffic

### Present Congestion

In general, the total miles of roadway with LOS ratings of D, E, or F in 2022 was only around 9.28 miles. This can be seen in Table 1, where the 2022 percentage for D, E, and F LOS ratings are each less than 1% of the total roadway miles. Figure 1 illustrates that the majority of the 2022 roadway network has traffic that is free flowing (LOS A), reasonably flowing (LOS B), or stable (LOS C). The top five congested road segments are listed in Table 2.

Table 1: Miles of Each Level of Service for 2022 and 2050

Level of Service	2022	2022 Percent	2050	2050 Percent
A	321.68	63.7%	300.76	58.3%
B	129.02	25.5%	131.98	25.6%
C	45.03	8.9%	44.87	8.7%
D	4.37	0.9%	17.27	3.3%
E	3.45	0.7%	18.81	3.6%
F	1.46	0.3%	2.61	0.5%
<b>Total</b>	<b>505.02</b>	<b>100.0%</b>	<b>516.30</b>	<b>100.0%</b>

Table 2: Top 5 Congested Roadway Segments, 2022

Road Segment	Limits		VOC
Coletoville Rd	Old Goliad Rd	Boggy Creek	1.87
Glasgow St	Kelly Crick Rd	Northgate Rd	1.16
Guy Grant Rd	N Navarro St	Salem Rd (approx.)	1.14
Glasgow St	Northgate Rd	Edinburgh St	1.04
FM 236	At US 77		0.97

## Future Congestion

The TDM projects future congestion conditions for 2050 based on an existing plus committed (E+C) scenario. The E+C projects are currently programmed projects or projects with enough investment in planning or design to reasonably be expected to be constructed in the near future. Running the model with only E+C projects is an exercise to illuminate where major operational deficiencies could arise if no additional improvements are made.

According to the TDM, congestion in the study area will increase, with more road miles having LOS ratings of D, E, and F in 2050 than in 2022 (see Table 1). However, around 84% of road miles in 2050 will have a level of service rating of A or B with no congestion issues. Several of the top five congested road segments from 2022 remain in the top five for 2050, which is shown in Table 3. In particular, Coletoville Rd from Old Goliad Rd to Boggy Creek and Glasgow St from Kelly Crick Rd to Edinburgh St see consistent congestion issues from 2022 to 2050.

*Table 3: Top 5 Congested Roadway Segments, 2050*

Road Segment	From	To	VOC
Coletoville Rd	Old Goliad Rd	Boggy Creek	1.75
FM 236	Old Goliad Rd	BU59/SW Moody St	1.26
N Navarro St	At NE Zac Lentz Pkwy		1.25
Glasgow St	Kelly Crick Rd	Northgate Rd	1.19
Glasgow St	Northgate Rd	Edinburgh St	1.16

Portions of N Ben Wilson St between E Airline Rd and US 59 Business had some of the highest expected increases in VOC ratios between 2022 and 2050, meaning that traffic is expected to significantly increase along this segment. In addition, US 77 S is expected to see an increase in congestion over a distance of greater than 10 miles. Figure 2 shows the projected roadway level of service for 2050.

Figure 1: 2022 Roadway Level of Service

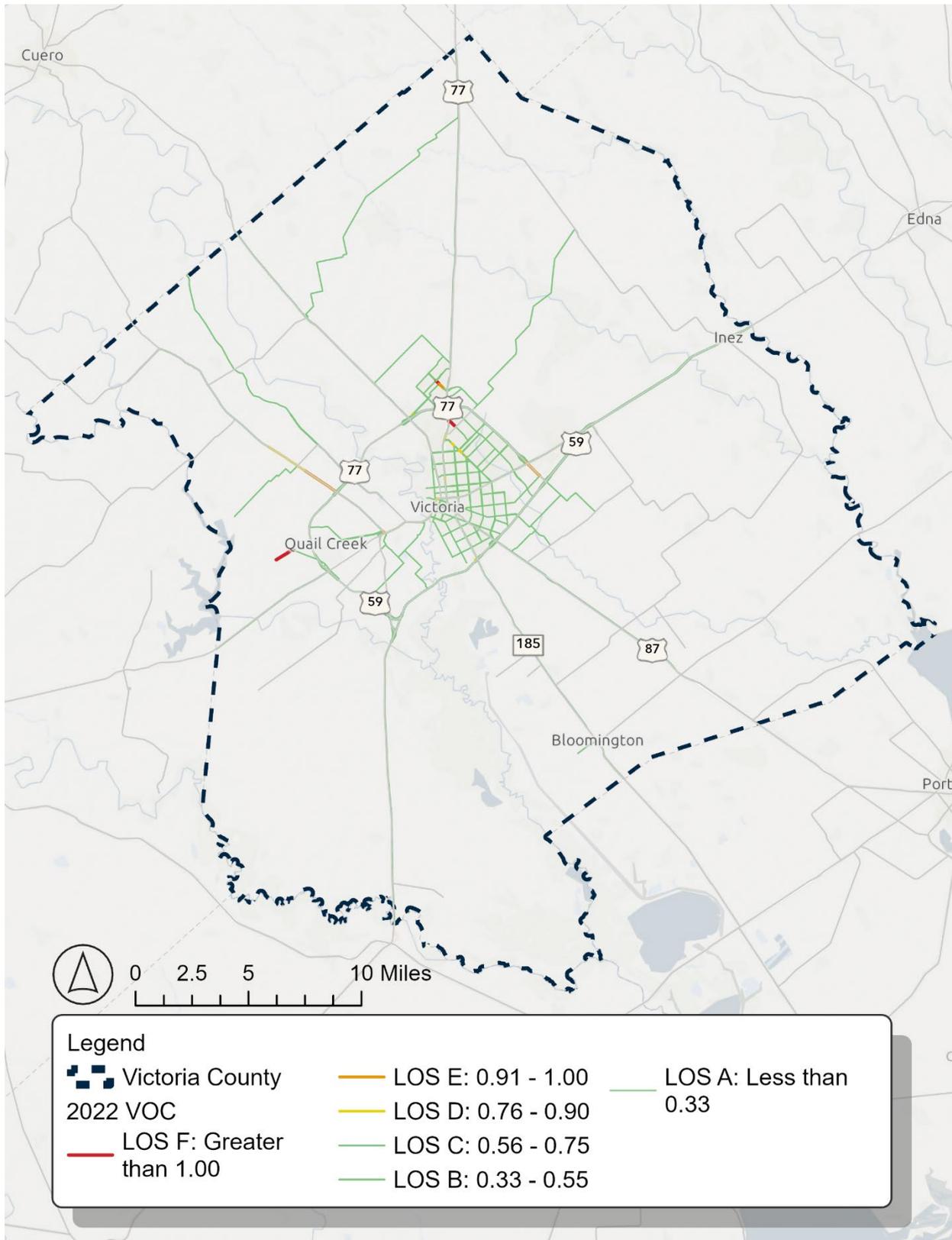


Figure 2: 2050 Roadway Level of Service

