

ECORSE ROAD TRANSPORTATION ANALYSIS

Ypsilanti Township, Washtenaw County, MI

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1.0 Report Summary

A transportation analysis was conducted providing a planning and traffic assessment of M-17 (Ecorse Road) in Ypsilanti Township and the City of Ypsilanti. The approximately 1.5-mile segment of M-17 (Ecorse Road) studied extends from West Michigan Avenue to approximately 950-feet east of the Ecorse Road/M-17 intersection with South Ford Boulevard, as shown in **Figure 1**. Ecorse Road serves as the primary commercial corridor connecting US-12 (Michigan Avenue) with I-94. Various businesses line the road, that also enjoy the easy access to I-94. Residents from the surrounding neighborhoods travel along the road and patronize the business and institutions.

The four signalized intersections in the study area are (**Figure 1**):

1. West Michigan Avenue and Ecorse Road/Center Street
2. Maus Avenue and Ecorse Road
3. South Harris Road and Ecorse Road
4. South Ford Boulevard and Ecorse Road

Error! Reference source not found. Figure 1: M-17 (Ecorse Road) Study Area and Signalized Intersections



This study, prepared by C2G for Ypsilanti Township with input from MDOT, includes the following:

- Review of the existing planning, zoning, traffic, and safety conditions
- Review of past planning efforts
- Future year (2050) background conditions
- Evaluation of future year (2050) potential roadway alternatives for the corridor, including the viability of a road diet.

A road diet has been considered in previous plans by the Township. A road diet was proposed as part of the 2018 Placemaking Plan and the Township's 2040 Master Plan to meet the goals

for a safer street, be easier for pedestrians to cross, lower traffic speeds, and help efforts to redevelop land uses along the road.

Ecorse Road is a Michigan Department of Transportation (MDOT) route, so their approval is needed for any changes to the road. For the road diet evaluation, this report used the MDOT/SEMCOG road design toolkit (Multimodal Tool). This toolkit helps test different alternatives impact on travel by autos, trucks, transit, and non-motorized travelers. The MDOT Road Diet Checklist criteria was also considered (Appendix G).

Planning

The Township has long planned for changes to the land uses and roadway design along the corridor. The recommendations have included consistent sidewalks, more pedestrian amenities, reducing the number of lanes (a “road diet”), and lowering traffic speeds. Some of the long-term land uses are auto-oriented or industrial and trucking in nature, which conflicts to a degree with the Township’s long-term plan for a more walkable roadway and pedestrian-oriented design. As a result, there is not a cohesive design amongst the developments in terms of setbacks and design.

Various Township Plans, including the Ypsilanti Township 2040 Master Plan and the 2018 Placemaking Plan, have laid the groundwork and propose to transform Ecorse Road into a safer, multimodal, and more beautiful corridor that entices quality, denser mixed-use development, that can also help revitalize the adjacent neighborhoods. The goal is to support existing businesses and institutional anchors, as well as attract new businesses to the corridor. The common vision and recommendations of past planning efforts are aimed at transitioning the corridor to serve the needs of the surrounding neighborhood and the greater community by being a more vibrant, walkable, people-oriented mixed-use corridor.

The missing ingredient of the previous plans was a more detailed evaluation to determine if a road diet was practical and could be supported by MDOT (MDOT has jurisdiction over the road and its right-of-way). Thus, this study was conducted to analyze the traffic conditions, explore different cross sections in terms of safety and traffic operations, and work with MDOT to determine how the roadway can be redesigned in the future, so the Township can work with the property owners and future businesses to complete the corridor vision. See **Section 2.0** for previous plan summaries.

Existing Traffic Operations and Safety

New traffic counts were taken as part of this study. All four of the signalized intersections operate at what MDOT defines as “acceptable levels of service” at all movements in both the morning and afternoon periods. (Level of Service is a mathematical calculation, ranging from A-F, of the delay for a typical vehicle. A level of service D or better is typically acceptable to MDOT).

Safety: Ecorse Road had a total of 159 crashes that occurred during the five-year period from 2019-2023. Multiple severe crashes were categorized as angle, head-on, or pedestrian crashes. Roadway improvements were examined based on their potential to address these crash types. Of the 159 crashes that occurred 116 crashes (73%) resulted in no injury. The non-incapacitating and possible injuries were 38 crashes (24%) that resulted in some level of injury. There were zero fatalities and 5 serious injury crashes (3%). The most common crash types seen throughout the study area are Angle Straight, Side-Swipe Same, Angle Turn, and Rear-End Straight.

There were three crashes in the study area involving vulnerable road users: two involving bicyclists and one involving a pedestrian. One bike and one pedestrian crash occurred at the Harris Road intersection, while the other bike crash occurred north of Maplewood Avenue and south of Parkwood Avenue. **Section 3.3** summarizes the safety analysis.

Future Conditions, Year 2050

Background Traffic Operations, Year 2050: A growth rate was established for the year 2050 using population and employment data from the WATS and SEMCOG travel forecasting models. To be conservative, a combination of the housing and job growth rates was used to establish a 19.5% growth rate, as it relates to the population and employment growth of Ypsilanti Township and the surrounding communities that may impact the transportation facilities. From 2000 to 2020, the actual growth rate of Ypsilanti Township was 15.1% for that 20-year period. Thus, the 19.5% growth rate seemed reasonable for the 25-year growth period for Ypsilanti Township to 2050.

All study intersections had the growth factor applied to the existing intersection counts. The results showed the following for the AM and PM peak hours in 2050:

AM Peak Hour, Background, Year 2050: All four study intersections are operating at an acceptable LOS D (overall intersection) or better. Each of the intersection's movements are anticipated to operate at a LOS D or better throughout the project area.

PM Peak Hour, Background, Year 2050: All four study intersections are operating at an acceptable LOS D (overall intersection) or better, except for the West Michigan Avenue at Ecorse Road/Center Street intersection, which operates at LOS E (the eastbound (EB) shared through, right-turn lane operates at LOS F due to capacity constraints).

Future Conditions with a Road Diet, Year 2050: The intersection at West Michigan Avenue at Ecorse Road/Center Street would continue to operate at a Level of Service (LOS) E during the PM peak hour, consistent with background conditions. However, all other movements and intersections operate at an acceptable LOS D or better in the AM and PM peak hours.

Alternatives Analysis, Year 2050: Since the future conditions showed that removing one lane in each direction (road diet) was viable, several alternatives were analyzed for the corridor:

- Alternative 1: Two lanes (one lane in each direction with a median), plus a bike lane in each direction), and sidewalks
- Alternative 2A: Two lanes (one lane in each direction with a median) with a shared-use path
- Alternative 2B: Three lanes (one lane in each direction and a center-turn lane) with a shared-use path
- Alternative 3A: Two lanes (one lane in each direction with a median) with parking and a shared-use path
- Alternative 3B: Three lanes (one lane in each direction and a center-turn lane) with parking and a shared-use path

The MDOT/SEMCOG Multimodal Tool was utilized to assess each of these alternatives. The Multimodal Tool is designed to complement planning resources by determining project priorities and evaluating street designs whilst looking at multimodal performance measures. The multimodal tool was used to analyze existing roadway conditions as well as five alternatives that looked at optimizing the corridor for all users. See **Section 5.0** for the detailed analysis.

The two road diet alternatives that scored the highest using the Multimodal Tool, for the future year 2050, were:

- Alternative 2A: Two lanes (one lane in each direction with a median) with a shared-use path
- Alternative 2B: Three lanes (one lane in each direction and a center-turn lane) with a shared-use path

The wider shared-use path along Ecorse Road is safer for pedestrians and bikes. Adding a center median creates a challenge as it prohibits access to driveways on the other side of the road.

Recommendation

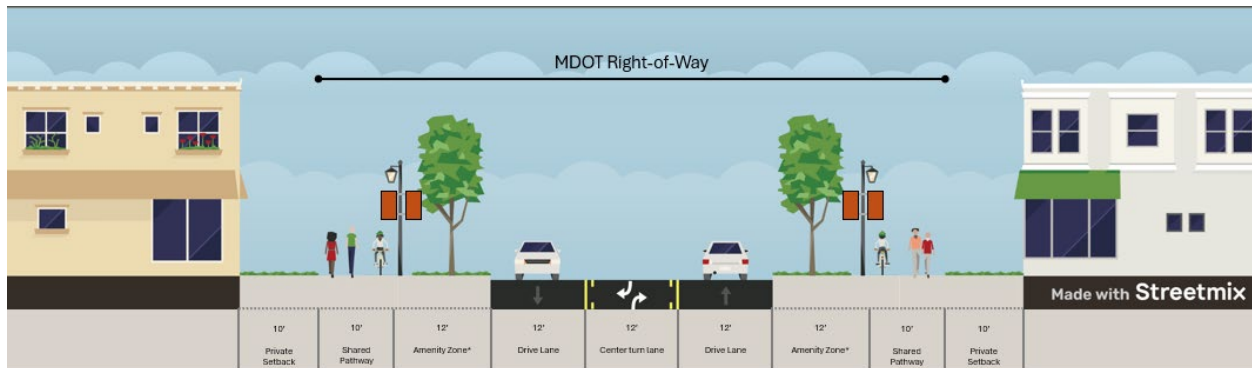
The preferred alternative (2B) is three lanes (one through lane in each direction and a center-turn lane) with a wider sidewalk/shared-use path along each side of the roadway, plus a raised center median in select locations along the corridor to improve safety (

Figure 2). The assumptions for the recommended alternative within the MDOT right-of-way includes:

- 12-foot wide lanes
- 12-foot wide amenity zone on both sides of the roadway
- 10-foot wide shared pathway on both sides of the roadway

Figure 2 also provides examples of uses that could be looked at for the amenity zones.

Figure 2: Preferred Alternative - Three Lane Roadway, With a Raised Center Median in Select Locations, and a Shared-Use Path for Bikes and Pedestrians



*Amenity Zone: Options may vary based on location and type of business or use and may require MDOT Permit

Examples of Amenity Zone Options:



Enhancements – things to make the road diet perform even better

The three-lane alternative will work even better with the following improvements:

- Add a short center median where the crashes are highest, along the curve where a driver’s sight distance is compromised between Davis Street and Maus Avenue. This median can also serve as a refuge for pedestrians trying to cross Ecorse Road.
- Close some of the closest spaced driveways. An excessive number of driveways can cause crashes. Too many driveways also make the corridor more complex for drivers and pedestrians trying to cross Ecorse Road.
- An additional mid-block pedestrian crossing with marked crosswalks and signs to alert the driver around Maplewood Avenue.
- Add a shared-use path along both sides of the road, to fill in the gaps and make it more pleasant to walk the street. Initially focusing on new sidewalks to connect with bus stops. Add amenities along the shared-use path or sidewalks, including street trees, lighting, benches, and low-level landscaping.
- Close Davis Street between Emerick Street and Ecorse Road. Keep Emerick Street one-way between Ecorse Road and Davis Street (work with City of Ypsilanti).
- Allow left turns from Maus Avenue to Ecorse Road.
- Add protected left-turn phases at Ecorse Road and Harris Road.
- Have the Township apply its form-based code to gradually allow redevelopment with buildings closer to the road, with parking on the sides or the rear. The Township’s

reduction in the number of parking spaces required for businesses also provides more room to add green space and stormwater detention.

These are draft recommendations. There will be a public workshop held in the Spring 2026, where citizens and stakeholders can ask questions or express their opinions. After that workshop, refinement can be made prior to the Township Board taking action to endorse the design. Then the Township will work with MDOT, the City of Ypsilanti, and various funding agencies toward implementation.

The desired outcome is to transform Ecorse Road, to be a multi-modal, safer, and more beautiful corridor that entices quality, denser mixed-use development, supports existing businesses and institutional anchors, and attracts new businesses. The 2040 Master Plan has laid the groundwork, supported by the additional plans reviewed in this section

2.1 Ypsilanti Township 2040 Master Plan, 2020

This plan is a guiding document for the Township’s development and land use plan, including setting direction on changes to Ecorse Road to align with the greater community’s interest and overarching plans. This plan emphasized public spaces, implementing a multi-modal network, creating placemaking opportunities, supporting local small businesses and entrepreneurship, and advancing additional infrastructure projects to *unlock* economic development opportunities.

The relevant goals and objectives of the Master Plan include:

- Extend Wiard Road over the railroad to Parkwood to connect East Michigan Avenue to Ecorse Road and the area surrounding the former Willow Run Bomber Plant. (This may be out of scope of the current Ecorse Road project.)
- Support existing businesses and facilitate new business growth.
- Promote mixed-use, walkable, development patterns including residential, commercial, and institutional uses.
- Create public spaces such as parks and plazas along corridors, such as public spaces in redevelopment of Ecorse Road and abutting parcels.

The Future Land Use map plans for Ecorse Road to be a ‘Neighborhood Mixed-Use Corridor’, marked in orange on **Figure 4**. This designation entails a mixture of uses: residential, commercial, office and employment. The intent of this is to improve the function, investment value, and aesthetics of the corridor. The yellow area on the map is residential, and the purple area is the ‘Innovation & Employment District,’ which is targeted for companies that focus on technology, office, craft manufacturing or light industrial uses.

Figure 4: Future Land Use Map



2.2 Ypsilanti Township Placemaking Plan, 2018

The Placemaking Plan is an economic and neighborhood development plan that focuses on Ecorse Road and East Michigan Avenue. Placemaking contributes to economic development by creating inviting spaces that attract residents, businesses, and visitors alike, boosting the local economy. The plan was funded by the University of Michigan Economic Growth Institute through the Department of Defense (DOD) and Defense Manufacturing Assistance Program (DMAP).

Figure 5: Rendering from the Placemaking Plan illustrating a community plaza on Ecorse Road



What is currently an ‘unwalkable’, ‘outdated’, and ‘dysfunctional’ corridor (words used to describe the corridor through the engagement process), has great ‘potential’ to be ‘useful,’ ‘pedestrian friendly,’ ‘thriving,’ and a ‘destination.’

Public engagement for this plan consisted of a task force that met over 6 months, and with a two-day design workshop hosted at the Calvary Baptist Church.

Vision Statement

Through quality development, business incubation, creation of anchors, beautification and safety improvements, and reinvestment, E. Michigan Avenue and Ecorse Road will become a choice location for businesses, visitors and residents.

The action items relevant to this project include the following:

- Update building and site design standards to be more pedestrian-oriented and allow for placemaking, as shown in **Figure 5**.

- Address sidewalk gaps and improve midblock crossings and street lighting.
- Implement placemaking improvements such as public art, gateway features, and wayfinding signage.
- Pursue a Road Diet with MDOT to make the corridor more walkable, bikeable, and safe for all transportation modes. The illustrative example of the road diet included in the plan is included below as **Figure 6**. This Plan did not include any traffic evaluation, nor did it include MDOT in the planning process. Thus, this current study advances the road diet with an evaluation of safety and traffic.

Figure 6: Existing Conditions (top image) versus Illustrative Road Diet with Mixed-Use Pedestrian-Oriented Development (bottom)



2.3 Zoning along Ecorse Road, Ypsilanti Township, 2022

A recommendation of the Master Plan and Placemaking Plan was to update the zoning along the corridor to allow for denser, mixed-use development using ‘form-based code.’ Form-based code emphasizes building and site design and is more flexible on use like in traditional zoning.

In 2022, the Township updated the zoning for the parcels abutting this stretch of Ecorse Road to be one cohesive zoning district known as ‘Neighborhood Corridor’, noted in the shade of pink

on **Figure 7**. The surrounding areas remain as One-Family Residential, marked in green. The standardized zoning district aims to create a more cohesive corridor/commercial district.

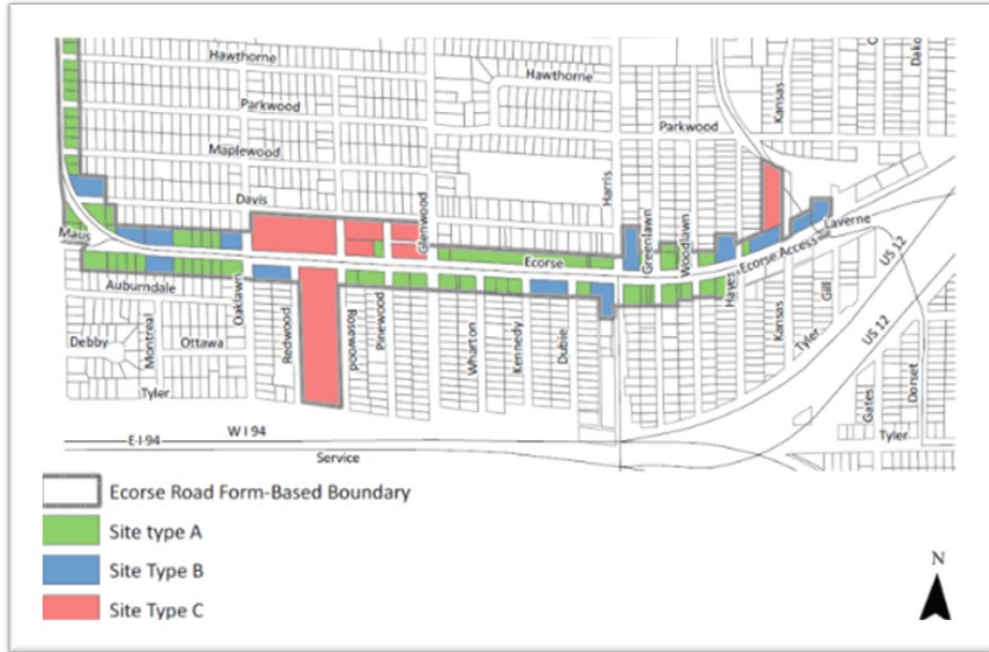
Within the district, the Zoning Ordinance sets form-based regulations for each parcel. The design standards, land uses, and business types are noted below in

Figure 8.

Figure 7: Ypsilanti Township Zoning Map of Ecorse Road



Figure 8: Ypsilanti Township’s Ecorse Road Form-Based Code District Map



Uses Permitted in Neighborhood Corridor (NC) (numbers correlating to Error! Not a valid bookmark self-reference.):

- Use 1: Residential
- Use 2: Mixed-Use; Child Care
- Use 3: Office and Institutional
- Use 4: Retail; Quick Service restaurant without drive-through; Personal services
- Use 5 (SLU): Senior Living; Veterinary; Adaptive Reuse; Fitness; Theatres
- Use 6 (SLU): Vehicle Car Wash; Bank with drive-thru; Vehicle fueling

Table 1: Building Form and Uses Permitted along Ecorse Road, Ypsilanti Township

Site Type	Building Form	Permitted Uses (see # list below)
A (Green)	10’ maximum front setback Parking in the rear and side	Permitted – 1, 2, 3, 4
B (Blue)	Allow free-standing single use buildings + buildings allowed in Site Type A	Permitted – 2, 3, 4
C (Red)	Larger than 1 acre, + Allows for Site Type A & B	Permitted – 2, 3, 4 Special use – 5, 6

It is important to note that with these approved uses, the Township is intentionally transitioning the corridor away from auto-oriented uses, such as gas stations and auto repair, that currently exist along the corridor to be more neighborhood-service oriented and walkable.

2.4 Ypsilanti Township Non-Motorized Transportation Plan, 2020

The desired changes to Ecorse Road to be more walkable and support nonmotorized transportation options fit into the Township's overall efforts to create a nonmotorized network throughout the Township. The proposed network would accommodate an increasing population and activity in travel to school, places of worship, work, and shopping, and suburban-style commercial districts.

Vision Statement

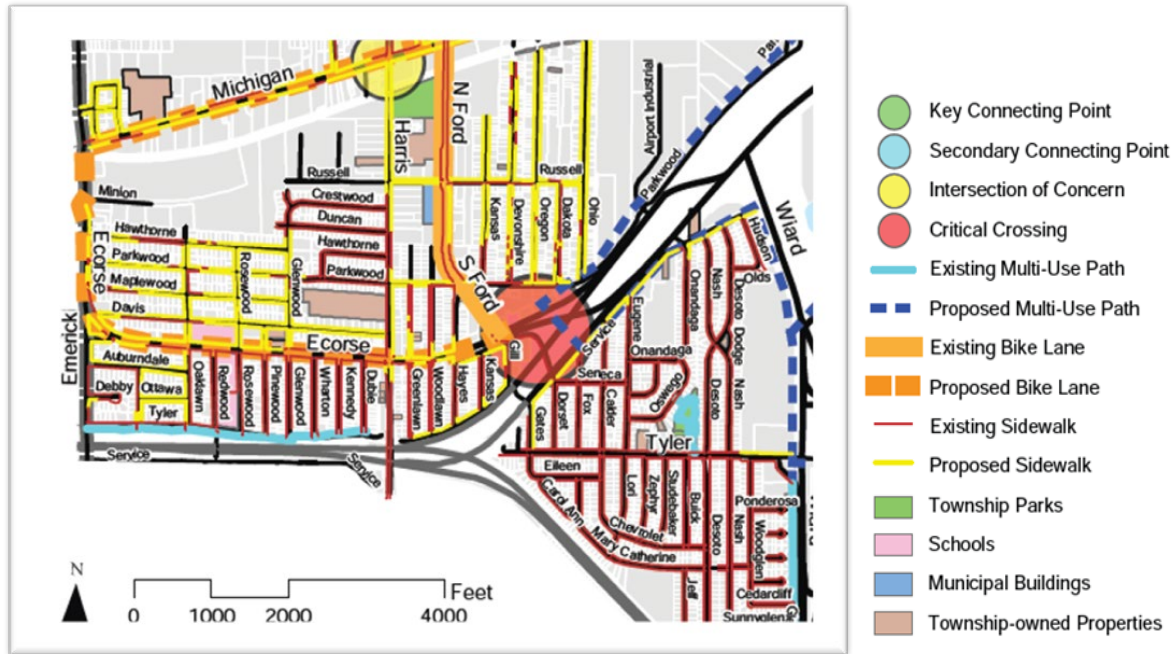
Make the utilization of non-motorized transportation a safer, easier, and more enjoyable options for residents to use as they go about their daily lives.

Ecorse Road, located in the northeast quadrant of the Township that has a large percentage on individuals who rely on mass transit, cycling, and walking for daily tasks, is marked as a secondary priority nonmotorized route. **Figure 9:** Existing & Proposed Non-Motorized Upgrades along and around Ecorse Road shows the existing and proposed non-motorized upgrades along and around Ecorse Road.

The proposed changes include:

- Add a bike lane, or multi-use path, from South Ford Boulevard west along the corridor to connect to Michigan Avenue.
- Fill sidewalk gaps along the corridor and into the residential neighborhood to the north.
- Improve streetlights.
- Conduct a Road Diet on Ecorse Road for pedestrian-friendly amenities (bike lanes, on-street parking, and bus pickup/drop off areas).

Figure 9: Existing & Proposed Non-Motorized Upgrades along and around Ecorse Road



3.0 Existing Traffic Operations

Traffic counts were taken to assess operations for the weekday AM and PM peaks hours. According to MDOT the 2024 AADT along Ecorse Road was 9,260. There is one SMART bus route, Route 44, that runs along the corridor, traveling east and west. It has three key stops: the Ypsilanti Transit Center, the intersection of Ecorse Road and Harris Road, and West Willow Park. The Ecorse Road and Harris Road stop is one of the study intersections within the corridor.

3.1 Traffic Counts

Traffic counts were conducted on Tuesday, December 3, 2024, along Ecorse Road to analyze the existing flow of vehicles and assess transportation patterns. These counts encompassed various modes of transportation, including passenger vehicles, heavy vehicles, pedestrians, and bicycles. The data collected showed the distribution of cyclists between the sidewalk and the road, shedding light on the preferences and behaviors of cyclists along the corridor. **Appendix A** shows the peak-hour turning-movement vehicular traffic counts that were collected throughout the corridor. Counts were taken at the following locations:

1. Ecorse Road/Center Street and Michigan Avenue
2. Ecorse Road and Maus Avenue
3. South Harris Road and Ecorse Road
4. South Ford Boulevard and Ecorse Road

As part of the data collection vehicle, truck, pedestrian, and bicycle counts were collected to understand all users of the corridor in the existing conditions. **Table 2** provides pedestrian and bicycle counts along Ecorse Road in the AM and PM peak hours and **Table 3** provides the truck volume and percentages along the corridor.

Table 2: Pedestrian and Bicycle Counts Along Ecorse Road

Intersection	Pedestrian Peak Hour Counts AM/PM	Bicycle Peak Hour Counts AM/PM
Michigan Avenue and Ecorse Road/Center Street	6/6	2/0
Maus Avenue and Ecorse Road	2/0	0/0
South Harris Road and Ecorse Road	8/6	0/0
South Ford Boulevard and Ecorse Road	8/2	0/0

Table 3: Truck Volumes and Percentages Along Ecorse Road

Intersection	Eastbound Ecorse Road AM/PM	Westbound Ecorse Road AM/PM
Michigan Avenue and Ecorse Road/Center Street	14 (2.5%) / 23 (6.8%)	41 (12.6%) / 31 (4.1%)
Maus Avenue and Ecorse Road	11 (7.5%) / 14 (2.5%)	14 (5.0%) / 41 (12.6%)
South Harris Road and Ecorse Road	12 (3.7%) / 22 (4.3%)	18 (5.5%) / 48 (13.7%)
South Ford Boulevard and Ecorse Road	21 (3.3%) / 24 (3.1%)	9 (4.2%) / 36 (9.2%)

3.2 Traffic Operations

Control delay and Level of Service (LOS) at project intersections were determined via Synchro 12, which calculates operational metrics using methodologies consistent with those in the *Highway Capacity Manual*¹ (HCM). LOS, which ranges between A and F, is an operational metric that ranks an approach or intersection based on average control delay per vehicle. Average control delay per vehicle includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS A represents traffic conditions with minimal delay, while LOS F represents severe congestion and delay. LOS D designation or better is considered acceptable in urban areas during the peak hours of the day. HCM LOS rankings and delay thresholds are summarized in **Table 4**.

Table 4: Highway Capacity Manual Intersection LOS Criteria

LOS	Brief Description	Unsignalized Average Delay ^B (seconds/vehicle)	Signalized Average Delay (seconds/vehicle)
A	Excellent operational levels with minimal or no delay.	0 - 10	0 - 10
B		> 10 - 15	> 10 - 20
C	Typical operational levels with moderate delay.	> 15 - 25	> 20 - 35
D		> 25 - 35	> 35 - 55
E	Operational levels with severe congestion and delay. ^A	> 35 - 50	> 55 - 80
F		> 50	> 80

^A Mitigation or improvements are usually considered with LOS E and LOS F designations.

^B Overall intersection LOS and delay values at two-way stop-controlled intersections are equivalent to LOS and delay values of the worst performing stop-controlled approach per HCM guidance.

Traffic signal permits were provided by MDOT for project intersections. Signal phasing, timing, and coordination patterns, along with roadway geometry and AM and PM peak hour volumes, were entered into Synchro models. The traffic signal permits are provided in **Appendix B**. All existing Synchro reports can be found in **Appendix C** of this report. **Table 5** summarizes the existing traffic delay and LOS for each of the study intersections as analyzed and reported by

¹ *Highway Capacity Manual 7th Edition: A Guide for Multimodal Mobility Analysis*. Washington, DC: The National Academies Press.

Synchro 12 for the peak hours. In both the AM and PM peak hours, all intersections and movements are operating at an acceptable LOS D (overall intersection) or better.

Table 5: Existing AM/PM Traffic Delay and LOS

Node #	Intersection	Movement*	AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS
1009	Michigan Avenue & Ecorse Road/Center Street	EBTR	22.1	C	48.7	D
		WBL	11.9	B	34.1	C
		WBT	11.0	B	18.7	B
		NBL	22.8	C	24.9	C
		Overall	17.3	B	42.7	D
1004	Maus Avenue & Ecorse Road	EBTR	0.3	A	0.4	A
		WBL	31.4	C	37.0	D
		WBT	1.5	A	1.3	A
		NBR	0.2	A	0.9	A
		Overall	3.5	A	2.5	A
1002	S Harris Road & Ecorse Road	EBL	9.1	A	12.3	B
		EBT	9.5	A	11.1	B
		EBR	9.6	A	11.3	B
		WBL	0.3	A	28.2	C
		WBT	0.2	A	17.7	B
		WBR	0.2	A	17.7	B
		NBL	24.3	C	25.6	C
		NBT	0.0	A	0.0	A
		NBR	25.4	C	25.2	C
		SBL	26.6	C	26.9	C
		SBT	0.0	A	0.0	A
		SBR	21.0	C	22.0	C
		Overall	14.0	B	18.4	B
1007	S Ford Boulevard & Ecorse Road	EBL	0.2	A	10.2	B
		EBT	0.2	A	9.9	A
		WBT	9.3	A	10.0	A
		WBR	0.2	A	0.4	A
		SBL	34.9	C	40.8	D
		SBR	1.4	A	5.5	A
		Overall	15.9	B	14.5	B

* EBL=Eastbound left turn; EBT=Eastbound through; EBTR=Eastbound through, right-turn EBR=Eastbound right turn; WBL=Westbound left turn; WBT=Westbound through; WBR=Westbound right turn; NBL=Northbound left turn; NBT=Northbound Through; NBR=Northbound right turn; SBL=Southbound left turn; SBT=Southbound Through; SBR=Southbound right turn

3.3 Safety Analysis

A safety analysis of Ecorse Road within Ypsilanti Township was performed over five years beginning January 1, 2019, through December 31, 2023. Crash data from 2020-2021 showed a decrease in overall crashes but an increase in severity. This was a notable trend across the U.S. during the lockdown and low travel period of the COVID-19 pandemic. Analyzing crash history helps identify hazardous areas and possible mitigations to repetitive crashes. Crash data was provided by MDOT.

Segments were analyzed by looking at the worst injury in a crash or crash severity. The KABCO injury classification system is utilized in traffic crash reports to assess the severity of injuries sustained by individuals in an accident. This system helps standardize crash data collection and supports analysis of roadway safety. It includes five levels, as outlined by the state of Michigan and defined by the Federal Highway Administration:

- **K (Killed):** Is any injury that results in death due to a motor vehicle traffic crash.
- **A (Incapacitating Injury):** Is any injury, other than fatal, that prevents the injured person from walking, driving, or normally continuing the activities that he or she could perform before the motor vehicle traffic crash. Includes: Severe lacerations, broken or distorted limbs, skull fracture, crushed chest, internal injuries, unconscious when taken from the crash scene, or unable to leave the crash scene without assistance
- **B (Non-Incapacitating Injury):** Any injury that is evident at the crash scene, other than fatal and incapacitating injuries. Includes: Lump on head, abrasion, and minor lacerations.
- **C (Possible Injury):** Any injury reported or claimed that is not a fatal, incapacitating, or non-incapacitating evident injury. Includes: Momentary unconsciousness, claim of injuries not evident, limping, complaints of pain, nausea, or hysteria.
- **O (No Injury):** This is a situation where there is no reason to believe that the person received bodily harm from the motor vehicle traffic crash. Property damage only.

3.3.1 Crash Types and Injury Classifications

Table 6 presents a summary of crash types and their associated severities within the study area. This data provides insight into the frequency and seriousness of various collision types.

Table 6: Ecorse Road Crash Type and Severity

Crash Type	K	A	B	C	O	Total
Angle Straight	0	1	8	4	25	38
Side-Swipe Same	0	0	1	1	26	28
Angle Turn	0	1	2	1	22	26
Rear-End Straight	0	0	2	2	17	21
Fixed Object	0	1	0	1	9	11
Head-On Left-Turn	0	0	1	4	3	8
Misc. Single Vehicle	0	0	2	0	4	6
Misc. Multiple Vehicle	0	0	0	0	4	4
Angle Driveway	0	0	3	1	0	4
Sideswipe Opposite	0	0	0	0	3	3
Other Driveway	0	0	1	0	1	2
Bicycle	0	0	1	0	1	2
Head-on	0	1	0	1	0	2
Parking	0	0	0	0	1	1
Pedestrian	0	1	0	0	0	1
Rear-End Driveway	0	0	0	1	0	1
Rear End Left-Turn	0	0	0	0	1	1
Total	0	5	21	17	116	159

*K (Killed), A (Incapacitating Injury), B (Non-Incapacitating Injury), C (Possible Injury), O (No Injury)

Of the 159 crashes that occurred, 116 Type O crashes (73%) resulted in no injury. The non-incapacitating and possible injuries had 38 crashes (24%) resulted in some level of injury. There were no fatalities (Type K) and 5 serious injury crashes (Type A) (3%). The most common crash types seen throughout the study area are Angle Straight, Side-Swipe Same, Angle Turn, and Rear-End Straight.

Official crash reports were reviewed for Type A injury crashes. The recorded details and witness descriptions found in these reports helped ascertain some of the contributing factors to these crashes. The following observations were made:

- **Crash Types:** The incidents include a variety of crash types—fixed object (1), head-on (1), angle collisions (2), and a pedestrian-related crash (1). This suggests multiple contributing factors and potential areas for targeted safety improvements.
- **High-Incidence Locations:** The intersection of Ecorse Road and Harris Road appears multiple times (three out of five incidents), identifying it as a high-conflict area with elevated crash risk.
- **Lighting and Conditions:** While most crashes occurred under dry conditions, two incidents happened during dark but lit conditions, suggesting that nighttime visibility and driver awareness could be areas for improvement.
- **Common Contributing Factors:** Left turns, right turns from inappropriate lanes, and possible failure to yield are recurring issues, particularly at intersections. This could

mean there is a need for clearer sign or lane designations, protected turn phases, or other traffic control measures.

A summary of serious injury crashes are shown in **Table 7**.

Table 7: Summary of Serious Injury Crashes

Type	Location	Date	Time	Condition	Description
1	Fixed Object Ecorse Road 100 feet east of Michigan Avenue	05/05/2020	00:16	Dark, lighted, Dry	Vehicle 1 was traveling eastbound (EB) on Ecorse Road when it ran off the roadway to the left and struck a pole head-on.
2	Head-On Intersection of Ecorse Road and Ford Boulevard	09/10/2022	20:15	Dark, lighted, Dry	Vehicle 1 was traveling EB on Ecorse attempting to turn left onto Ford Boulevard when they failed to yield to Vehicle 2 (motorcycle) heading westbound (WB) on Ecorse Road. Vehicle 1 struck Vehicle 2, and the driver of Vehicle 2 suffered serious injury.
3	Angle Intersection of Ecorse Road and Harris Road	08/21/2021	08:47	Daylight, Dry	Vehicle 1 was traveling southbound (SB) on Harris Road and Vehicle 2 was traveling WB on Ecorse Road and both drivers claimed to have -a green light. The passenger of Vehicle 1 was transported to the hospital for serious injuries.
4	Pedestrian Intersection of Ecorse Road and Harris Road	02/15/2019	17:44	Daylight, Dry	Vehicle 1 was traveling northbound (NB) on Harris Road making a left turn onto Ecorse Road for a green light when they struck a pedestrian crossing the intersection. The pedestrian was transported to the hospital for serious injuries.
5	Angle Intersection of Ecorse Road and Harris Road	5/12/2021	13:19	Daylight, Dry	Vehicle 1 and Vehicle 2 were traveling EB on Ecorse Road approaching Harris Road. Vehicle 1 was in the left lane on Ecorse Road and Vehicle 2 was in the right lane. Vehicle 1 attempted to make a right turn SB onto Harris Road from the left lane and struck Vehicle 2 which then struck Vehicle 3 which was stopped at the red signal on NB Harris Road. The driver of Vehicle 2 sustained a serious injury and was transported to the hospital.

There are four signalized intersections within the study area. Intersections are critical points in a roadway network where different traffic flows converge, making them high-risk locations for various collisions. Along Ecorse Road, the most common crashes within the segment with the most severe injuries are Angle and Head-On crashes as shown in **Table 8**. Harris Road has the highest concentration of Angle and Head-On crashes with nineteen total. This intersection has four legs with a diagonal span signal, and a permitted left-turn phase.

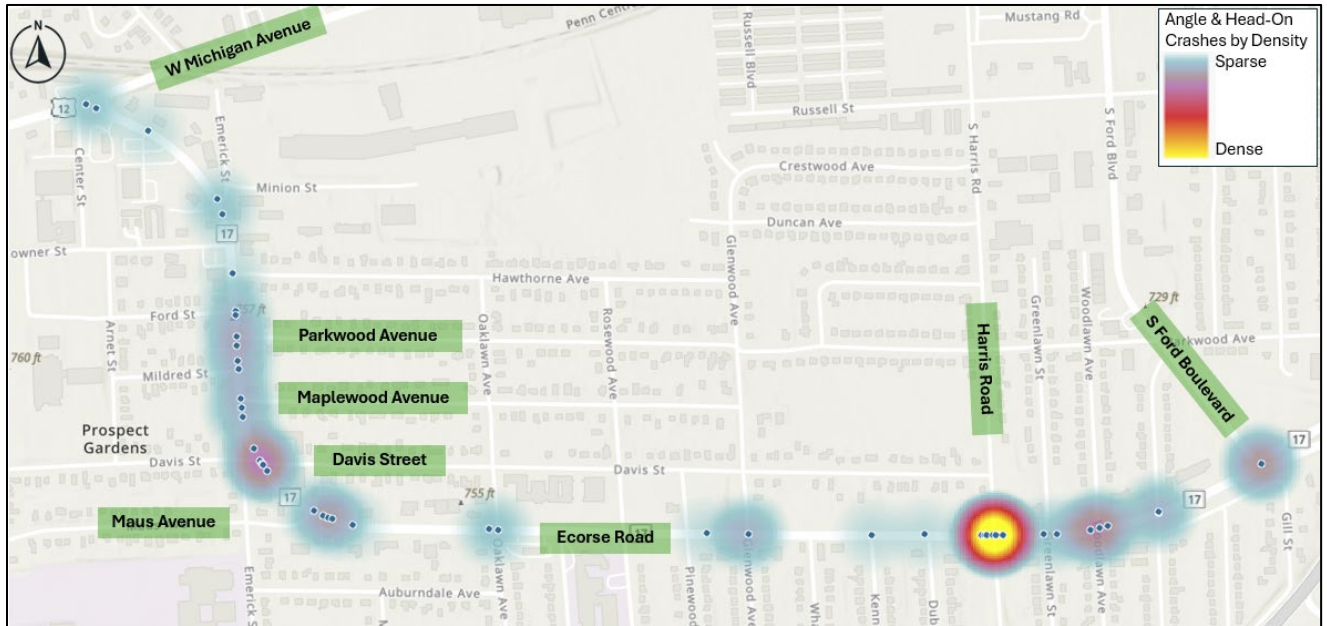
Table 8: Crash Type and Severity at Signalized Intersections

Signalized Intersections	Crash Types	A	B	C	O	Total
Ecorse Road / Center Street and Michigan Avenue	Angle Straight	0	0	0	1	2
	Angle Turn	0	0	0	1	
Ecorse Road and Maus Avenue	Angle Straight	0	0	1	0	1
Ecorse Road and South Harris Road	Angle Straight	1	4	0	5	19
	Head-On	0	0	1	0	
	Angle Turn	0	3	0	2	
	Head-On Left turn	0	0	2	1	
Ecorse Road and South Ford Boulevard	Angle Straight	0	0	0	4	5
	Angle Turn	0	0	0	1	

*K (Killed), A (Incapacitating Injury), B (Non-Incapacitating Injury), C (Possible Injury), O (No Injury)

There is a notable concentration of Angle and Head-On crashes at and surrounding the unsignalized intersection of Ecorse Road and Davis Street. A heat map of Angle and Head-On crashes are shown by crash concentration in **Figure 10** Error! Reference source not found. Access points, such as driveways or side streets may force drivers to make sudden maneuvers, increasing the likelihood of crashes. Improved geometric design, such as smoother curves and better access management, could help minimize these crash potentials. There were zero recorded crashes at the T-intersection located to the east of Ecorse Road and South Ford Boulevard.

Figure 10: Angle and Head-On Crashes by Density



There were three crashes in the study area involving vulnerable road users: two involving bicyclists and one involving a pedestrian. One bike and one pedestrian crash occurred at the Harris Road intersection, while the other bike crash occurred north of Maplewood Avenue and south of Parkwood Avenue. Possible mitigations for the crash types that have been identified as higher severity are included in **Table 9**.

Table 9: Ecorse Road Intersection Crash Types and Mitigations

Crash Type	Mitigations
Angle	<ul style="list-style-type: none"> • Improve sight distance by trimming trees or removing objects in the right-of-way (ROW) • Adjust roadway alignment to allow better sight distance • Access management / medians • Conversion to roundabout • Reduce number of lanes left turners conflict with • Add protected left turn phasing at signals
Vulnerable Road Users	<ul style="list-style-type: none"> • Update pedestrian facilities (safety paths), midblock crossings, high-visibility crosswalks • Consider adding leading pedestrian intervals • Change the number of lanes on the roadway • Add bike lanes

4.0 Future Conditions in 2050 (Background Conditions)

Background traffic represents future volumes with the existing roadway network. The expected growth rate was determined by forecast information from the Washtenaw Area Transportation Study (WATS) and the Southeast Michigan Council of Governments (SEMCOG). WATS indicated that the recent model they are using did not meet their expectations, so they suggested using the SEMCOG model data. WATS indicated that their model was estimating 1-1.25% per year growth. Using the SEMCOG model, the estimated growth was determined by comparing both estimated population growth from 2020 to 2050 in the traffic analysis zones (TAZs) and estimated job growth from 2019 to 2050 within Ypsilanti Township.

Ypsilanti Township Forecast Change 2020-2050 (SEMCOG model)

- Population growth = 7.3%
- Total Housing Units = 5.7%
- Job Growth= 13.8 %

To be conservative a combination of the housing and job growth rates were used to establish a 19.5% growth rate, as it relates to the population and employment growth of Ypsilanti Township and the surrounding communities that may impact the transportation facilities. From 2000 to 2020 the actual growth rate of Ypsilanti Township was 15.1% for a 20-year period. The growth rate of 19.5% is recommended to be utilized for a 25-year growth period for Ypsilanti Township.

4.1 Background Traffic Operations for the Year 2050

AM and PM peak hour Synchro reports for the Background Conditions are provided in **Appendix D**. Under the 2050 Background Conditions scenario, intersection geometry and traffic controls are identical to those in 2025 Existing Conditions. To create the Background Conditions, the anticipated growth was added to the Existing Conditions. Background Conditions AM and PM peak hours were determined via Synchro results and are summarized in **Table 10**.

AM Peak Hour, Background, Year 2050: All study intersections are operating at an acceptable LOS D (overall intersection) or better. Each of the intersection's movements are anticipated to operate at a LOS D or better throughout the project area.

PM Peak Hour, Background, Year 2050: All study intersections are operating at an acceptable LOS D (overall intersection) or better, except for the Michigan Avenue and Center Street/Ecorse Road which operates at LOS E. This is due to the EB shared through right-turn lane operating at LOS F.

Table 10: Background AM/PM Traffic Delay and LOS

Node #	Intersection	Movement*	AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS
1009	Michigan Avenue & Ecorse Road/Center Street	EBTR	23.8	C	117.0	F
		WBL	13.9	B	44.4	D
		WBT	11.7	B	19.6	B
		NBL	27.8	C	26.5	C
		Overall	19.4	B	72.5	E
1004	Maus Avenue & Ecorse Road	EBT	0.3	A	0.3	A
		WBL	33.8	C	39.5	D
		WBT	1.7	A	1.1	A
		NBR	0.2	A	3.5	A
		Overall	3.8	A	2.9	A
1002	S Harris Road & Ecorse Road	EBL	9.1	A	13.2	B
		EBT	9.7	A	11.8	B
		EBR	9.8	A	11.9	B
		WBL	0.5	A	32.8	C
		WBT	0.3	A	18.2	B
		WBR	0.3	A	18.2	B
		NBL	25.8	C	27.6	C
		NBT	0.0	A	0.0	A
		NBR	27.6	C	27.4	C
		SBL	28.8	C	29.2	C
		SBT	0.0	A	0.0	A
		SBR	21.6	C	22.8	C
Overall	14.8	B	19.8	B		
1007	S Ford Boulevard & Ecorse Road	EBL	14.7	B	12.0	B
		EBT	14.5	B	12.0	B
		WBT	11.3	B	12.6	B
		WBR	0.2	A	0.5	A
		SBL	33.1	C	38.0	D
		SBR	2.0	A	4.4	A
		Overall	16.3	B	15.0	B

* EBL=Eastbound left turn; EBT=Eastbound through; EBR=Eastbound right turn; EBTR=Eastbound through, right-turn; WBL=Westbound left turn; WBT=Westbound through; WBR=Westbound right turn; NBL=Northbound left turn; NBT=Northbound Through; NBR=Northbound right turn; SBL=Southbound left turn; SBT=Southbound Through; SBR=Southbound right turn

5.0 Alternatives Analysis

This chapter examines the potential future impact of implementing a road diet along Ecorse Road, which would involve the **removal of one travel lane in each direction** starting northeast of Emerick Street to approximately 950-feet east of the Ecorse Road/M-17 intersection with South Ford Boulevard. At the eastern end, the road diet will begin at the Ecorse Road and US-12 T-intersection. It is proposed that the existing dedicated right-turn pocket is removed and the remaining two through lanes be restriped as a through lane and a right-turn.

This is in support of the Ecorse Road Placemaking Plan which looks to encourage economic development through infrastructure improvements and business growth. Key goals of the plan include promoting mixed-use, walkable developments, supporting existing and new businesses, and incorporating public spaces—such as parks and plazas—into future redevelopment along Ecorse Road. The alternative analysis focuses on how this change could affect traffic operations, using Level of Service (LOS) as the primary metric for evaluation to determine whether the reduced roadway capacity can still accommodate future traffic volumes while maintaining acceptable LOS standards. This evaluation provides critical insights into transportation planning and decision-making as the area continues to develop.

5.1 Future Traffic Operations

Intersection delay and LOS for road diet conditions in the AM and PM peak hours are summarized in **Table 11**. Synchro reports for 2050 Project Conditions AM and PM peak hours are provided in **Appendix E**. Operations to the east of the study area were observed in the proposed road diet configuration, and queuing is not expected to create operational concerns.

AM Peak Hour, Future with the Road Diet, 2050: All intersections are anticipated to continue to operate at an acceptable LOS D (overall intersection and movement) or better during the AM peak hour under road diet conditions.

PM Peak Hour, Future with the Road Diet, 2050: All study intersections are anticipated to operate at an acceptable LOS D (overall intersection) or better, except the Michigan Avenue and Ecorse Road/Center Street intersection which operates at LOS E. This problem is carried forward from the Background conditions where the eastbound shared through, right-turn lane is over capacity and operates at LOS F.

Table 11: Future Road Diet AM/PM Traffic Delay and LOS

Node #	Intersection	Movement*	AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS
1009	Michigan Avenue & Ecorse Road/Center Street	EBTR	23.8	C	117.0	F
		WBL	13.9	B	44.4	D
		WBT	11.7	B	19.6	B
		NBL	27.8	C	25.9	C
		Overall	19.4	B	72.4	E
1004	Maus Avenue & Ecorse Road	EBTR	0.3	A	1.0	A
		WBL	33.8	C	39.4	D
		WBT	1.7	A	2.4	A
		NBR	0.2	A	3.5	A
		Overall	3.8	A	3.7	A
1002	S Harris Road & Ecorse Road	EBL	9.1	A	13.2	B
		EBT	9.7	A	11.8	B
		EBR	9.8	A	11.9	B
		WBL	0.5	A	32.8	C
		WBT	0.3	A	18.2	B
		WBR	0.3	A	18.2	B
		NBL	25.8	C	27.6	C
		NBT	0.0	A	0.0	A
		NBR	27.6	C	27.4	C
		SBL	28.8	C	29.2	C
		SBT	0.0	A	0.0	A
		SBR	21.6	C	22.8	C
		Overall	14.8	B	19.8	B
1007	S Ford Boulevard & Ecorse Road	EBL	14.7	B	13.6	B
		EBT	14.5	B	17.0	B
		WBT	11.3	B	16.6	B
		WBR	0.2	A	0.5	A
		SBL	33.1	C	38.0	D
		SBR	2.0	A	4.4	A
		Overall	16.3	B	17.2	B

* = Level of Service; EBL=Eastbound left turn; EBT=Eastbound through; EBR=Eastbound right turn; EBTR=Eastbound through, right-turn; WBT=Westbound through; WBR=Westbound right turn; NBL=Northbound left turn; NBT=Northbound Through; NBR=Northbound right turn; SBL=Southbound left turn; SBT=Southbound Through; SBR=Southbound right turn

5.1 Multimodal Tool Analysis

The Multimodal Tool is designed to complement planning resources by determining project priorities and evaluating street designs whilst looking at multimodal performance measures. The Multimodal Tool was used to analyze existing roadway conditions as well as several alternatives that looked at optimizing the corridor for all users. The inputs include speed limit and average annual daily traffic (AADT).

- The speed limit along Ecorse Road changes from 35-45 MPH, to be conservative the 45 MPH speed was shown for both existing and alternatives.
- The total average daily traffic (ADT) of the study area in 2024 was 9,260.
- A growth rate of 19.5% was used to calculate 2050 ADT projections at 11,145 ADT. The ADT input is categorized as ranges. Existing is shown in the range 5,001-10,000 and future analysis will be shown in 10,001-20,000.
- Modal tiers are determined based on existing and planned regional data/analysis. The Multimodal Tool recognized the land use context as a Suburban Corridor. Modal tiers and priorities for this project are ranked as follows:
 - 1) Pedestrian (modal tier one)
 - 2) Bike (modal tier one)
 - 3) Auto (modal tier two)
 - 4) Freight (modal tier two)
 - 5) Transit (modal tier three)

All elements are scored on a scale from one to four with one being the best and four being the worst. All the Multimodal Tool data is in **Appendix F**.

In using the Multimodal Tool, all of the alternatives have some nonmotorized safety improvement by reducing a lane in each direction. Here are the alternatives studied for the corridor:

- Alternative 1: Two lanes (one lane in each direction with a median), plus a bike lane in each direction), and sidewalks
- Alternative 2A: Two lanes (one lane in each direction with a median) with a shared-use path
- Alternative 2B: Three lanes (one lane in each direction and a center-turn lane) with a shared-use path
- Alternative 3A: Two lanes (one lane in each direction with a median) with parking and a shared-use path
- Alternative 3B: Three lanes (one lane in each direction and a center-turn lane) with parking and a shared-use path

5.1.1 Existing Conditions

The assessment of existing conditions is based on a cross-section representing the segment with the fewest amenities. A typical width of 80 feet—from back of sidewalk to back of sidewalk—was established using measurements from Google Earth. It is important to note that the actual right-of-way may extend beyond this assumed limit. With the Form-Based Code there could be an additional 2-foot setback or vary, but for purposes of using the tool, we just went from building face to building face assuming they were on the right-of-way line. The current cross section and scoring are as shown in **Figure 11** and **Table 12**.

Figure 11: Ecorse Road Existing Condition Cross Section

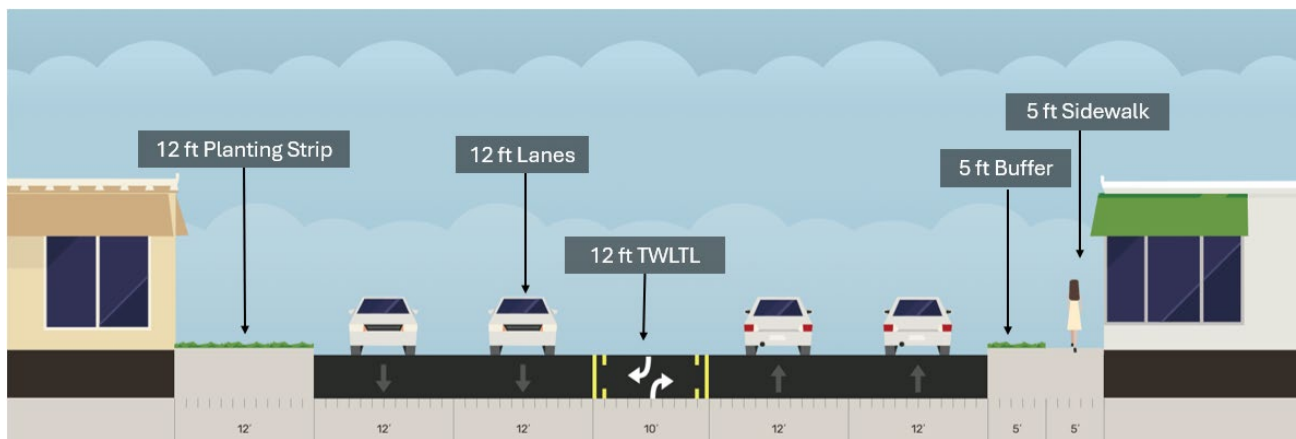


Table 12: Existing Conditions Multimodal Tool Score

Pedestrian Improvements		Modal Tiers				
		Ped	Bike	Transit	Auto	Freight
Existing	Average	2.5	4	4	1	1.5
	Weakest Link	4	4	4	1	2

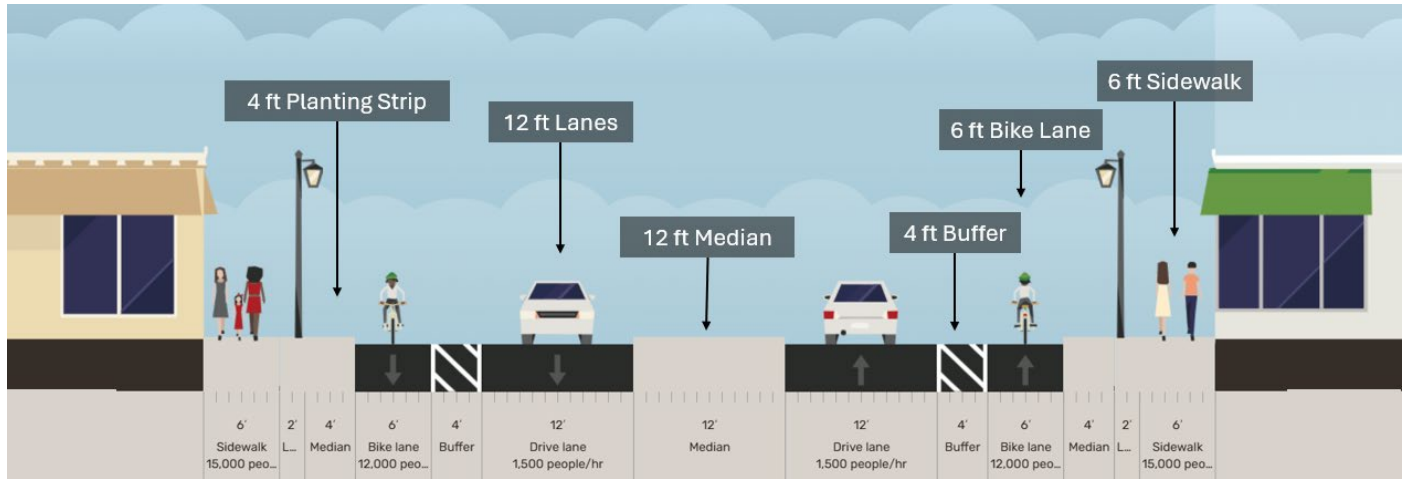
The weakest link score is determined by the lowest scoring element in each section. Pedestrians earned a score of four due to roadway speed and the useable sidewalk width. Bike scored four on weakest link due to the lack of bikeway amenities. Transit scored four due to the roadway lacking transit stop amenities. Autos and freight earned good modal tier scores across every element.

5.1.2 Alternative 1: Road Diet and Bike Lane

This alternative proposes a road diet on Ecorse Road, reducing the existing two-lanes in each direction, to a single travel lane in each direction with the addition of a median. Additionally, the design includes the introduction of bike lanes within the roadway, separated from vehicular traffic by a painted buffer. The cross section is shown in **Figure 12** and comparison of existing and alternative scores are shown in **Table 13**. With a 4-foot buffer available, there is potential to enhance bike lane protection through the installation of precast concrete blocks or cast in

place concrete median. Alternatively, movable planters could be used as a buffer to provide a visually appealing and flexible form of separation. These planters offer the additional advantage of being removed during the winter months, allowing for more efficient snow removal while still maintaining year-round functionality for cyclists.

Figure 12: Alternative 1 - Road Diet with a Bike Lane and a Median



Changes from existing scores are shown in the “**Net Change in Score**” row, with increases in score being denoted by positive numbers, and decreases in score are denoted by negative numbers.

The **weakest link** score is determined by the lowest scoring element in each section. Pedestrians earned a score of four due to roadway speed and the useable sidewalk width. Bikes scored four on the weakest link due to the type of buffer and the number of midblock conflicts, but the **average score** is an improvement indicator compared to the existing score. Transit scored four due to the roadway lacking transit stop amenities. Autos earned a good modal score, and freight decreased in average score by 0.5 due to the slight decrease in the lane width.

The introduction of raised medians and defined parking areas presents opportunities to improve pedestrian safety and accessibility. Specifically, pedestrian refuge islands can be incorporated into median openings, providing safer crossing points at intersections. Additionally, curb extensions (bumpouts) could be implemented to shorten crossing distances and enhance pedestrian visibility. While vehicle turning movements would need to be evaluated to ensure operational feasibility, these enhancements remain viable options.

Table 13: Alt 1 – Road Diet with a Bike Lane and a Median Multimodal Tool Score

Pedestrian Improvements		Modal Tiers				
		Ped	Bike	Transit	Auto	Freight
Existing	Average	2.4	4	4	1	1.5
	Weakest Link	4	4	4	1	2

Bike Lane in Road	Average	1.7	2.5	4	1	2
	Weakest Link	4	4	4	1	2
Net Change In Score	Average	0.7	1.5	0	0	-0.5
	Weakest Link	0	0	0	0	0

The following scores improved from existing:

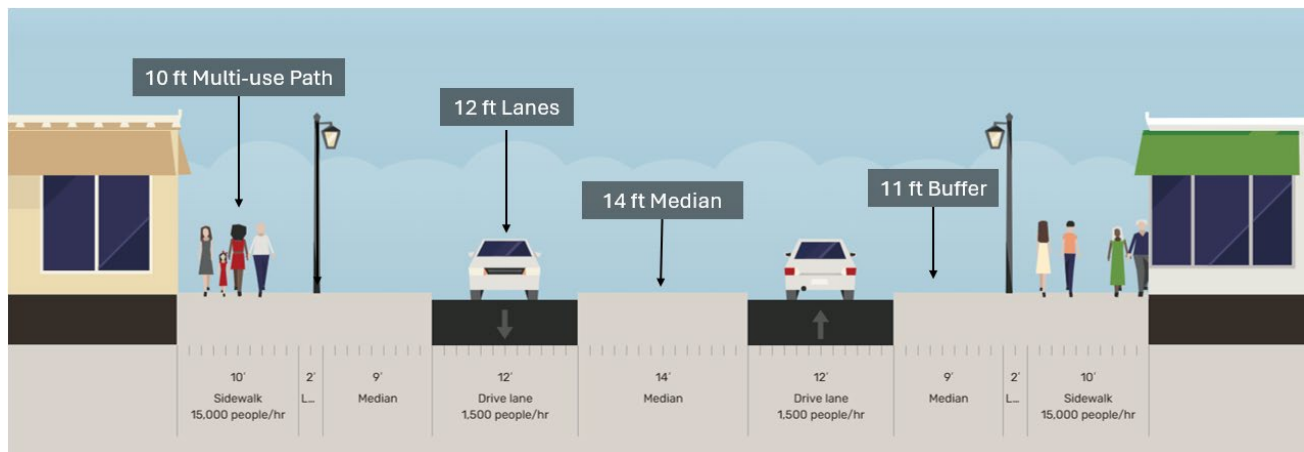
- Average pedestrian score improved by 0.7
- Average bike score improved by 1.5

5.1.3 Alternative 2: Road Diet and Shared-Use Path

This alternative presents a road diet combined with the implementation of a shared-use path designed to accommodate both bicyclists and pedestrians simultaneously. Two variations are included: Alternative 2A features a center median (**Figure 13**), while Alternative 2B includes a two-way left-turn lane (TWLTL or center-turn lane) in place of the median (**Figure 14**). The Ypsilanti Non-Motorized Plan recommends a minimum width of 10 feet for shared-use paths. In comparison, the AASHTO (American Association of State Highway and Transportation Officials) guidelines suggest a wider range, typically between 11 to 14 feet, depending on context and expected usage levels. In the proposed alternatives, a 10-foot width was used as the baseline. The width of the shared-use path can be widened if needed. The Multimodal Tool scores are provided in **Table 14** and **Table 15**, respectively.

5.1.3.1 Alternative 2A: Shared-Use Path with Median

Figure 13: Alternative 2A - Road Diet with a Shared-Use Path and a Median



The weakest link score is determined by the lowest scoring element in each section. Pedestrians earned a score of four due to roadway speed and the useable sidewalk width. Bikes scored a four on the weakest link due to the type of buffer, and the number of midblock conflicts. Overall, the average scores improved for pedestrians and bikes with a shared-use path. The

transit scored four due to the roadway lacking transit stop amenities. Autos and freight earned a good modal score.

Table 14: Alt 2A - Road Diet with a Shared-Use Path and a Median Multimodal Tool Score

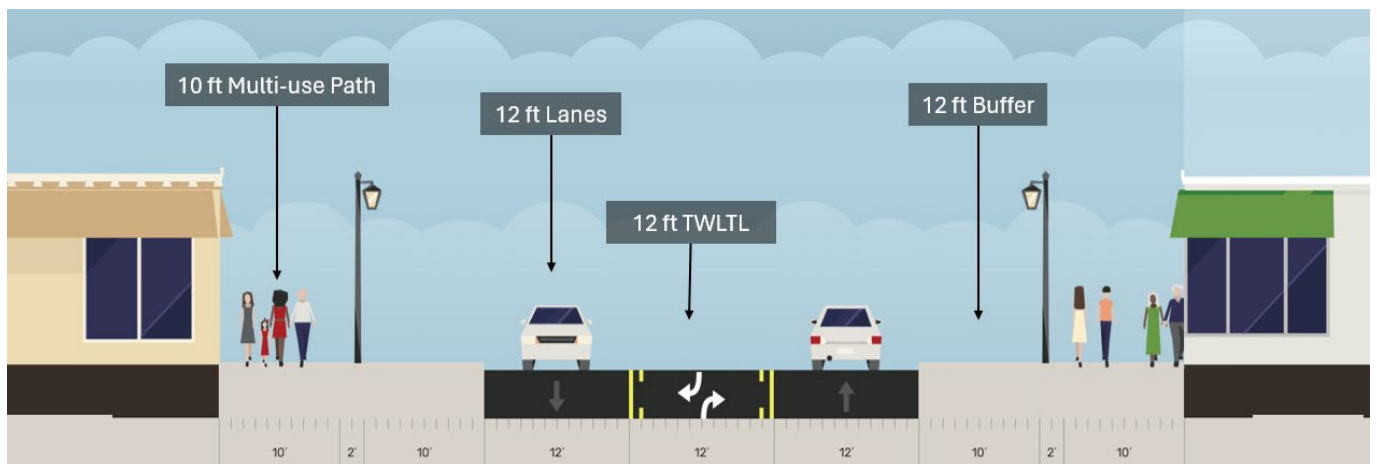
Pedestrian Improvements		Modal Tiers				
		Ped	Bike	Transit	Auto	Freight
Existing	Average	2.4	4	4	1	1.5
	Weakest Link	4	4	4	1	2
Shared-use Pathway and Median	Average	1.5	1.6	4	1	1.5
	Weakest Link	4	4	4	1	2
Net Change in Score	Average	0.9	2.4	0	0	0
	Weakest Link	0	0	0	0	0

The following scores improved from existing:

- Average pedestrian score improved by 0.9
- Average bike score improved by 2.4

5.1.3.2 Alternative 2B: Shared-use Path with a Two-Way Left-Turn Lane

Figure 14: Alternative 2B - Road Diet with a Shared-Use Path and a TWLTL



The weakest link score is determined by the lowest scoring element in each section. Pedestrians earned a score of four due to roadway speed. The bike scored four on weakest link due to midblock conflicts. Transit scored four due to the roadway lacking transit stop amenities. Autos and freight earned a good modal score.

Table 15: Alt 2B - Road Diet with a Shared-Use Path and a TWLTL Multimodal Tool Score

Pedestrian Improvements		Modal Tiers				
		Ped	Bike	Transit	Auto	Freight
Existing	Average	2.4	4	4	1	1.5
	Weakest Link	4	4	4	1	2
Shared-use Pathway and TWLTL	Average	1.7	1.9	4	1	1.5
	Weakest Link	4	4	4	1	2
Net Change in Score	Average	0.7	2.1	0	0	0
	Weakest Link	0	0	0	0	0

The following scores improved from existing:

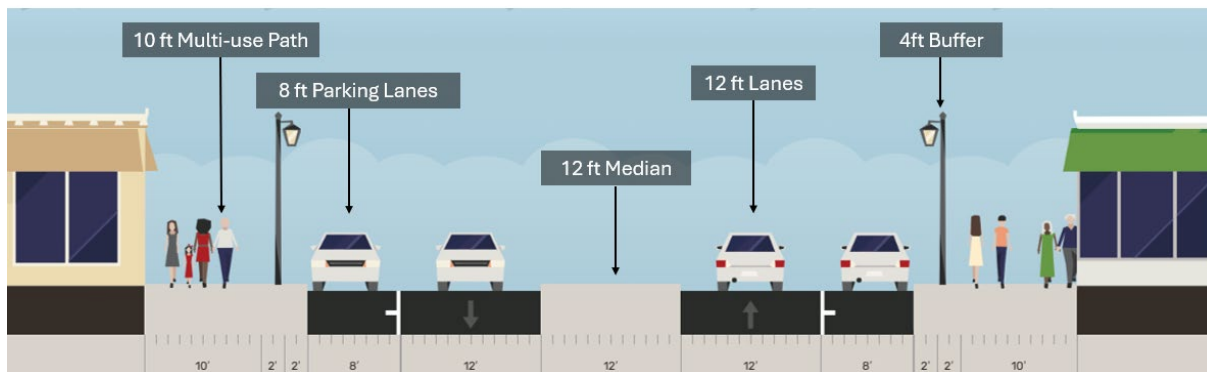
- Average pedestrian score improved by 0.7
- Average bike score improved by 2.1

5.1.4 Alternative 3: Road Diet and On-Street Parking

This alternative presents a road diet combined with the implementation of on-street parking. Two variations are included: Alternative 3A features a center median (**Figure 15**), while Alternative 3B includes a two-way left-turn lane (TWLTL) in place of the median (**Figure 16**). The Multimodal Tool scores are provided in **Table 16** and **Table 17**, respectively.

5.1.4.1 Alternative 3A: On-Street Parking with a Median

Figure 15: Alternative 3A - Road Diet with On-street Parking and a Median



The weakest link score is determined by the lowest scoring element in each section. Pedestrians earned a score of four due to roadway speed. The bike scored four on weakest link due to a lack of bike facilities; while the shared-use path provides an improvement, not having it be designated for bikes only does not improve the score. Transit scored four due to the roadway lacking transit stop amenities. Autos and freight earned a good modal score.

Table 16: Alt 3A - Road Diet with On-street Parking and a Median Multimodal Tool Score

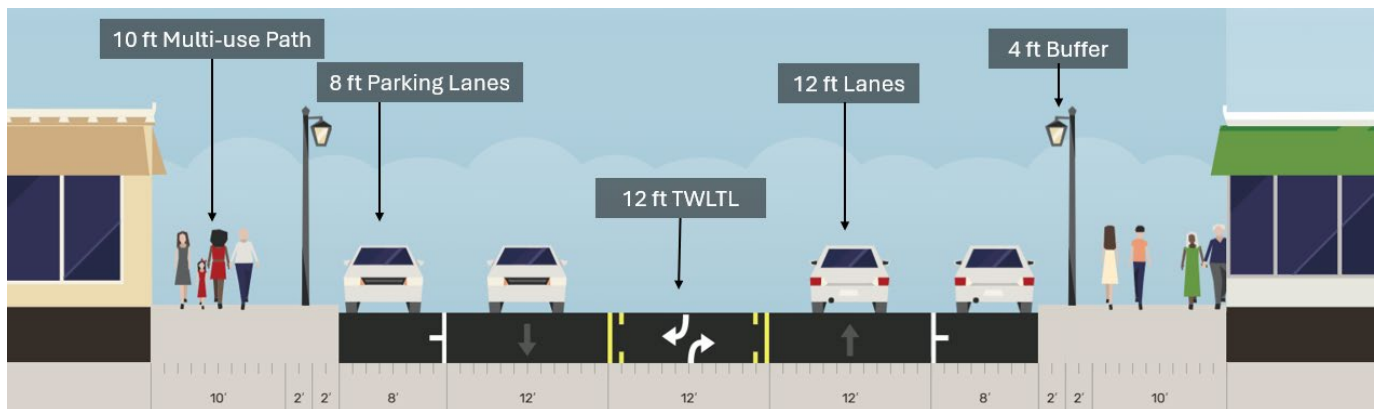
Pedestrian Improvements		Modal Tiers				
		Ped	Bike	Transit	Auto	Freight
Existing	Average	2.4	4	4	1	1.5
	Weakest Link	4	4	4	1	2
Parking & Median	Average	2	4	4	1	1.5
	Weakest Link	4	4	4	1	2
Net Change in Score	Average	0.4	0	0	0	0
	Weakest Link	0	0	0	0	0

The following scores improved from existing:

- Average pedestrian score improved by 0.4

5.1.4.2 Alternative 3B: On-street parking with a Two-Way Left-Turn Lane

Figure 16: Alternative 3B - Road Diet with On-street Parking and a TWLTL



The weakest link score is determined by the lowest scoring element in each section. Pedestrians earned a score of four due to roadway speed. The bike scored four on the weakest link due to a lack of bike only facilities; while the shared-use path provides an improvement, not having it be designated for bikes only does not improve the score. Transit scored four due to the roadway lacking transit stop amenities. Autos and freight earned a good modal score.

Table 17: Alt 3B – Road Diet with On-street Parking and a TWLTL Multimodal Tool Score

Pedestrian Improvements		Modal Tiers				
		Ped	Bike	Transit	Auto	Freight
Existing	Average	2.4	4	4	1	1.5
	Weakest Link	4	4	4	1	2
Parking & TWLTL	Average	1.5	3	4	1	1.5
	Weakest Link	4	4	4	1	2
Net Change in Score	Average	0.9	1.0	0	0	0
	Weakest Link	0	0	0	0	0

The following scores improved from existing:

- Average pedestrian score by 0.9
- Average bike score by 1.0

5.1.5 Summary of Multimodal Tool Analysis

In assessing the Road Diet (removing one lane in each direction) it is a viable solution. In using the Multimodal Tool, all of the alternatives have some nonmotorized safety improvement by reducing a lane in each direction. See **Table 18** for a summary of each alternative.

Alternatives 3A and 3B that allow parking creates more stop and go movements in the travel way with cars attempting to park, which is less safe, than if parking is provided off the roadway. Having a median (Alternatives 1 and 2A) does provide a safe refuge space for pedestrians that cross Ecorse Road, which is safer than a two-way center-turn lane along the entire length of the corridor. Access management is a challenge with the median the whole length of the corridor, as it is difficult for trucks and cars to access driveways easily. There is an opportunity to provide a median or refuge island at key crossing points or crash locations to improve safety and implement Alternative 2B. Median locations would be strategically laid out to prioritize safety and would be coordinated with corridor businesses to ensure acceptable access is maintained along Ecorse Road.

The wider shared-use path along Ecorse Road allows for pedestrians and bikes to have a safe off-road area. The median provides a safe refuge for pedestrians crossing but it is a challenge for cars needing to access the other side of the road. Potentially a three-lane roadway, with some medians for channelization and safety area on some of the curves might work well. Access management and development along the corridor will need to be discussed.

The top two alternatives, 2A and 2B, were selected based on the largest net change in MMT scores and were studied further.

Table 18: Alternatives Assessment

Alternative Name	Description	Positives	Challenges
Alternative 1	Two lanes (one lane in each direction with a median), plus a bike lane in each direction), and sidewalks	<ul style="list-style-type: none"> • Providing a bike lane improves bike safety • Median reduces head-on crashes • Median improves safety for pedestrians 	<ul style="list-style-type: none"> • Median creates access issues to driveways on the opposite side of the road
Alternative 2A	Two lanes (one lane in each direction with a median) with a shared-use path	<ul style="list-style-type: none"> • Median reduces head-on crashes • Median improves safety for pedestrians • Shared-use path is safest for non-motorized users 	<ul style="list-style-type: none"> • Median creates access issues to driveways on the opposite side of the road
Alternative 2B	Three lanes (one lane in each direction and a center-turn lane) with a shared-use path	<ul style="list-style-type: none"> • Center-turn lane provides accessibility to driveways on both sides of the road • Shared-use path is safest for non-motorized users 	<ul style="list-style-type: none"> • Potential for head-on crashes
Alternative 3A	Two lanes (one lane in each direction with a median) with parking and a shared-use path	<ul style="list-style-type: none"> • Median reduces head-on crashes • Median improves safety for pedestrians • Shared-use path is safest for non-motorized users 	<ul style="list-style-type: none"> • Parking increases congestion • Parking increases potential for crashes due to parking maneuvers
Alternative 3B	Three lanes (one lane in each direction and a center-turn lane) with parking and a shared-use path	<ul style="list-style-type: none"> • Center-turn lane provides accessibility to driveways • Shared-use path is safest for non-motorized users 	<ul style="list-style-type: none"> • Parking increases congestion • Parking increases potential for crashes due to parking maneuvers • Potential for head-on crashes

6.0 Recommendation

The recommendation for Ecorse Road is a modified Alternative 2B: Three lanes (one through lane in each direction and a center-turn lane) with a wider sidewalk/shared-use path along each side of the roadway, plus a raised center median in select locations along the corridor to improve safety.

The wider shared-use path along Ecorse Road allows pedestrians and bikes to have a safe off-road area. The median provides safe refuge for pedestrians crossing Ecorse Road but can also be a challenge for cars needing to access driveways on the other side of the road. Strategic placement of medians in short blocks can aid in channelizing vehicles to safer turning locations (see example of median between Davis Street and Maus Avenue in **Figure 17**).

Figure 17: Recommended Intersection Improvements from Davis Street to Maus Avenue



The proposed project should consider a safe systems approach to address the most severe and prevalent crashes that occur in the corridor. Some of the design elements that can address the crashes identified in this study include:

- Access Management along the corridor, regardless of whether the alternative has
 - a continuous median or areas for a continuous median
 - three lanes with a center left-turn lane (two-way left-turn lane)
- Updated pedestrian and bicycle facilities, wider shared-use paths
- Address pedestrian crossing locations along the corridor; adjust signal timing
- Protected left-turn phases at Ecorse Road and Harris Road

To make the improvements more actionable, they were categorized into short-term, medium-term, and long-term solutions, depending on their scope, complexity, and urgency. Here is a breakdown of what each category involves:

1. Short-Term Solutions (usually within two years):
 - a. Immediate, low-cost fixes that can quickly address safety concerns. These may be implemented in response to identified high-risk locations or specific crash patterns.
2. Medium-Term Solutions (usually within five years):
 - a. Moderate investment and planning are required to implement these solutions. They often involve more substantial changes but can be completed within a few years.
3. Long-Term Solutions (longer than five years):
 - a. Comprehensive, large-scale projects that aim to address more systemic issues and may take several years or more to plan, fund, and implement.

The goal is to determine which improvements would have the greatest impact on reducing fatal or serious injuries while considering cost, feasibility, and broader transportation goals. See

Table 19.

Table 19: Ecorse Road Mitigations

Short-Term Mitigation	Medium-Term Mitigation	Long-Term Mitigation
<ul style="list-style-type: none"> • Refresh crosswalks and stop bars in the following locations along Ecorse: <ul style="list-style-type: none"> ○ Maus Avenue/Ecorse Road intersection ○ Midblock crossing at Calvary Baptist Church ○ Harris Road/Ecorse Road intersection • Add lighting along Ecorse Road. Ypsilanti Township has some funds available to improve lighting along the corridor; coordinate with MDOT and DTE to improve walkability and safety. • Add a mid-block crossing with a pedestrian refuge median across Ecorse Road between Mildred Street and Maplewood Avenue. • Update chevron signs to standard height, size, and reflectivity at Maus Avenue. • Improve sight distance by trimming the trees at the southeast corner of the Harris Road/Ecorse Intersection. • Add pedestrian lead intervals at signalized intersections. 	<ul style="list-style-type: none"> • Monitor the signal timing at the Ecorse Road/US-12 (Michigan Avenue)/Center Street intersection. The signal timing may need to be adjusted. • Provide permissive protected left-turn phases at Ecorse Road and Harris Road (does not currently meet the MDOT left-turn phasing threshold). • Add signal backplates to signal heads to combat red-light running. • Address access management along the corridor as development changes/occurs. • Provide shared-use path on both sides of Ecorse Road. 	<ul style="list-style-type: none"> • Adjust roadway alignment to allow better sight distance. • Install a median, where needed for safety, along Ecorse Road. • Address alignment of Center Street at the Ecorse Road & Michigan Avenue intersection. • Convert diagonal span signals to mast arm or box signals along the corridor to aid in signal visibility. • Continue to improve access management as development changes occur. • Add curb extensions at intersections. • If a road diet is implemented, address the striping east of the South Ford Boulevard/Ecorse Road intersection to the US-12/Ecorse Road T-intersection.

Appendix A – *2025 Traffic Counts*

Appendix BA – *Traffic Signal Permits*

Appendix C B– *2025 Existing Synchro Reports*

Appendix D – *2050 Background Synchro Reports*

Appendix E– 2050 Future (Road Diet) Synchro Reports

Appendix F– *Multimodal Tool Reports*

Appendix G– *Road Diet Checklist*

Appendix H – *Historical Count Memorandum*