TEAYS VALLEY ROAD WIDENING

STATE PROJECT: U340-033/00-0.46 00 | FEDERAL PROJECT: CMAQ-0033(444)D

Purpose and Need

The project team is using previous studies, along with our analysis and your input, to develop the Purpose and Need for the project. We've identified the need to address capacity, facility deficiencies, and lack of multi-modal opportunities in the study area.

Listed below are specific areas of potential improvement:

- **Poor & failing levels of service at key intersections**
- **Safety and crash reduction**
- **Deficient roadway geometry**
- **No sidewalk or multi-modal accommodations**

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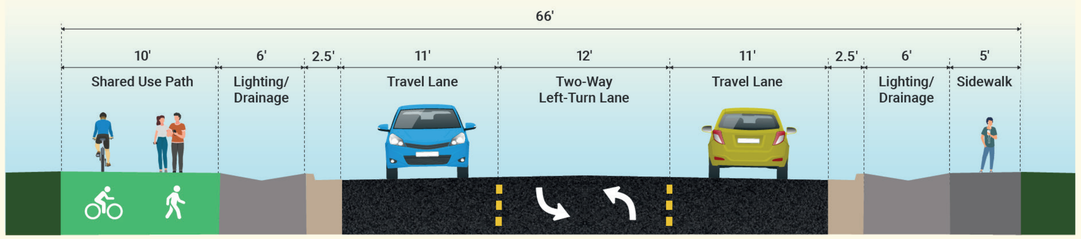
Build Alternatives Considered

Through early engineering studies, engagement with the Stakeholder group, and comments received at the July 2024 Public Meeting, two Build Alternatives were developed to address current and future issues along the Teays Valley Road corridor and for comparison to the No-Build Alternative. These alternatives were presented to the Stakeholder group in December and based on feedback received, Alternative 2 was selected as the "Preferred Alternative" to move forward into preliminary and final design.

Alternative 1: Two-way Left-turn Lane Corridor

For this concept, the roadway will be three lanes wide with a two-way left-turn lane in the center. On the north side of the road, a 10' shared use path will be provided and a 5' sidewalk will be provided on the south side. This concept will be very similar to Teays Valley Road to the west of the project area; however, the sidewalk and shared use path will be "buffered" from the roadway with a 6' planted area for drainage and lighting

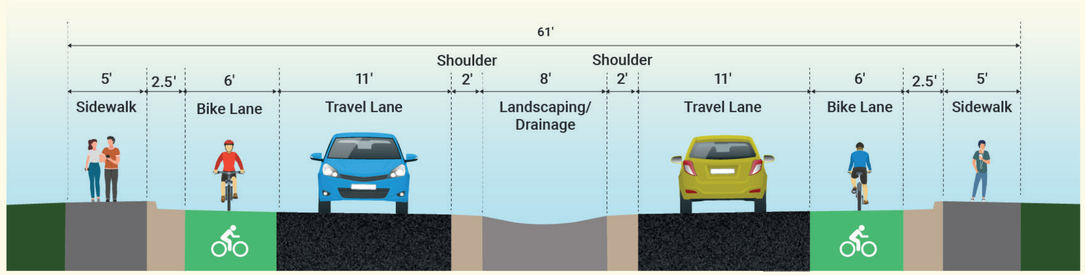


There would be additional improvements at higher-volume intersections:

- Teays Valley Road with Great Teays Boulevard would be signalized. A 200' right-turn lane would be added from Teays Valley Road onto Great Teays Boulevard.
- Teays Valley Road with Scott Lane would be signalized and additional turn lanes added for key movements.

Alternative 2: Boulevard Corridor with Roundabouts (PREFERRED ALTERNATIVE)

Concept 2 would be a boulevard style roadway from Great Teays Boulevard to Scott Lane with roundabouts at key intersections. There would also be a 6' bike lane and 5' sidewalk in each direction. The center island would be 8' wide and used for plantings and lighting.



Single-lane roundabouts would be provided at key locations, listed to the right. These would allow for both turning to/from the side roads as well as u-turn movements.

- Great Teays Boulevard
- Erskine Lane
- Hidden Valley Drive
- Scott Lane

Impacts Matrix

	No-Build Alternative	Build Alternatives	
		Alternative 1: Two-way Left-Turn Lane	Alternative 2: Boulevard with Roundabouts PREFERRED ALTERNATIVE
Roadway Width	24'	66'	61'
Multi-modal Factilities	None	10' shared use path (north side) 5' sidewalk (south side)	5' sidewalk (both sides) 6' bike lane (both sides)
Historic Structure Impacts	None	TBD*	TBD*
Hazardous Waste Site Impacts	None	4	4
Stream Impacts	None	0.17 acres	0.22 acres
Wetland Impacts	None	0.11 acres	0.12 acres
Displaced Residences	None	23	18
Displaced Businesses	None	8	6
Right of Way Parcel Impacts	None	105	105
Construction Cost	N/A	$33,500,000	$32,000,000
Utility Cost	N/A	TBD	TBD
Right of Way Cost	N/A	TBD	TBD

* Historic Structures Survey is on-going.

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Traffic Operations and Safety Study Results

A traffic operations and safety study was prepared to investigate the future conditions if no improvements were made. This analysis helped identify locations along the corridor with poor traffic operations, delays, queuing, and high crash frequencies. These results served as a benchmark to compare with Alternative 1 and 2.

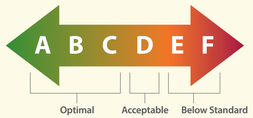
Traffic Operations Analysis

Each of the alternatives were evaluated from a traffic operations perspective and compared to the "do-nothing" option. The following tables summarizes the existing, future no-build, and future build level of service (LOS) at key intersections along the corridor. When considering traffic operations, both build alternatives address the 2045 issues and will operate at LOS B or better at each key intersection.

What is Level of Service (LOS)

Level of Service is a standard measurement, based on vehicle delay and queues, which reflects the relative ease of traffic flow on a scale of A to F.

LOS A Minor delay at at an intersection, little queuing | LOS F Highly congested traffic conditions



AM / PM LOS Summary

	2045 Build			
	2024 Existing	2045 No-Build	Alternative 1: Two-way Left-turn Lane Corridor	Alternative 2: Boulevard Corridor with Roundabouts
Great Teays Blvd (AM)	C	D	A	A
Great Teays Blvd (PM)	E	F	A	A
Erskine Lane (AM)	A	A	A	A
Erskine Lane (PM)	A	B	A	B
Scott Lane (AM)	B	B	A	A
Scott Lane (PM)	C	C	A	A

Predictive Crash Analysis

A predictive safety analysis was undertaken to understand how the proposed improvements impact the overall safety of the corridor. The table below provides a summary of the predicted annual crashes for the existing, future no-build, and future build conditions. When considering traffic safety, Alternative 1 shows a marginal improvement in the expected number of crashes annually. However, Alternative 2 shows a 19.8% reduction in crashes annually. This is due to the boulevard-style configuration which restricts left-turns to and from the corridor.

Predicative Crash Analysis (Crashes per Year, Annually)

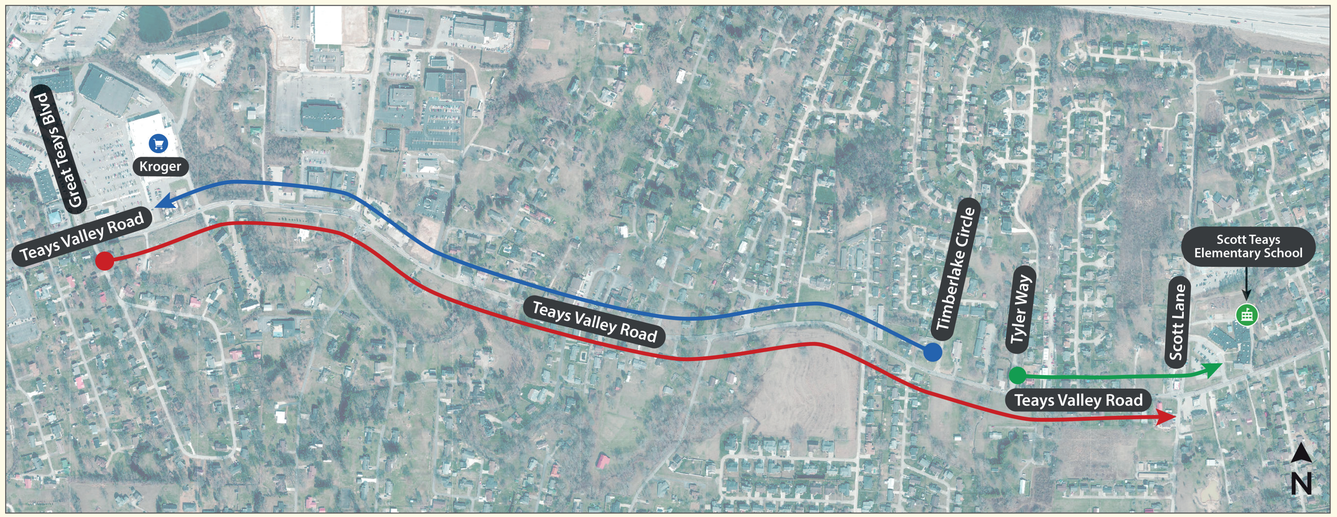
2045 Build	2045 Build		
	2045 No-Build	Alternative 1: Two-way Left-turn Lane Corridor	Alternative 2: Boulevard Corridor with Roundabouts
Fatal + Injury	11.37	11.04	7.80
Property Damage Only (PDO)	19.32	19.55	16.81
Total Predicted Crashes	30.68	30.60	24.61
% Reduction of Crashes		-0.20%	-19.8%

Travel Time

Another indicator of how the alternatives perform is the travel time both along the corridor (end to end) and between two given points. Using traffic simulation software, the travel times were measured for the No-Build and Build Alternatives.

Route Travel Time Summary

Route	2045 AM Peak Hour Average Travel Time (Minutes)			2045 PM Peak Hour Average Travel Time (Minutes)		
	No-Build	Alternative 1: Two-way Left-turn Lane Corridor	Alternative 2: Boulevard Corridor with Roundabouts	No-Build	Alternative 1: Two-way Left-turn Lane Corridor	Alternative 2: Boulevard Corridor with Roundabouts
#1: Great Teays Blvd to Scott Lane Left-turn from Great Teays Blvd to Teays Valley Road EB, turn left onto Scott Lane	3.7	2.5	2.3	11.8	3.4	4.2
#2: Timberlake Circle to Kroger Right-turn from Timberlake to Teays Valley Road, WB, right turn into Kroger	1.6	1.6	1.7	2.8	1.7	1.9
#3: Tyler Way to School Access Left-turn from Tyler to Teays Valley Road, EB, left turn into School Access; Roundabout option would require right-turn from Tyler to Teays Valley Road, WB to Hidden Valley Rounabout, u-turn to go EB, left-turn into School Access	0.5	0.6	1.7	0.7	0.7	1.9



Routes: Great Teays Blvd to Scott Lane | Timberlake Circle to Kroger | Tyler Way to School Access

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Proposed Schedule Timeline*

Preliminary Engineering

- Surveying
- Issues Forum with Stakeholders
- Environmental Studies
- Concept Development
- Public Meeting #1

SPRING / SUMMER 2024

Additional Preliminary Engineering

- Stakeholder Meeting #3
- Public Meeting #2
- Obtaining Borings
- NEPA Documentation and Approval
- Begin Right-of-Way Activities

FALL 2024- SPRING 2025

Final Design

- Design of Preferred Alternative
- Continued Right-of-Way Activities

SPRING 2025- SUMMER 2026

Anticipated Construction

- Stakeholder Meeting #4 (To Be Held Prior to Construction)

FALL 2026

***Note, all dates are subject to change**