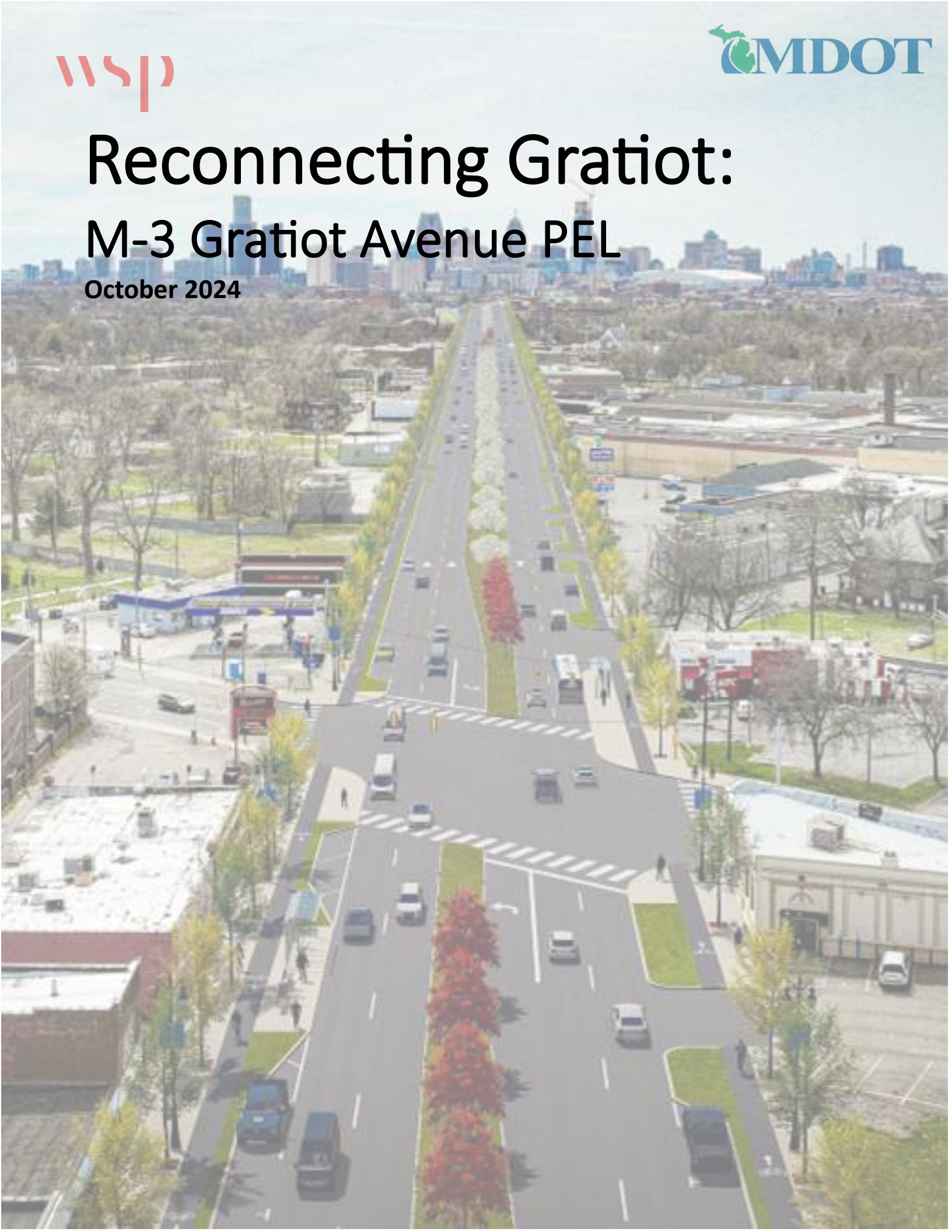
Reconnecting Gratiot:

M-3 Gratiot Avenue PEL

October 2024



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Acknowledgement of Partnership

MDOT appreciates the support of all participating parties including the following:

City of Detroit	**State of Michigan**
Detroit Department of Transportation	House District #9
Planning and Development Department	House District #12
Department of Public Works	House District #13
Department of Neighborhoods District 4	House District #10
Department of Neighborhoods District 3	Senate District #3
Jobs and Economic Team	Senate District #11
City Council District 5	Senate District #10
City Council District 4	**Federal**
City of Detroit Mayor's Office	Federal Highway Administration
Disability Network	Federal – Senate Stabenow
	Federal – Senate Peters
Neighborhood Associations	**Transportation Agencies**
Eastside Community Network	Michigan Department of Transportation
St. Vincent and Sarah Fisher Center	Regional Transportation Agency of SE Michigan (RTA)
Osborn Business Association (G7)	SMART
Detroit Catholic Pastoral Alliance	Southeast Michigan Council of Governments (SEMCOG)
Detroit Empowerment Zone Coalition	**Area Stakeholders**
Eden Garden Block Club	Detroit Disability Power
Bailey Park NDC	Transportation Riders United
Matrix Human Services	Eastern Market
Detroit Greenways Coalition	Agency Area on Aging

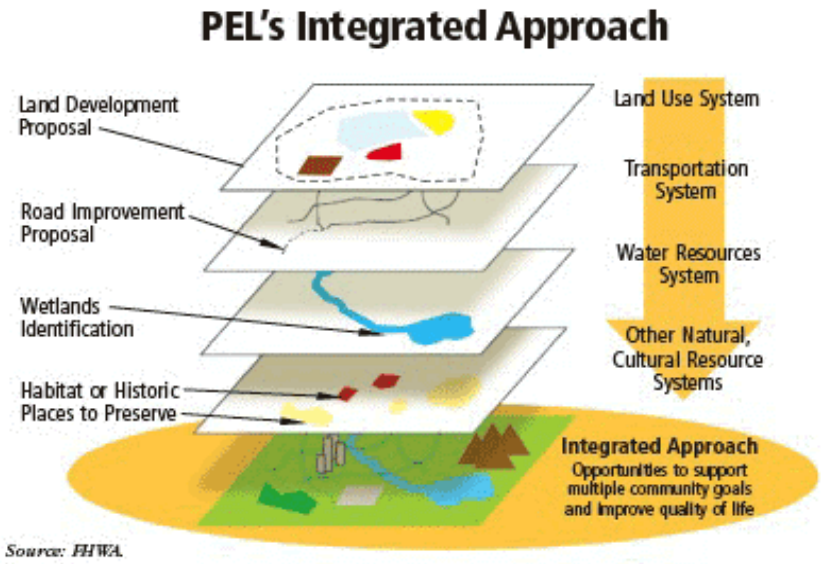
1. PEL Process Overview

This report contains a summary of the process followed by the Michigan Department of Transportation (MDOT) for the Reconnecting Gratiot: M-3 Planning and Environmental Linkages (PEL) study.

A PEL study is a standardized way for transportation agencies, such as MDOT, to make and document transportation planning decisions. PEL studies precede any design or construction decisions, allowing MDOT to better understand local needs and develop alternative solutions that meet those needs. The PEL process is intended to be consistent with, and complementary to, the National Environmental Policy Act (NEPA) project delivery process. According to the Federal Highway Administration (FHWA), following the PEL process provides the following benefits:

- **Relationship-building**: The PEL approach enables agencies to be more effective players in the transportation decision-making process through its focus on building interagency relationships. By encouraging resource and regulatory agencies to get involved in the early stages of planning, agencies have an opportunity to help shape transportation projects.
- **Improved project delivery timeframes**: The PEL approach improves process efficiencies by minimizing potential duplication of planning and NEPA processes, creating one cohesive flow of information. In addition, improvements to inter-agency relationships may help to resolve differences on key issues as transportation programs and projects move from planning to design and implementation.

Figure 1: FHWA PEL Process



2. Background

a. Project Overview

Study Limits and Steering Committee

The M-3 (Gratiot Avenue) PEL study area extends approximately nine miles along Gratiot Avenue from Randolph Street to 8 Mile Road entirely within the Detroit city limits with environmental and cultural areas of significance being considered within 0.5 mile of the roadway centerline. An administrative team was formed early in the process to help streamline decisions which included: the City of Detroit, MDOT Environmental Services Section (includes public involvement), MDOT Metro Region, MDOT Detroit Transportation Service Center (TSC), MDOT Bureau of Transportation Planning, and members of the consulting team. Weekly meetings were held with this small group throughout the entirety of the process.

To guide the study's strategic direction a Local and Governmental Advisory Committee was formed which included: MDOT, the City of Detroit, the Southeast Michigan Council of Governments (SEMCOG), Regional Transit Authority of Southeast Michigan (RTA), and other key stakeholders. Reference the cover page of this report for the full list of included parties. The consultant team procured by MDOT to support the study's development was led by WSP USA and supported by Fehr & Peers, OHM, C2G, and Projects + People.

b. Existing Conditions

M-3 (Gratiot Avenue) is a State Trunkline highway under the jurisdiction of MDOT and one of Detroit's distinctive radial streets that connects the downtown out into the suburbs, terminating in Marysville, Michigan. Historically, modal priority has been given to personal vehicles and freight/commercial vehicles; however, in recent decades, roadway capacity has far exceeded average traffic volumes and an emphasis on increasing modal choice within the Gratiot corridor has been expressed by the City and adjacent communities. Historic and contemporary images of the corridor are shown in **Figure 3** and **Figure 4**.

The M-3 (Gratiot Avenue) PEL study corridor spans the entirety of Detroit's Eastside, nine miles from Randolph Street in downtown Detroit to 8 Mile Road (M-102), the border between the Detroit and Eastpointe. Within the study area illustrated in **Figure 2**, sections of Gratiot Avenue carry between 13,800 and 37,100 vehicles on an average day according to the SEMCOG traffic volumes map, as well as several of Southeast Michigan's most regionally important bus routes (DDOT and SMART). Adjacent land use is predominantly commercial. Gratiot Avenue's right-of-way width varies between 120 and 130 feet; typically, 90 feet curb-to-curb with 15- to 17.5-foot sidewalks on each side. Within its curbs, Gratiot Avenue fits three travel lanes in each direction, a center turn lane/median, and curbside parking on both sides (not formally delineated). All alternatives considered for this PEL are able to fit within the existing ROW and would not require additional takes.

Safety is a key concern along Gratiot Avenue. The entire corridor is part of the City of Detroit's High Injury Network (HIN). The HIN includes only 3 percent of streets within the city but those streets account for 34 percent of all crashes resulting in death or serious injury. Furthermore, the PEL study limits include the segment with the highest rate of severe crashes of all low-speed corridors evaluated in Michigan: Gratiot Avenue between McNichols Road/Seymour Street and 8 Mile Road. Between 2017 and 2021, 41 people were killed in crashes on Gratiot Avenue between Randolph Street and 8 Mile Road, 162 people sustained incapacitating injuries, and another 1,550 people were injured.[1] During the same time period, 55 pedestrians and five bicyclists were involved in severe crashes along the corridor. These crashes resulted in a combine 22 fatalities.

Combined with observed and perceived safety issues on the corridor, Gratiot Avenue's width and auto-oriented character makes it a barrier to pedestrians which affects social, educational, and economic opportunity for those living in

[1] Michigan State Police Numetric crash database, 2017-2021; 100' search distance from Gratiot Ave centerline

adjacent neighborhoods. While it carries many motor vehicles and the noise and emissions that accompany them, Gratiot Avenue was designed for even greater volumes than it serves today, leading to excessive speeds which creates dangerous conditions for people walking, biking, and riding transit along the corridor. The City of Detroit has encountered challenges attracting new businesses to the corridor outside of downtown. As a result, Gratiot Avenue is a corridor that people tend to pass through, rather than visit outside of several key activity nodes, and divides neighborhoods, rather than unite them.

Figure 2: Gratiot PEL Project Area Map

Figure 3: Gratiot Avenue at McNichols Road - Historical and Present Day

Figure 4: Gratiot Avenue at E. Grand Boulevard - Historical and Present Day

c. Previous Projects and Studies

Various plans and studies over the years have sought to create a safer, seamless, more economically vibrant, and more multimodal corridor to invigorate the neighborhoods along Gratiot Avenue as well as the City of Detroit and the broader region. The completed and in-progress plans and studies summarized in **Table 1** provide a strong foundation to build upon in the PEL study. The PEL reviewed these previous efforts and synthesized their findings where appropriate into a high-level alternative for future project development and elaboration.

Findings of previous studies coalesced around the important role Gratiot Avenue plays in moving people through Metro Detroit and in the economic vitality of the city. While the corridor's width and design has been identified as a barrier for vulnerable road users, it has also been viewed as an opportunity – excess width can be reimagined and reallocated to realize state, regional, and local goals ranging from job access, economic development, community stability, and transportation mode shift. *Streets For People*, the City of Detroit's Transportation Master Plan, defines Gratiot Avenue as a future "Street for Everyone" in its Citywide Network based on this latent potential. The RTA and the Detroit Department of Transportation (DDOT) both note the possibility of bus rapid transit on Gratiot Avenue.

Additionally, two regionally significant projects led by MDOT impact Gratiot Avenue in the short- and long-term within the City of Detroit: the I-94 Modernization project and I-375 Reconnecting Communities project. **Table 1** summarizes these projects. While MDOT's projects will have more significant physical impacts on the southern portion of the corridor, they will entail changes to the status quo, particularly over the short- to mid-term when interim safety improvements are implemented and motor vehicle traffic from I-94 is detoured onto Gratiot Avenue as a result of the I-94 Mitigation Mobility Study.

A key concept carried over from the City's *Streets for People* Plan is layered networks — a method of mapping continuous and connected networks for each mode (auto, truck, bus, bicycle and pedestrian) and using those networks to make decisions about which modes to prioritize on individual streets. When done successfully, layered networks result in high-quality designs for all modes across networks of mostly non-competing modes (e.g., high quality bikeways built on streets that parallel high quality auto streets, meeting the needs of both modes) rather than compromise designs that attempt to make room for all modes in a single street.

Radial streets are key parts of the layered networks analysis, but unlike many streets in Detroit — which are diagonals — they often provide the shortest path between destinations and are in high demand for all modes. Fortunately, Detroit's radial streets were designed as wide, celebratory streets with sufficient width to accommodate all modes, even if their current-day designs focus on autos.

For streets with competing modal priorities, the *Streets For People* Plan relies on a method developed as part of the SEMCOG Multimodal Tool (developed in partnership with MDOT). The graphic at right shows "tie-breaker" modal priorities by land use context. Gratiot Avenue is considered an Urban Thoroughfare with the following modal priorities:

1. Transit
2. Pedestrian
3. Bike
4. Auto
5. Freight

Figure 5: SEMCOG Multimodal Prioritization Tool

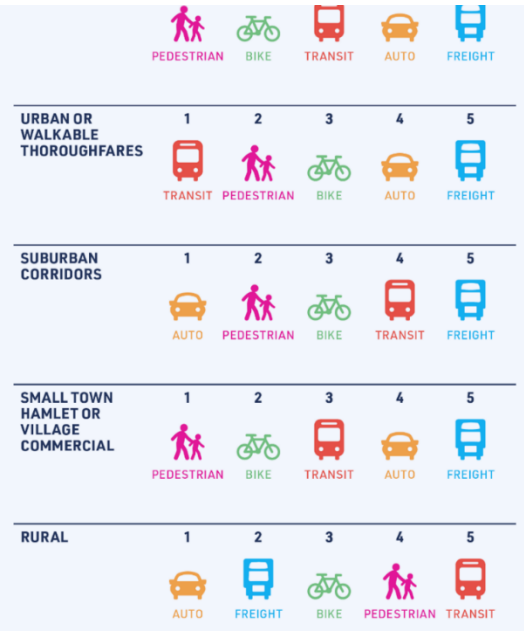


Table 1: Gratiot Avenue Existing Plans and Studies

Plan/Study	Year	Summary	Recommendations and Outcomes
Gratiot Avenue Transit Study *RTA*	2016	The *Gratiot Avenue Transit Study* was a first step in enhancing transit along Gratiot Avenue (23 miles within both Wayne and Macomb counties). The study's locally preferred alternative (LPA) is a starting point for discussion of enhanced transit on the corridor.	The LPA identified in the study was "Bus Rapid Transit – Dedicated Lane Median Running," repurposing lanes to accommodate bus-only lanes in each direction and a median with transit stations. BRT would arrive every 10 minutes during the peak hour.
Downtown Transportation Study *SEMCOG/MDOT/City of Detroit*	2018	The goal of this study is to create a safer and more convenient downtown transportation system as Downtown Detroit continues to grow. It identifies opportunities to improve bikeability, walkability, transit, traffic flow, parking, and curbside management.	As Gratiot Avenue is one of the major streets connecting Detroiters and visitors to Downtown, the study identifies long-term upgrades including: • Redesigning the intersection of Gratiot Avenue and Brush Street to reduce crossing distances, eliminate intersection legs, and close the existing slip lane • Implementing bike facilities on Gratiot Avenue
Gratiot Avenue Road Safety Audit (RSA) *MDOT*	2019	The RSA covers Gratiot Avenue from I-375 North to 8 Mile Road (M-102). The RSA found that from 2013 to 2017, pedestrians and bicyclists accounted for >50 percent of fatalities. Main safety concerns identified in the RSA (and related treatment suggestions) include pedestrian facilities, non-motorized compliance, intersection operations, roadway geometry, and signage.	Recommendations to address identified safety concerns include: • Ped Safety: pedestrian refuge islands, bump-outs, sidewalk lighting, extended sidewalks, relocated bus shelters • Markings: high visibility crosswalks, delineate parking, new bike facilities • Signals: countdown timers, updated pedestrian clearance interval, always run pedestrian phase • Geometry: alternate cross sections, consolidated access management, address complex intersections, review channelized right turns

Gratiot/7-Mile (G7) Framework Plan *City of Detroit*	2021	The goal of the G7 Framework Plan is to guide future growth and investment in the Franklin, Mapleridge, Mohican Regent, and Regent Park neighborhoods in the northern part of the Gratiot study area through stabilizing single-family neighborhoods, multi-family housing and retail opportunities, as well as park, greenway, and streetscape improvements.	The final G7 recommendations encompass neighborhood stabilization, mixed-use redevelopment, parks and greenways, and streetscapes and mobility. The recommendations for Gratiot Avenue include: • Improve street design to improve mobility for all users & increase safety • Fundraise with DPW to improve Gratiot Avenue streetscape from 8 Mile Road to McNichols Road • Complete Street redesign to support microdistrict and future transit development • Façade improvement grants in microdistricts
Streets for People (SFP) *City of Detroit*	2022	*SFP* is Detroit's Transportation Master Plan and comprehensive safety action plan. The plan identifies an HIN – the 3 percent of streets where 34 percent of crashes resulting in death or serious injury occur, finding that Gratiot Avenue is at the top of the HIN.	*SFP* offers design concepts for Gratiot Avenue, including right-sizing, buffered or raised bike lanes, dedicated bus lanes, formalized pedestrian crossings, and simplified intersections.
I-94 Equity Mobility Mitigation Study *SEMCOG*	Ongoing	The I-94 Modernization Project is reconstructing I-94 on the Eastside of Detroit, which intersects with Gratiot Avenue. SEMCOG conducted a mitigation study to determine how to defray impacts of construction and construction-related routing on the equity populations living along the I-94 and Gratiot Avenue corridors.	The mitigation study recommends interim improvements to striping, signalized intersections, and pedestrian crossings which will be implemented in the near term to improve safety on the corridor for all users.
DDOT Reimagined *DDOT*	Ongoing	*DDOT Reimagined* is a service plan, capital plan, and operating plan for DDOT that is a bold new vision for transit in Detroit.	The plan recommends enhanced bus service on Gratiot Avenue operating at high frequencies. Under the draft *DDOT Reimagined* service plan, the 6-Gratiot would arrive more frequently: every 10 minutes on weekdays and every 15 minutes on weekends.

Table 2: Gratiot Avenue Ongoing and Upcoming Projects

Project	Timeframe	Scope
I-94 Modernization Project *MDOT*	Ongoing; major construction to begin in 2024	The I-94 Modernization Project will address safety and capacity issues, as well as local connectivity, on a stretch of I-94 between the I-96 interchange and Conner Avenue. As part of the reconfiguration of the Gratiot Avenue/I-94 entrance and exit ramps, MDOT will reconstruct Gratiot Avenue between McClellan Avenue and Harper Avenue, excluding the recently constructed bridge over I-94.
I-94 Equity Mobility Mitigation Improvements *MDOT*	2023 and 2024	In line with the recommendations in the mitigation study, MDOT will improve pavement markings in an initial phase in the summer of 2023 including continental crosswalk markings at signals, parking lane lines north of E. Vernor Highway, and other striping improvements. These improvements will be followed by signal timing adjustments, centerline hardening, flexible delineators, and unsignalized intersection pedestrian crossing treatments.
I-375 Reconnecting Communities Project *MDOT*	Construction to begin in 2025	This project will replace the depressed I-375 spur with a street-level boulevard that will be six lanes from I-75 to E. Jefferson Avenue and four lanes from E. Jefferson Avenue to Atwater Street. The I-375 project is anticipated to impact Gratiot Avenue between St. Antoine Street and Antietam Avenue and at the I-75 ramp near Eastern Market.

3. Methodology Used (Process)

a. PEL Process

This M-3 (Gratiot Avenue) PEL study provides the key intermediary step between the various corridor studies and analysis done along Gratiot Avenue previously and the environmental (NEPA) and design/construction work that would need to be completed before construction in the future. The process taken between March 2023 and August 2024 is aligned with MDOT's standard PEL processes which takes into consideration rules governing NEPA. As such, terminology used throughout the process, including materials presented to the public, has been consistent and intentional. **Figure 6** represents the alternatives screening process. The following is a list of definitions in the order they arose over the course of the study:

1. **Existing Conditions**: The PEL study begins with gathering information about the corridor as it exists today. Information compiled by the team defines the current characteristics of the roadway that must be considered when pursuing improvements. A review of existing conditions precedes the development of alternatives and sets the foundation for the purpose and need definition.

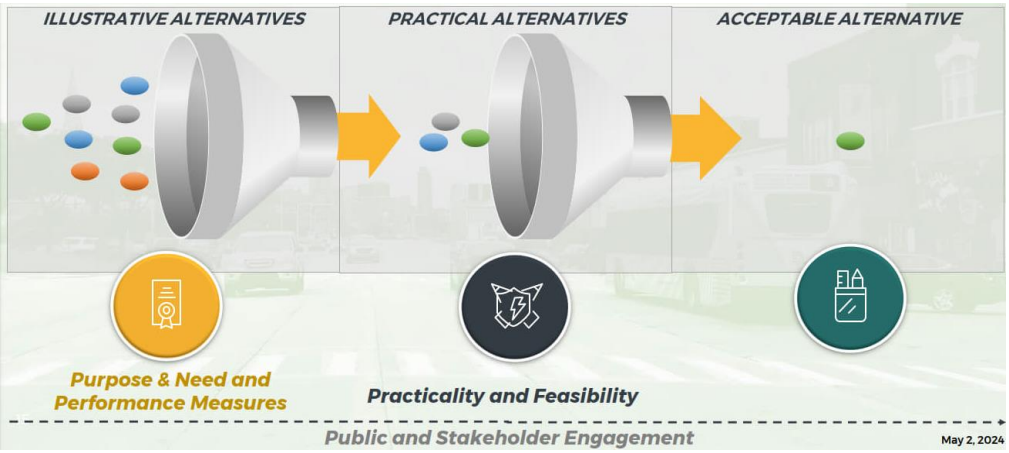
2. **Purpose and Need**: States why the agency is completing the study in a way that is both comprehensive and specific. The Purpose and Need Statement is written in a way to pinpoint and refine the alternatives, ensuring only those alternatives that are considered reasonable, prudent, and practicable are brought forth into NEPA.

3. **Illustrative Alternatives**: This first phase of the alternatives screening process presents a wide range of alternatives spanning the conservative to the aspirational and sets the foundation for subsequent alternative screening steps. Feedback gathered from stakeholders and the public to this point heavily influence the look and feel of these alternatives For this PEL, eight illustrative alternatives were developed.

4. **Practical Alternatives**: The subset of viable alternatives that are left after screening illustrative alternatives through the purpose and need. If alternatives do not align with purpose and need, they are not eligible to be considered a practical alternative. For this PEL, three practical alternatives were carried forward.

5. **Acceptable Alternatives**: Practical alternatives are screened further against the purpose and need for feasibility and support from stakeholders and the public. For this PEL, two acceptable alternatives were identified.

Figure 6: Alternatives Screening Process



The PEL process took place over the course of 18 months from March 2023 to September 2024 following the schedule in **Table 3.**

Table 3: PEL Study Schedule

TASK	2023										2024								
	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Task 1: PM + Engagement	KICKOFF	Neighb. Events			LAC #1	Stkdr Meeting	PM #1	Neighb. Events	AC/PM #2		Stkdr Meeting	LAC #3	PM #3	Neighb. Events	PM #4				PM #4
Task 2: Existing Conditions																			
Task 3: Alternatives Development						P&N	ILLUSTRATIVE ALTS			PRACTICAL ALTS			ACCEPTABLE ALTS			ACCEPTABLE ALTS			
Task 4: PEL Report																			

4. Agency Coordination

a. Resource Agencies

Based on the MDOT-provided Environmental Scoping Review memo dated November 28, 2022, and subsequent site visits, no ecological resources were identified within the study limits which required resource agency coordination. No tribal coordination occurred as part of the PEL study.

b. Administrative Team Meetings

The M-3 (Gratiot Avenue) PEL Admin Team had representatives from MDOT, City of Detroit, DDOT, SEMCOG, FHWA, and the consultant team. Weekly Admin Team meetings were held throughout the study duration to review progress and work through study issues.

The FHWA was consulted at several stages of the PEL process, including project scoping at the beginning of the PEL process, Purpose and Need Statement drafting, alternatives evaluation, and evaluation and selection of an acceptable alternative.

5. Public & Stakeholder Coordination

Coordination with the public and stakeholders is a central facet of the PEL process. Beyond being a statutory requirement if formal NEPA adoption is pursued, input from the public helps paint the picture of existing conditions, identify needs, influence potential alternatives, focus the project's direction, and ultimately provide buy-in and support for a final report. As of the writing of this report, the M-3 (Gratiot Avenue) PEL project team has held four Local Advisory Committee (LAC) meetings, three Public Input sessions (with a final meeting scheduled for October 2024), attended eight events hosted by MDOT or the community for related projects, issued and analyzed one survey, created and maintained a project website, and held a round of focus group meetings with key stakeholders. The M-3 (Gratiot Avenue) PEL study team worked with representatives of the LAC to obtain advisory input regarding the direction and decisions made throughout the project. The LAC was an integral element of this study as the progression of the project was dependent upon engaging members and gathering important feedback. A list of LAC member organizations and the persons that represented them for the sake of this PEL is included in the appendix. Meeting presentations are also included in the appendix.

Table 4 provides an overview of all the public and stakeholder coordination completed as part of this project.

Table 4: Public and Stakeholder Coordination

Outreach Effort	Engagement Type	Engagement Reach	Dates
Existing Conditions Phase			
Kickoff Meeting	Public Engagement	37 attendees	March 2023
Street Mix Tool	Online Engagement tool	180 submissions	July 2023
Project website	Online Engagement tool	1,640 viewers	July 2023 – October 2024
Local Advisory Committee Meeting 1	Stakeholder Engagement	27 attendees	July 2023
Walkshop	Stakeholder Engagement	27 attendees	July 2023
Eastside Community Network Fair	Community Event	100+ attendees	July 2023
I-375 Public Meeting	Public Meeting	Over 30 attendees	August 2023
Department of Neighborhoods (DONS) District 4 Meeting	Public Meeting	Over 30 attendees	August 2023
Matrix Center Event	Public Meeting	Over 30 attendees	September 2023
Public Meeting 1	Public Meeting	28 attendees	September 2023
Illustrative Alternatives Phase			
Halloween in the D	Community Event	75 flyers shared	October 2023
Local Advisory Committee Meeting 2	Stakeholder Engagement	30 attendees	November 2023
G7 Small Business Event	Community Event	50 attendees	November 2023
Public Meeting 2	Public Meeting	28 attendees	November 2023
Practical Alternatives Phase			
MDOT Metro Region, MDOT Detroit TSC, and MDOT Environmental Services Section	Stakeholder Engagement	18 Attendees	January 2024
Local Advisory Meeting 3	Stakeholder Engagement (Virtual)	89 attendees	February 2024
Alternatives Survey	Online Engagement tool	123 respondents	March 2024

Outreach Effort	Engagement Type	Engagement Reach	Dates
Focus Groups - City of Detroit - Transit Providers - Transit Advocates - Cyclist Community	Stakeholder Engagement (Virtual)	Small group forum	March 2024
Public Meeting 3	Public Meeting	Virtual – 58 attendees	March 2024
Acceptable Alternatives Phase			
Corridor Flyer Distribution	Engagement Tool	100 flyers shared	March 2024
Better Block G7	Community Event	100 flyers shared	May 2024
LAC Meeting 4	Stakeholder Engagement (Hybrid)	28 attendees	May 2024
Public Meeting 4	Virtual Public Meeting	57 attendees	October 2024

M-3 PEL Kick-off Meeting – March 28, 2023

The initial round of stakeholder engagement occurred in March 2023 with a kickoff meeting held at the St. Vincent and Sarah Fisher Center, just off Gratiot Avenue on Lappin Street. The purpose of this meeting was to introduce the project team, educate the public on the PEL process, discuss study goals, identify issues and opportunities, and share related studies.

This kickoff meeting allowed the project team to develop a unified vision for Gratiot Avenue and share considerations for the development of the Purpose and Need Statement. The project team identified concerns such as safety, crosswalks, complex intersections, bus accommodations, sidewalk lighting, and maintenance. Guest broke out into discussion groups to identify additional challenges and potential solutions for the project team to consider. After sharing background on related projects and studies, the project team gathered suggestions for stakeholders, community engagement strategies, and key objectives that should be considered.

These findings helped the project team build out the LAC group, develop the Purpose and Need Statement, and understand the public's priorities. The meeting concluded with a 90-day lookahead.

LAC Meeting 1 – July 11, 2023

The first LAC meeting took place at the Matrix Center, located just off of Gratiot Avenue at McNichols Road. The meeting began with an introduction from Councilman Scott Benson and an overview of the kickoff meeting that was held two months prior. The project team shared the M-3 (Gratiot Avenue) PEL study schedule, discussed existing conditions, and reviewed the community engagement plan and the release of the Streetmix Tool, which allowed the public to submit design ideas for Gratiot Avenue. In the second half of the meeting, the project team led a discussion to draft the Purpose and Need Statement for the M-3 (Gratiot Avenue) PEL study. Input on safety, congestion, community needs, and other topics were all voiced. After the meeting, LAC members were invited to lunch and a Walkshop activity along Gratiot Avenue.

The LAC discussed what a successful outcome looked like, debriefed on the Walkshop activity, and the Walkshop survey notes were presented for review.

I-375 Public Meeting – August 9, 2023

The M-3 (Gratiot Avenue) PEL study team attended a public meeting that was scheduled for the I-375 Project. The purpose of joining this previously scheduled meeting was to notify the public about our study and advise the public on

our intent, the project schedule, and the public meeting coming up in less than a month. The team set up a table along the side of the room and collected feedback.

Department of Neighborhoods (DONs) Meeting – August 22, 2023

The M-3 (Gratiot Avenue) PEL team was invited to attend the District 4 DONs meeting by Caprice Jackson, the District Manager. The team took the opportunity to inform the group about the project's intended purpose and need, gather feedback, and inform attendees about the timeline and ways they can stay involved.

Public Meeting 1 – September 5, 2023

The first public meeting was held on September 5, 2023, at Shed 5 in Eastern Market. The purpose of the meeting was to understand the challenges and opportunities from the people who live and work along Gratiot Avenue, elicit feedback on the project's purpose and need, share information about the study's goals, and launch the Streetmix website. The website would go on to receive 180 individual submittals from the community and stakeholders. Results from the Streetmix activity include: 99 percent of Streetmix submittals remove at least one lane in each direction, 55 percent support dedicated transit lanes, and 88 percent prioritize protected bike facilities (mostly off-street).

LAC Meeting 2 – November 2, 2023

The second LAC meeting was held at the SEMCOG office off Woodward Avenue at Campus Martius. The revised Purpose and Need Statement was presented at the public meeting and was shown again at this LAC meeting. The main focus for the second LAC meeting was to present the eight alternative concepts for the three segments along the corridor. The purpose was to illustrate the range of alternatives to be considered and to obtain feedback from the committee to help steer the alternatives development. As not all LAC members were present, the team shared the presentation with the LAC after the meeting and requested feedback via email. During the meeting, stakeholders presented excellent thoughts including: pedestrian crosswalk distance, providing the public with pros and cons of each illustrative alternative, and adding consideration of maintenance costs as a limiting factor.

Public Meeting 2 – November 15, 2023

The second public meeting was held at the St. Vincent and Sarah Fisher Center and was attended by 35 people. This meeting was both open-house and presentation format. For this round of engagement, the public was given the opportunity to learn about the conceptual alternatives developed for the corridor and provide feedback on which alternatives they felt most aligned with the purpose and need. Upon entrance, meeting attendees were provided with comment cards. Scanned comment cards can be found in the appendix. Attendees were asked to review the eight alternatives and potential corridor improvements and to provide feedback on which alternatives they preferred and the elements of the corridor they valued most.

Conceptual alternatives were displayed around the room for public review. After attendees viewed the eight alternatives, a brief presentation was shared to provide more context for the alternatives. After the presentation, there was an opportunity for questions and open discussion. Overall, the public expressed their appreciation for improving safety along Gratiot Avenue. Many comments included reference to dedicated bus and bike facilities. Reference was made to needing better lighting and maintenance of sidewalks.

MDOT Metro Region, MDOT Detroit Transportation Service Center (TSC), and MDOT Environmental Services Section Meeting – January 16, 2024

As the project team moved ahead to the selection of practical alternatives, they held an in-person meeting at the MDOT Metro Region Office to brief representatives from the TSC, Metro Region, and Environmental Services Section on the project's status and gather feedback on the performance measures being used to screen alternatives. The meeting was attended by 18 MDOT and consultant staff including Detroit TSC Manager Kay Adefeso and Projects and Contracts Administration Engineer Andrea Wilcox. Feedback from this meeting was used to guide the decision of which practical

alternatives were selected, identify concerns that would need to be addressed in the PEL report, and influence the graphics and renderings the project team would bring forward to the public.

LAC Meeting 3 – February 27, 2024

The third LAC meeting was held virtually in advance of the third public meeting to encourage discussion about the three practical alternatives that rose to the top based on public and stakeholder feedback and alignment with purpose and need. The project team shared the set of performance measures that were used to screen unreasonable alternatives and asked for feedback from the group. These performance measures were presented to the MDOT Metro Region, MDOT Detroit TSC, and MDOT Environmental Services Section two months prior. The project team used PollEverywhere, an interactive survey tool, to elicit feedback on the three practical alternatives in the virtual setting. Generally, comments were in favor of Alternatives B and C, siting a lack of parking as a concern in Alternative A. The lack of dedicated bike facilities in Alternative B was a concern. Support for local transit that would result from Alternative C was seen as a major benefit. The feedback received at this meeting was critical in guiding selection carried forward into the acceptable alternatives phase. Survey results are included in the appendix.

Focus Groups – March 2024

Between March 14 and March 18, 2024, the project team held four small group virtual sessions with key project stakeholders: City of Detroit, transit providers (RTA, SMART, and DDOT), transit advocates (including Transportation Riders United, or TRU), and cyclist advocates. The purpose of these four meetings was to check back in with these key stakeholders to ensure the PEL study is moving in a direction they support. Further, the meetings occurred at a critical time in the alternatives selection process, as the project team sought input from these stakeholders to decide which practical alternatives should be carried forward to the final screening level.

The project team received valuable feedback from the stakeholders related to bike facility design preferences, dedicated transit lanes vs. mixed traffic, and parking. Additionally, transit providers and advocates weighed in on the need for dedicated transit lanes. While they are a major want of transit advocates, they are not a current need for transit providers who currently operate routes along the corridor due to low traffic volumes and high free-flow speeds.

Public Meeting 3 – March 19, 2024

The third public meeting was held virtually. This meeting presented the three practical alternatives, outlined the data gathered to date, and laid out the alternatives development process. The public was asked to review the alternatives and potential corridor improvements and to provide feedback as to which alternatives they preferred at each segment along the project corridor.

Attendees were asked to share their feedback via PollEverywhere, an interactive polling tool that allowed participants to answer specific questions about the alternatives in real time. A total of 27 participants provided feedback on the survey questions that included: “What word comes to mind when you think of Gratiot today” and “How do you envision Gratiot in the future.” Generally, respondents acknowledge Gratiot as being “hostile, hard to cross, car-dominated, and dangerous” today and hope for a future Gratiot that is “safe, business friendly, commercially vibrant, and an asset to Detroit.” This meeting concluded with open discussion and questions. PollEverywhere results for the third public meeting are included in the appendix.

LAC Meeting 4 – May 2, 2024

The fourth and final LAC meeting was held on May 2, 2024, at the Heilmann Recreation Center, a short walk from the intersection of Gratiot Avenue and 7 Mile Road. In total, the meeting was attended by 27 people – 15 online and 12 in person. The purpose of the meeting was to discuss PEL progress, inform the stakeholders on the final acceptable alternatives selection, and set a course for the study’s closeout over the next few months. Feedback from this meeting supported MDOT’s decision to carry two alternatives as acceptable. Representatives from the City of Detroit and various

transit providers were keenly concerned with ensuring alternatives moving forward consider both dedicated transit lanes and transit operating in mixed traffic.

Green Task Force Transportation Meeting – May 21, 2024

The Detroit City Council Green Task Force transportation committee, a committee led by PEL stakeholder Todd Scott, Executive Director of the Detroit Greenways Coalition, invited Matthew Galbraith and James VanSteel, the MDOT leads on this project, to speak about the M-3 (Gratiot Avenue) PEL Study. This virtual meeting was attended by 12 transportation riders, advocates and community leaders who have a vested interest in transportation in Metro Detroit. Attendees were shown the presentation shared during the fourth LAC meeting that discussed the progress of the PEL study, including data gathered, traffic analysis, community engagement efforts, the alternative development process and the acceptable alternative that will move forward in the PEL report. Key feedback can be found below.

- Prioritize transit and bike infrastructure over on-street parking
- Overall like the landscaping improvements in Practical Alternative C
- Highlight need for more pedestrian crossings, bulb outs
- Lanes should be 11 feet or less to slow down traffic
- Add recommendations for green infrastructure in final report
- Better lighting along the corridor for pedestrians and motorists

Public Meeting 4 – October 2024

The last and final public meeting was held virtually at 5:00pm on Wednesday October 23rd. the meeting was attended by 57 persons. the meeting accomplished the goals of: reflecting on the study's development, presenting an overview of the acceptable alternatives and future considerations, and encouraging the public to provide feedback during the open comment period that extended until November 15th.

6. Purpose and Need

The Purpose and Need (P&N) Statement is a critical part of a planning and environmental linkages (PEL) study, as it creates a foundation early in the planning process that is constantly referenced in all tasks that follow. Federal Highway Administration (FHWA) guidance states, "the purpose and need of a project is essential in establishing a basis for the development of the range of reasonable alternatives" and "assists with the identification and eventual selection of a preferred alternative."

a. Purpose and Need Background and Development

This PEL study, focused on M-3 (Gratiot Avenue) in Detroit, is rooted in several previous studies that had identified challenges and opportunities along the corridor, and also in major projects directly adjacent to and/or intersecting M-3 (Gratiot Avenue) that will factor into the development of alternatives. These efforts include, but are not limited to, the Gratiot Avenue Transit Study, the Gratiot/7 Mile Framework, *Streets for People* (SFP), Safe Streets for Detroit (SS4D), the I-375 Reconnecting Communities Project, and the I-94 Modernization Project. These previous and ongoing efforts were an excellent resource for understanding the challenges, opportunities, and goals/objectives associated with M-3 (Gratiot Avenue) that were established by MDOT and the City of Detroit's collaboration with key stakeholders in the area.

With this information serving as a foundation, it was critical that the P&N be clear and concise, lead to a more focused project scope, encourage a range of alternatives, justify the project to stakeholders and decision-makers, and ultimately serve as the foundation of the PEL and the establishment of evaluation criteria. A draft P&N statement was created and shared with members of the study's local advisory committee (LAC), MDOT environmental staff, FHWA, stakeholders, and the community. Through multiple phases of engagement and review, the final P&N was established.

b. Final Purpose and Need

Purpose

The purpose of this project is to create a comprehensive and unified vision for M-3 (Gratiot Avenue) within the City of Detroit (Randolph Street to M-102) that directly addresses unsafe transportation conditions, accommodates all forms of travel, welcomes people of all ages and abilities, enables local businesses to thrive, improves access to daily needs for residents, reconnects neighborhoods, and improves environmental conditions.

Need

- Residents and business owners along and adjacent to M-3 must contend with unsafe and deteriorating transportation conditions that create barriers to social and economic opportunity along one of the city's most prominent commercial corridors, contributing to high rates of vacancy and challenges to business growth.
- Multiple projects and studies over the past decade have developed recommendations for the corridor but a cohesive, integrated vision spanning the entire corridor has not yet been adopted.
- M-3 is a wide, auto-oriented corridor (typically 90' between curbs) designed for significantly greater traffic volumes than it serves today, leading to dangerous driving behaviors and contributing to an unwelcoming environment for people walking, biking, using assistive devices, and taking transit.
- The corridor has among the highest rates of severe crashes when compared to similar corridors in Michigan and is part of the City of Detroit's High Injury Network (HIN). Between 2017 and 2021, 41 people were killed, 162 people sustained incapacitating injuries, and another 1,550 people were injured in crashes on the corridor; people walking and biking are disproportionately impacted by severe crashes on the corridor.
- The corridor serves some of the most well utilized transit routes in Detroit and Southeast Michigan with thousands of riders per day in 2023 but does not facilitate safe first- and last-mile connectivity. Furthermore, long-range transit plans and studies emphasize the importance of M-3 in developing a regional network of high quality, high frequency transit options to increase transit access and attractiveness.

7. Design Principles

The M-3 (Gratiot Avenue) PEL study is unique in its approach to addressing the needs of the corridor and the surrounding neighborhoods. While the primary purpose of this PEL is to identify reasonable alternatives to address the project's purpose and need corridor-wide, the vital importance of Gratiot Avenue as a community connector, freight corridor, commuter thoroughfare, and commercial catalyst necessitated setting a rigid foundation for design improvements that should be part of each acceptable alternative. The following list of design principles and best practices should be used to guide design decisions along the corridor.

1. **Modal Priorities**: Design should reflect modal priorities. It is appropriate and valuable to test and optimize intersection level of service and large design parameters throughout the design process. Optimization should complement modal priorities, not override it. When trade-offs are necessary, modal priorities should be of the highest importance.
    a. With transit and pedestrian as the highest priorities, transit experience (including quality of amenities, travel times, and reliability) and pedestrian experience (including comfort, accessibility, and safety) should override considerations related to vehicle level of service and accommodation of large vehicles.
2. **Speeds**: Geometric design should be based on target speeds, taking a proactive approach to reinforcing appropriate vehicular speeds. Signal parameters, including phasing options, and clearance intervals, should be based on observed speeds. It may be necessary to adjust signals post-implementation to reflect post-construction observed speeds.
3. **Large Vehicles**: Accommodate all modes.
    a. As relates to large vehicles, accommodations should differentiate control vehicles from design vehicles, with tests of turning movements focused on movements that design vehicles will make on a frequent basis. This is likely to result in somewhat wider corner radii on intersections of arterial-to-arterial streets, but small radii for most intersections with residential streets.
    b. As relates to lane widths, curb lanes, where buses and other large vehicles will operate regularly, should be sufficiently wide (11 feet) to accommodate large vehicles with mirror overhang. Other lanes can be as narrow as 10 feet.
    c. As relates to large vehicle movements, truck U-turns and left-turn lanes should be accommodated at intersections of designated truck routes. In other locations, it is acceptable for large vehicles to make multiple turns to accomplish U- and left-turns.
4. **Resilience**: Designs should anticipate initial driver uncertainty and resistance to change. Roadway design elements are routinely damaged in the initial years after implementation of major roadway changes. Maintenance budgets should assume damaged elements are replaced as soon as possible to demonstrate the city's and state's commitment to a better Gratiot Avenue and assure that the safety and beautification benefits of the project are maintained over time.

Design Practices and Routine Operating Practices

The following matrix contains default design and operational elements for the future Gratiot Avenue. Default means that, while there will undoubtedly be location-specific treatments that deviate from these practices, as a norm, these treatments will be incorporated into the project design and operations.

Table 5: Design and Routine Operating Practices

	Routine Design Practices	Routine Operating Practices
Transit	Best practice bus stop placement and design	Queue jump lanes to bypass congested intersections
	Best practice curb management strategies	Transit signal priority
Sidewalks	Clear path of travel (at least 5')	Cracks maintained and debris extracted
	Well-lit walkways and crosswalks	
	Street trees offering shade	
Crosswalks	High visibility crosswalks on all approaches	Automatic pedestrian recall (passive pedestrian detection as secondary priority)
	Directional curb ramps	Leading pedestrian intervals
	Accessible Pedestrian signals	Minimum signal cycle lengths
	Push button placement per the Draft PROWAG	Extended walk times (walk times as long as possible within the concurrent auto interval)
	Signal controllers outside of walkways	No right-turns on red (LED Blank-out signs for time-of-day NRTOR as secondary priority)
	Slow speed vehicle right turns	
	Median refuge islands with raised elements on near and far side	
	Enhanced uncontrolled crosswalks	
Bikeways	Green paint in high conflict areas like intersections, bus stops and high-use driveways	Bike signals where use of pedestrian indication is inappropriate or non-intuitive
	Advanced stop bars for vehicles with bicycle forward stop bar	Phase separated bikes from heavy right-turn or permitted left-turn movements
	Bike signals	
Vehicles	Signal backplates with retroreflective borders	Consistent left-turn phasing
	Detection-based clearance interval extensions	Safety focused yellow and red change intervals

8. Range of Alternatives

The PEL process is reliant on an alternatives screening process with clearly defined goals and milestones. The process is designed to screen unreasonable alternatives and ultimately arrive at an alternative or alternatives that meet purpose and need, support the corridor vision, and have addressed any fatal flaws. Because of the extensive previous planning done along the corridor and citywide, the design principles defined in the previous section also played an important role in screening alternatives and shaping the acceptable alternatives. The section that follows outlines MDOT's approach for the M-3 (Gratiot Avenue) PEL, providing background on the process and results.

a. Range of Alternatives Approach

Gratiot Avenue is a complex roadway that serves a variety of functions and modes, all of which were considered during the alternatives screening process. The process from initial development of illustrative alternatives through selection of acceptable alternatives was heavily guided by the existing conditions analysis (included in the appendix), a robust engagement process, and an understanding of stakeholder priorities.

As shown in **Figure 6**, the alternatives screening process begins with the development of illustrative alternatives. Illustrative alternatives are screened through the project's purpose and need and ranked among performance measures that are aligned with the priorities of the community and stakeholders. The reasonable alternatives that meet the purpose and need and rank highly amongst performance measures are called practical alternatives. Practical alternatives are screened further for practicality and feasibility, revealing the project's Acceptable Alternative(s).

b. Illustrative Alternatives

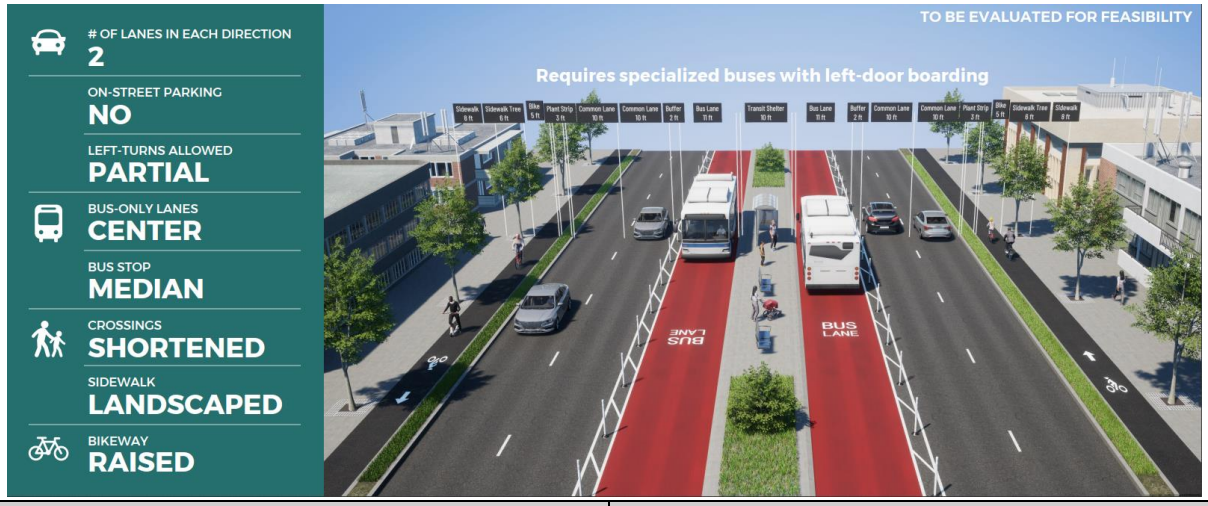
The illustrative alternative development process includes new alternatives that were informed by the challenges, needs, and opportunities that the PEL's stakeholders and public conveyed, as well as alternatives and solutions identified in the previous studies discussed in Section 2c. These previously identified alternatives were evaluated from a "blank slate" point of view to ensure their suitability in the present and to help identify other potential solutions that were previously overlooked or not evaluated. Thus, the range of alternatives covers a wide scope and includes what has already been considered along with new alternatives for consideration.

A range of alternatives were developed at the onset of the alternatives screening process. The intent of these alternatives was to capture a wide array of ideas spanning from simple to complex. Ideas were gathered from a Walkshop held in July 2023, a Local Advisory Committee Meeting held in July 2023, a public Streetmix survey launched in August 2023 (180 individual submissions), and a public meeting held in September 2023. As a result of this engagement, eight illustrative alternatives emerged and began to take shape.

Illustrative Alternative 1 – Enhanced Existing	
	
Reason for consideration:	Determination and Reasons
- Limiting access with the addition of a paved median would provide minor all-modes safety benefits - Bus bulbs would provide minor transit benefit - Low-cost intervention	NOT CARRIED FORWARD FOR CONSIDERATION - While limiting access over the median would provide moderate safety benefits, this alternative does not meet project purpose and need because it fails to fully address unsafe transportation conditions (wide lanes and excess travel lanes contribute to speeding) accommodate all modes of travel, and support transit. - Not supported by previous studies

Illustrative Alternative 2 – Curbside BRT with Expanded Sidewalks	
	
Reason for consideration:	Determination and Reasons
- Full separation of vehicular and non-vehicular traffic - Road diet shortened vehicular lane width and removed two vehicular lanes in each direction Dedicated transit lanes improve efficiency of transit trips	CARRIED FORWARD FOR CONSIDERATION* - These alternative addresses unsafe transportation conditions, accommodate all forms of travel, and prioritize non-motorized transportation thereby meeting project purpose and need - This alternative is in support of past plans, including the RTA's Gratiot Avenue Transit Study that includes dedicated rapid transit lanes. *Caveat: likely only works in downtown segment where volumes are lower, and the full removal of parking can be supported by off-street lots

Illustrative Alternative 3 – Center-Running BRT with Right-Side Boarding	
	
Reason for consideration:	Determination and Reasons
- Full separation of vehicular and non-vehicular traffic - Road diet lane reduction eliminates unneeded capacity while leaving space for parking - Center running dedicated transit lanes prioritize rapid/epxresstransit trips	CARRIED FORWARD FOR CONSIDERATION* - This alternative address unsafe transportation conditions, accommodate all forms of travel, and prioritize non-motorized transportation thereby meeting project purpose and need - This alternative is in support of past plans, including the RTA's Gratiot Avenue Transit Study that includes dedicated rapid transit lanes. *Caveat: likely only works in downtown segment where volumes are lower and the full removal of parking can be supported by off-street lots

Illustrative Alternative 4 – Center-Running BRT with Continuous Median	
	
Reason for consideration:	Determination and Reasons
- Full separation of vehicular and non-vehicular traffic - Road diet reduction eliminates unneeded capacity while leaving space for parking - Center running dedicated transit lanes improve efficiency of transit trips	CARRIED FORWARD FOR CONSIDERATION* - This alternative addresses unsafe transportation conditions, accommodate all forms of travel, and prioritize non-motorized transportation thereby meeting the project purpose and need - Is aligned with past plans including the RTA's Gratiot Avenue Transit Study that includes dedicated rapid transit lanes. *Pedestrian access to bus stop must be considered. Also, this configuration would require purchase of new fleet of left side boarding busses with limited utility outside this corridor.

Illustrative Alternative 5	
	
Reason for consideration:	Determination and Reasons
- Limiting access with the addition of a landscaped median would provide all-modes safety benefits both by disallowing turns over the median and providing refuge for pedestrians - Bus bulbs would provide transit benefit - Full separation for all modes including protected bike facilities	CARRIED FORWARD FOR CONSIDERATION* - This alternative addresses unsafe transportation conditions, accommodate all forms of travel, and prioritize non-motorized transportation thereby meeting project purpose and need - Is aligned with past plans - Balances need for bike facilities and curbside parking

Illustrative Alternative 6	
	
Reason for consideration:	Determination and Reasons
- Limiting access with the addition of a landscaped median would provide moderate safety benefits both by disallowing turns over the median and providing refuge for pedestrians	NOT CARRIED FORWARD FOR CONSIDERATION - While limiting access over the median would provide moderate safety benefits, this alternative does not meet project purpose and need because it fails accommodate all modes of travel (no bike facilities) and support transit. - Not aligned with previous studies Minor safety improvements recognized for motorized travel but no improvements for non-motorized travelers

Illustrative Alternative 7	
	
Reason for consideration:	Determination and Reasons
- Limiting vehicular access over the median would have positive impact on safety - Separated bike facility improves non-motorized safety - Parking retained curbside	NOT CARRIED FORWARD FOR CONSIDERATION - While limiting access over the median would provide moderate safety benefits, and the addition of a center running bike lane would improve multimodal safety and accessibility, this alternative does not meet project purpose and need because of the additional conflicts it would create at signalized intersections and lack of transit benefits. - Not supported by previous studies - Minor safety improvements recognized for motorized travel but limited benefits to non-motorized travelers - Concern over how cyclists would access mid-block destinations and travel through complex intersections.

Illustrative Alternative 8

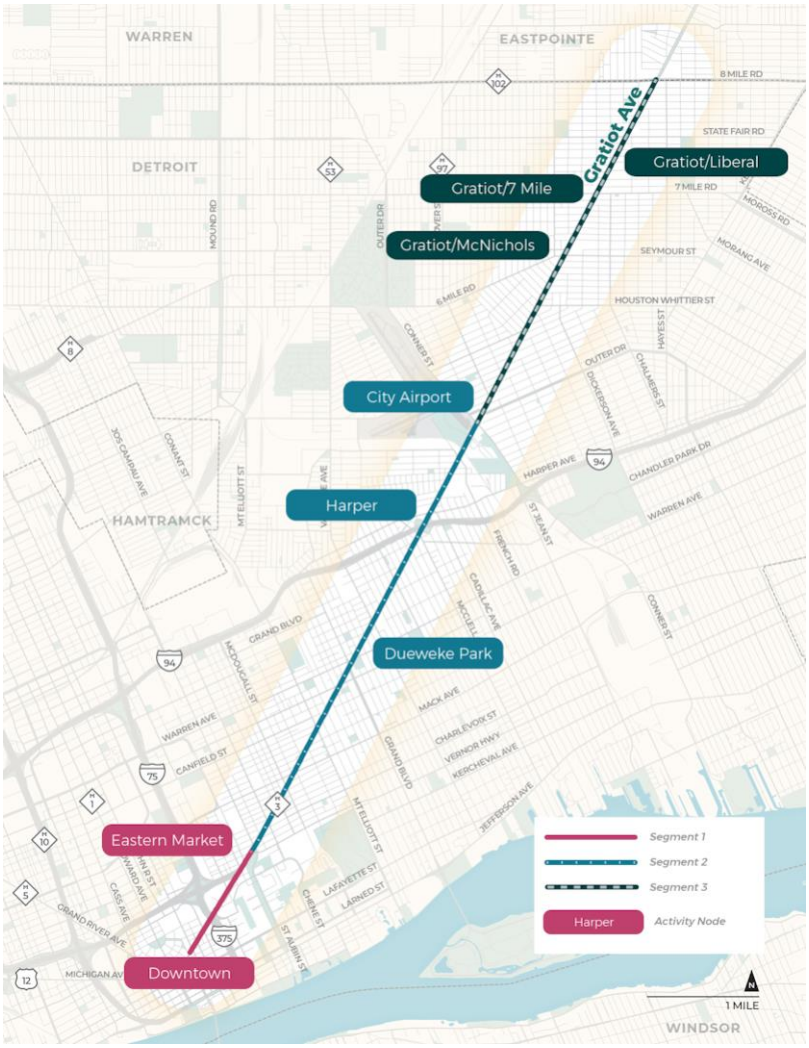
Reason for consideration:	Determination and Reasons
- Roadway is narrowed to one lane in each direction with a shared left turn lane with space dedicated to parking and separated bicycle facilities. - Additional 30-feet of ROW is reclaimed for development	NOT CARRIED FORWARD FOR CONSIDERATION - While narrowing the roadway would provide significant safety benefits for all users, the lack of transit improvements and infeasibility of this alternative means it does not meet project purpose and need - Would improve safety due to lower speeds, however it is expected that level of service for all motorized vehicles, including transit would fall to unacceptable levels Would support the corridor's economic development vision, however it is unlikely that market demand would drive the need for new developable land.

c. Practical Alternatives

Following the second round of public and LAC meetings during which the Illustrate Alternatives were presented and feedback was elicited, the project team began screening for practical alternatives. This phase of work was completed over the course of three months between January 2024 and March 2024 and involved meeting with the MDOT Metro Section, MDOT Detroit TSC, and MDOT Environmental Services Section, hosting a third round of public and LAC meetings, issuing an online survey, and holding four focus groups with key stakeholders.

Early on in the alternatives screening process, it was determined that, because of its length and varied context, the corridor should be broken up into three segments: Downtown (south), Industrial (middle), and Residential (north). During the practical alternatives phase, the map shown in **Figure 7** was used determine whether some alternatives might be a best fit for only a portion of the corridor or would be applicable to the entire corridor.

Figure 7: Corridor Segments



To streamline the process and ensure transparency, the project team created a scoring matrix that ranked alternatives based on agreed upon performance measures. If the alternative aligned with the purpose and need, it received a ranking. This section provides details on the three alternatives that scored the highest. The full scoring matrix is included in the appendix.

In conjunction with the scoring matrix, the project team held small focus group sessions with key stakeholders including: the City of Detroit, transit providers, and transit advocates to get a sense for their needs and ensure their voices were being heard. At these meetings, the project team presented the practical alternatives and facilitated dialogue that was critical in the screening process. For example, finding out that SMART and DDOT did not have any major route changes in store for Gratiot Avenue in the near future and that the RTA is more interested in improving local transit service than creating new rapid transit along Gratiot Avenue supported the decision to carry forward more than just alternatives with dedicated transit facilities.

Note that although four alternatives were deemed eligible to carry forward from illustrative to practical, Illustrative Alternative 4 was screened out based on the infeasibility and extensive cost associated with center-running dedicated transit lanes with left-side boarding.

Practical Alternative A (Illustrative Alternative 2)

Project Needs	Performance Measures	
1. Set a corridor vision	Consistency with existing adopted plans	YES
	Alignment with MDOT priorities	YES
	Design flexibility to accommodate on-street parking	LOW
	Ease of vehicle access	WORSE
	Community priority	HIGH
	Alignment with SFP Design Guide	HIGH
2. Address dangerous driving	Pedestrian LTS (inverted)	MEDIUM
	Bicycle LTS (inverted)	HIGH
3. Address safety for all travelers	Number of safety countermeasures implemented	HIGH
	Improved multimodal safety	YES
	Potential for Colisions for all modes	FULL SEP.
	Benefits to transit dependent population	HIGH
	Priority of local/short-distance trips	BETTER
4. Emphasize transit service	Quality of service	BETTER
	Quality of amenities	HIGH
	Level of service	WORSE
	Travel Time	UNACCEPTABLE
5. Address deteriorating infrastructure	Opportunities for placemaking	YES
	Creation of sustainable green space	YES
	Snow Removal / street cleaning	MED
	Design elements requiring ongoing maintenance	MED
	Expected complexity of construction	HIGH

Overall Score: 14
Practical Alternative A

Practical Alternative A sets a strong corridor vision aligned with existing plans and community priorities.

Removing two mixed-travel lanes in each direction narrow the roadway, thereby allowing for full modal separation that will lessen the frequency and severity of speeding events while lowering the potential for collisions.

Transit operating in dedicated lanes will provide a better quality of service, improved station amenities, and shorter travel times over current recorded times.

By prioritizing alternative transportation, this alternative removes all on-street parking and left turns on and off Gratiot Avenue except at signalized intersections, and worsens vehicular LOS and corridor travel times. Furthermore, dedicated transit lanes increase the complexity of ongoing roadway maintenance and capital construction.

Practical Alternative B (Illustrative Alternative 3)

Project Needs	Performance Measures	
1. Set a corridor vision	Consistency with existing adopted plans	YES
	Alignment with MDOT priorities	YES
	Design flexibility to accommodate on-street parking	HIGH
	Ease of vehicle access	WORSE
	Community priority	HIGH
	Alignment with SFP Design Guide	HIGH
2. Address dangerous driving	Pedestrian LTS (inverted)	MEDIUM
	Bicycle LTS (inverted)	LOW
3. Address safety for all travelers	Number of safety countermeasures implemented	HIGH
	Improved multimodal safety	YES
	Potential for Colisions for all modes	BETTER
	Benefits to transit dependent population	HIGH
	Priority of local/short-distance trips	WORSE
4. Emphasize transit service	Quality of service	BETTER
	Quality of amenities	HIGH
	Level of service	SAME
	Travel Time	ACCEPTABLE
5. Address deteriorating infrastructure	Opportunities for placemaking	YES
	Creation of sustainable green space	YES
	Snow Removal / street cleaning	MED
	Design elements requiring ongoing maintenance	MED
	Expected complexity of construction	HIGH

Overall Score: 13
Practical Alternative B

Practical Alternative B sets a strong corridor vision aligned with existing plans and community priorities while retaining all on street parking.

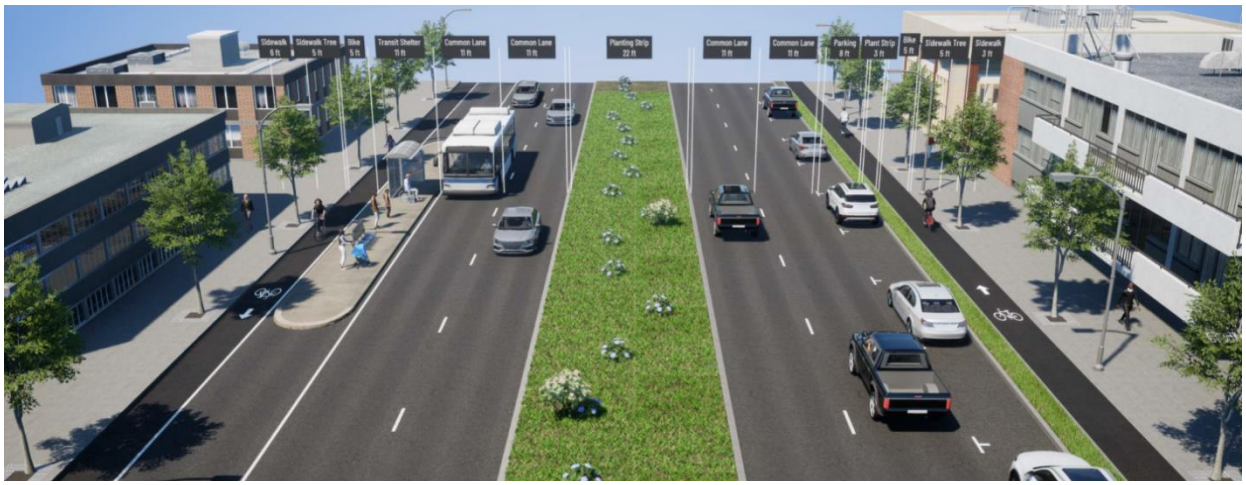
Removing one mixed-travel lane in each direction and dedicating curbside ROW as parking lanes will narrow the roadway thereby lessening the frequency and severity of speeding events while lowering the potential for collisions.

Transit operating in dedicated lanes will provide a better quality of service, improved station amenities, and shorter travel times over current recorded times.

Center running transit prioritizes express/BRT level service with longer distances in between stops and less emphasis on local transit. The lack of designated bike facilities means the cyclist will operate in mixed traffic. Dedicated transit lanes increase the complexity of ongoing roadway maintenance and capital construction.

If this alternative is carried forward, consideration should be given to what trade-offs might be made in order to add bike lanes.

Practical Alternative C (Illustrative Alternative 5)



Project Needs	Performance Measures	
1. Set a corridor vision	Consistency with existing adopted plans	YES
	Alignment with MDOT priorities	YES
	Design flexibility to accommodate on-street parking	HIGH
	Ease of vehicle access	WORSE
	Community priority	HIGH
	Alignment with SFP Design Guide	HIGH
2. Address dangerous driving	Pedestrian LTS (inverted)	MEDIUM
	Bicycle LTS (inverted)	HIGH
3. Address safety for all travelers	Number of safety countermeasures implemented	HIGH
	Improved multimodal safety	YES
	Potential for Colisions for all modes	FULL SEP.
	Benefits to transit dependent population	HIGH
	Priority of local/short-distance trips	BETTER
4. Emphasize transit service	Quality of service	SAME
	Quality of amenities	HIGH
	Level of service	SAME
	Travel Time	ACCEPTABLE
5. Address deteriorating infrastructure	Opportunities for placemaking	YES
	Creation of sustainable green space	YES
	Snow Removal / street cleaning	LOW
	Design elements requiring ongoing maintenance	MED
	Expected complexity of construction	MED

Overall Score: 16
Practical Alternative C

Practical Alternative C sets a strong corridor vision aligned with existing plans and community priorities while retaining some on street parking.

This alternative removing one mixed-travel lane in each direction, allocated curbside space to a “flex lane” where a floating bus bulb runs in front of a protected bike facility at bus stop locations thereby allowing for full separation of motorized and non-motorized modes. Where bus stops aren’t present, parking is retained. Station amenities such as shelters and seating should be installed.

Transit operating in mixed-travel lanes will benefit from not having to pull to side to board and alight at floating bus bulbs. This will result in transit travel times that are the same or faster than personal vehicle travel times (but not as fast as dedicated transit lanes).

Transit running in mixed-traffic prioritizes local mobility.

d. Acceptable Alternatives

Acceptable alternatives are identified based on performance during the practical alternatives phase and through additional stakeholder and public engagement. Based on these criteria, Alternatives B and C were identified as the PEL's acceptable alternatives. Neither alternative is anticipated to have an impact to right-of-way. An overview of the basis for selection, high level future considerations, and rough cost estimates are included below.

Alternative C: Center Landscaped Median[2]

Overview of Decision

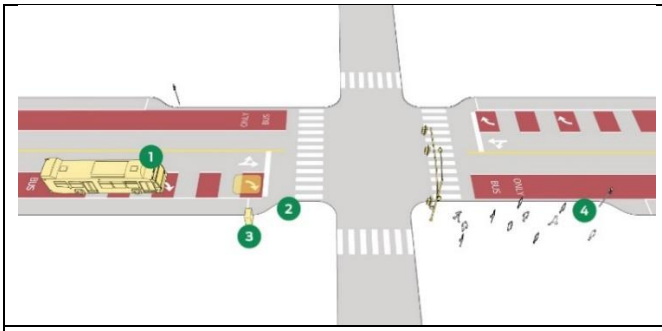
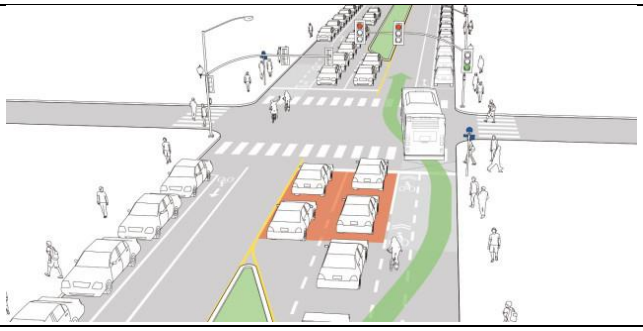
Alternative C rose to the top as the preferred non-dedicated transit lane alternative. It improves safety for all modes, limits drivers' ability to make mistakes, retains parking along most of the corridor, and provides benefits to transit users. It has been prioritized by the public and stakeholders. A primary feature of this alternative is the reduction off through lanes in each direction from three to two and the expectation that transit will operate in mixed traffic with in-line stopping. According to traffic analysis completed in support of this study (included in the appendix), the roadway will function at an acceptable level of service with this new configuration. The addition of a wide landscaped center median matches the roadway context found in south of I-375 junction and Gratiot Avenue north of 8 Mile Road.

For Future Consideration

While traffic operations are expected to improve under the Alternative C configuration, consideration should be given to intersection reconfiguration at several key junctions as defined in more detail in the previously mentioned traffic analysis report. Attention may be given to realigning skewed intersections, improving signal timing, and making accommodations for larger design vehicles than would otherwise fit at signalized intersections under the Alternative C configuration.

Future consideration should also be given to interim transit improvements. While this alternative does not include dedicated transit lanes, there are a myriad of transit improvements that can be implemented to provide a benefit to transit vehicles operating in mixed traffic. Two recommended options are Transit Signal Priority (TSP) and Signal Queue Jumps. Information on each is shown below in **Figure 8**.

Figure 8: Two potential transit improvements for consideration in Alternative C

	
Transit Signal Priority (TSP) tools modify traffic signal timing or phasing when transit vehicles are present either conditionally for late runs or unconditionally for all arriving transit. TSP can be a powerful tool to improve both reliability and travel time, especially on corridor streets with long signal cycles and distances between signals.	Queue jump lanes combine short, dedicated transit facilities with either a leading bus interval or active signal priority to allow buses to easily enter traffic flow in a priority position. Applied thoughtfully, queue jump treatments can reduce delay considerably, resulting in run-time savings and increased reliability.

Source: https://nacto.org/publication/transit-street-design-guide/intersections/

Estimated Costs

MDOT anticipates Alternative C will cost approximately $243,365,701. For more information on how this cost was calculated, see the appendix.

[2] Rendering shown on document cover

Alternative B: Center Running BRT w/ Right Side Boarding

Overview of Decision

Alternative B has been selected as the preferred dedicated transit lane alternative. It improves safety for all modes, limits drivers' ability to make mistakes, retains parking along the corridor, and provides benefits to transit users. It has been prioritized by the public and stakeholders. A primary feature of this alternative is the repurposing of one lane in each direction at the center of the roadway for the exclusive use of transit vehicles and the overall reduction of through lanes in each direction from three to two. According to traffic analysis completed in support of this study (included in the appendix), the roadway will function at an acceptable level of service with this new configuration. This alternative's planning level design was developed with the intent of being consistent with the other complete streets redesigns being undertaken elsewhere by MDOT.

For Future Consideration

While center running dedicated transit lanes are the proposed configuration brought forth in the RTA's 2016 Gratiot Avenue Transit Study, further coordination with transit providers will be needed to decide if the interest still exists. Based on conversation with DDOT, SMART, and the RTA held in a small group setting and over the course of the project at several LAC meetings, there was some hesitation to selecting a dedicated transit lane alternative. As the tide of transit worldwide continues to change in the post-COVID economy, MDOT will need to reassess whether dedicated lanes are right at the time of initiating NEPA and design.

The proposed configurations shown in Alternative B does not contain bicycle facilities. Instead, parking is retained in both directions. Future consideration should be given to reallocating space for either a bi-directional cycle track on one side of the street or one-way pair of separated bike lanes in either direction. The need for bike facilities along Gratiot Avenue is something that the project team heard continuously from the public throughout the PEL process.

Estimated Costs

MDOT anticipates Alternative B will cost approximately $280,285,901. For more information on how this cost was calculated, see the appendix.

9. Planning Assumptions and Analytical Methods

a. Range of Alternatives

As discussed in **Section 8**, the approach to range of alternatives was to evaluate prior study recommendations and carry forward into the PEL alternatives analysis any recommendations that met the Purpose and Need Statement. Additionally, the project team evaluated all alternatives from a "blank slate" point of view to be certain that other potential solutions were not overlooked. The range of alternatives, covering a wide scope and range, was heavily influenced by the community and stakeholders who were engaged early and often throughout the process.

b. Alternative Evaluation Criteria

The project Purpose and Need Statement, created with input from the LAC group, steering committee, and the public, and approved by FHWA, was used to develop an alternatives screening matrix. The matrix (included in the appendix) was used to screen out unreasonable alternatives and compare each alternative under consideration using key performance measures.

The criteria centers around the key elements of the purpose and need such as consistency with existing adopted plans, ease of vehicle access, improved multimodal safety, transit level of service, and maintenance. The purpose of this analysis was not to identify a "winner" but rather to screen unreasonable alternatives and identify the subset of alternatives that are feasible and best align with the purpose and need. Although cost is ultimately always a consideration for transportation projects, it was decided that estimated costs should not contribute to alternatives selection for the M-3 (Gratiot Avenue) PEL and were not included in the matrix.

c. Environmental Analysis

On November 28, 2022, MDOT's Environmental Section completed an environmental scoping review analysis (see the appendix) for the project corridor that preliminarily assessed potential impacts to environmental resources. At this stage of project development, the intent is to identify constraints that could influence the alternative evaluation and selection process. With this understanding, MDOT completed an above-ground cultural resources identification memo in January 2024. Other resources were checked using GIS and known databases/information and results are documented in the Existing Conditions report (see the appendix) and summarized in **Section 10**.

d. Traffic Analysis

The traffic analysis looked at traffic counts, as well as existing and predicted Level of Service (LOS) during peak hours for 41 intersections along Gratiot Avenue from Randolph Street to 8 Mile Road. Overall intersections were analyzed as well as intersection approaches, meaning approaches from all directions (EB, WB, NB, and SB). NB and SB intersection approaches indicate travel along Gratiot Avenue itself whereas EB and WB movements are approaches from streets perpendicular to Gratiot Avenue.

Traffic Counts

Traffic counts were conducted along the Gratiot Avenue corridor to analyze the existing flow of vehicles and assess transportation patterns. The analysis of traffic counts found that volumes increase approaching key connectors such as E. Grand Boulevard, I-94 and I-375. Volumes along M-3 (Gratiot Avenue) drop approximately by half south of I-375 (closest to downtown), but bicyclist and pedestrian counts are higher south of I-375.

Parking

A parking analysis was undertaken to assess utilization of on- and off-street parking. On-street parking consists of designated metered zones between Joseph Campau Street and Randolph Street, as well as undesignated spots for the rest of the corridor (in the form of the outermost lanes on Gratiot Avenue). The analysis of on-street parking found low utilization, at less than 10 percent overall. For off-street parking (lots located in front of or immediately behind

businesses or residential areas with frontage on Gratiot Avenue), there was no analysis of utilization, but the overall number of lots and parking spaces are provided in the report, in the appendix.

Analysis of Illustrative and Practical Alternatives

Eight illustrative alternatives were vetted including one lane, two-lane and three-lane options. Prior to the analysis of the illustrative alternatives, the background traffic (future volumes without changes to the proposed roadway) was determined. An annual growth rate of 0.3 percent for the 2045 Build Year was used, and the analysis found that under the existing roadway conditions, all overall intersections operate at LOS C or better during both the AM and PM peak hours. For both the AM and PM peak hours, results also indicate the movement LOS D or better for all but seven intersection approaches (for both AM and PM). The low scoring intersections were all WB and EB movements.

Using the 0.3 percent growth rate for the 2045 Build Year, the analysis of the two-lane alternatives found that the number of intersection approaches with LOS E and F increased, with 10 during the AM peak hour and 16 during the PM peak hour. For the one-lane alternative, preliminary analysis quickly yielded failing LOS along much of the corridor, except for the area south of I-375 in downtown.

Two practical alternatives were modeled and mitigated to establish peak delay and level of service. The one lane alternative was not viable throughout the whole corridor but may be considered south of I-375 within the downtown portion. Transit travel time was analyzed along the corridor using predicted speeds from the DTA model. Compared to existing, alternatives resulted in lowered transit travel times.

For Alternative C, the landscaped median alternative, signal timing optimization and adding a right turn pocket lane in some approaches at some intersections are recommended for further consideration to help reduce the delay along the corridor and mitigate failing LOS. The mitigation scenario allows all intersections to operate at an acceptable LOS D (overall intersection) or better during the AM and PM peak hours under mitigation conditions. An additional right-turn pocket lane was added to six approaches and intersections.

Analysis of Alternative C peak delay and LOS within the study area found that in the AM, the overall intersections all operate at an acceptable LOS D or better, and all but eight intersection approaches operate at LOS D or better. In the PM, the overall intersections all operate at an acceptable LOS D or better, and all but six intersection approaches operate at LOS D or better. The mitigated one lane alternative for areas south of I-375 (eight intersections) operates at acceptable conditions of LOS D or better for intersection approaches and overall intersections. In the PM peak hour, six of the eight intersections operate at LOS D or better, and all but three intersection approaches operate at LOS D or better.

Future considerations include inclusion of bike lanes where not explicitly included, cycle improvements, transit signal priority (TSP), queue jumps, and the addition of mid-block crossings at areas of pedestrian concern near transit stops.

e. Safety Analysis

Gratiot Avenue within Detroit is one of Michigan's highest crash corridors, entirely contained within the city's High Injury Network. The corridor faces multiple safety concerns, including complex intersections, long crossing distances, outdated traffic signals, insufficient pedestrian safety measures at uncontrolled crosswalks, and poor sidewalk lighting and maintenance. MDOT prioritized a safety analysis, detailed in the Existing Conditions report in the appendix.

Between 2017 and 2021, Gratiot Avenue experienced 3,670 crashes within 100 feet of its centerline, resulting in 41 fatalities and 162 suspected serious injuries (A-Injuries), as detailed in **Table 6**. On average, more than 40 people were seriously injured or killed on Gratiot Avenue each year.

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Table 6: Severe Crashes on Gratiot, 2017-2021

User	Pedestrian	Bicyclist	Motorist/Passenger			TOTAL
Crash Type	All	All	Angle	Single Vehicle	All Others	
Crashes with Fatalities	20	2	5	3	8	38
Fatalities	20	2	5	3	11	41
Crashes with Injuries	32	3	41	7	43	126
Suspected Serious Injuries	35	3	54	7	63	162
TOTAL KA Crashes	52	5	46	10	51	164
TOTAL Deaths and Suspected Serious Injuries	55	5	59	10	76	203

Source: Michigan State Police Numetric crash database, 2017-2021; 100' search distance from Gratiot Ave centerline, interstate crashes removed

The severe crash rate along the corridor equates to 18.6 crashers per mile over the five-year study period (3.72 KA/mile/year). The most dangerous segments were E. Vernor Highway to Conner Street and Conner Street to 8 Mile Road as shown in **Table 7**.

Table 7: Severe Crashes by Segment, 2017-2021

Segment	Length (mi)	Fatal Crashes	Serious/ Incapacitating Injury Crashes	Total KA Crashes	KA Crashes per Mile	KA Crashes per Mile per year
Randolph St to E. Vernor Hwy	1.1	0	10	10	9.5	1.9
E. Vernor Hwy to Conner St	4.3	18	59	77	17.8	3.6
Conner St to 8 Mile Rd (M-102)	3.5	20	57	77	22.3	4.5
TOTAL	8.8	38	126	164	18.6	3.7

Source: Michigan State Police Numetric crash database, 2017-2021; 100' search distance from Gratiot Ave centerline, interstate crashes removed

As demonstrated in **Table 8**, Gratiot Avenue has an exceptionally high rate of KA crashes per mile when compared to similar corridors across the state. Western Michigan University's study on low-speed urban corridors (40 mph or under) showed Gratiot Avenue between 8 Mile Road and Seymour Street/McNichols Road had 2.04 KA crashes per mile per year.

Table 8: Low Speed Urban Corridor Comparison, 2009-2020

Rank	Segment	Location	Length (mi)	Total KA Crashes	KA Crashes per Mile per year
1 (MAX.)	Gratiot – 8 Mile Rd to Seymour St	Detroit	1.76	43	2.03
22	Gratiot – Seymour St to Pennsylvania Ave	Detroit	2.59	28	0.9

31	Gratiot – Common Rd to Martin Rd	Roseville	1.14	11	0.8
33	Gratiot – Mt Elliott St to Antietam Ave	Detroit	1.89	18	0.8
42	Gratiot – McClellan St to Mt Elliott St	Detroit	1.96	17	0.72
54	Gratiot – 9 Mile Rd to 11 Mile Rd	Eastpointe/ Roseville	2.32	18	0.65
78 (MEDIAN)	Jos Campau – Carpenter St to Hamtramck Dr	Hamtramck	1.56	10	0.53
105	Gratiot – Joy Blvd to Harrington St	Mt Clemens	2.08	9	0.36
155 (MIN.)	N Maple – Dexter Ave to S. Maple Rd	Ann Arbor	0.45	0	0

Source: Western Michigan University

Users

Pedestrians and cyclists account for over 50% of traffic fatalities on Gratiot Avenue. Between 2017 and 2021, 22 out of 41 fatalities involved people walking or biking. This represents 34% of severe crashes on Gratiot Avenue, compared to 24% citywide.

Driver Speeds

The speed limit is 30 miles per hour from Randolph Street to E. Vernor Highway and 35 miles per hour from E. Vernor Highway to 8 Mile Road. However, speeds often exceed these limits, particularly north of Conner Street, where 66th percentile speeds reach up to 39 miles per hour. Overnight speeds are especially high, particularly in the southbound direction. Current speed data, based on averages and 66th percentile, suggests that further data collection is necessary to identify specific speeding hotspots. Notably, even where speeds are within limits, they may not be conducive to the safety and comfort of people walking, using assistive devices, and biking.

Intersections

Intersection crashes accounted for 100 of 164 crashes on the corridor between 2017 and 2021. Gratiot Avenue is oriented at a skew, creating complex intersections, increasing crossing distances and turning speeds. Many intersections on the corridor are further complicated by driveways associated with gas stations and drive thru uses that are adjacent to the intersection.

Key intersections with high severe crash rates include the following five, as shown in **Figure 9**:

- Gratiot Avenue & 7 Mile Road: 10 KA crashes
- Gratiot Avenue & Corner Street: 8 KA crashes
- Gratiot Avenue & McNichols Road/Seymour Street: 8 KA crashes
- Gratiot Avenue & 8 Mile Road: 6 KA crashes
- Gratiot Avenue & Van Dyke Street: 6 KA crashes

Most pedestrian-involved severe crashes occurred at unsignalized intersections or midblock locations, while bicyclist severe crashes were more common at signalized intersections. For motorists, angle crashes were the most common severe crash type at intersections, followed by head-on-left-turn crashes.

Figure 9Figure 9: Severe Crashes, 2017-2021

Source: Michigan State Police Numetric crash database, 2017-2021; 100’ search distance from Gratiot Avenue centerline, interstate crashes removed

10. Environmental Resources Review

The purpose of the PEL desktop environmental review is to identify environmental resources early in the planning process for use in assessing potential impacts during alternatives evaluation. The environmental resources listed below were identified using the MDOT Environmental Scoping Memo and through the supporting existing conditions document completed in the early stages of the PEL process. **Table** describes environmental resources identified through this initial review. A discussion of potential anticipated impacts is included in subsequent sections. The review was limited to a quarter-mile buffer around the M-3 (Gratiot Avenue) centerline between Randolph Street and 8 Mile Road. The Environmental Scoping document and the Existing Conditions Report, as well as supporting maps, are available in the appendix. Mitigation is discussed in **Section 13**.

Table 9: Identified Environmental Resources

Resource	Description
Social	• Areas of concern fall under three categories: A. Existing nonmotorized facilities, including sidewalks and bus stops B. Fee ROW, easement, grading permit, or consent to close and relocate drives C. Work concerns
Environmental Justice	• Both minority and low-income populations are present within the study area. • All 39 Census tracts within the study area contain larger minority populations compared to the respective state average of 20 percent. • 34 census tracts within the study area include 20 percent or more of the population below the poverty level. Five Census tracts (5169, 5170, 5171, 5172, and 5208) in the southernmost portion of the corridor near Downtown Detroit are above the federal poverty level
Air Quality	According to the National Ambient Air Quality Standards (NAAQS): • Southeast Michigan has met the federal standards for ground-level ozone since May 2023. • Part of the study area (southern end, west of Woodward Avenue, south of Michigan Avenue) is within Sulfur Dioxide Non-attainment area for the 2010 Sulfur Dioxide Standards.
Noise	• 136 potential Activity Category C properties identified within the project area. • 33 of these Activity Category C properties adjacent to the corridor.
Aquatic Resources	• No wetland, lake, pond, or linear water crossings were identified within the study area. Conners Creek and Bloody Run once traversed the study area but have been buried since at least the mid-twentieth century and no disturbance is expected through this project. • Coastal zone: No coastal zone management area identified within the study area. • Stormwater discharge and watershed drainage: Detroit River.

Agriculture	• No PA 116 parcel identified within or adjacent to the study area.
	• 22 soil types within the study area. Top three soil types that cover most of the study area are:
	  • Urban land-riverfront complex, dense substratum, 0 to 4 percent slopes (27.6 percent);
	  • Shebeon-urban land avoca complex, 0 to 4 percent slopes (15.3 percent); Avoca-urban land-parkhill complex, 0 to 4 percent slopes (13.4 percent)

Biological Resources	• Federally listed species: four federally listed endangered species; three federally listed threatened species; one candidate species identified by USFWS within the project area.

	• State-listed species: 35 state-listed endangered species; 52 state-listed threatened species; 68 state-listed special concern species within Wayne County. • 14 migratory bird species listed by USFWS as Birds of Conservation Concern (BCC); one migratory bird species listed as non-BCC vulnerable due to the project location. • No Wildlife Refuges in the project area.
Floodplains	• No floodplain identified within study area.
Stormwater	• If the project results in more than five acres of earth disturbance activities, then PA 451, Part 31 PA 451, Part 31 requires that a Storm Water Certified Operator conduct inspections of soil erosion and sedimentation control measures on a weekly basis or within 24 hours of a storm event. • A Notice of Coverage form will need to be submitted to the Michigan Department of Environment, Great Lakes, and Energy (EGLE).
Hazardous Materials/ Contamination	• 522 sites with contamination and hazardous materials identified under Part 201, Part 211, Part 213, and Baseline Environmental Assessment.
Cultural Resources and Archeology	• 65 previously identified historic buildings, structures, and districts • 28 inventoried archaeological sites
Section 4(f)/6(f)	• Two areas of concern: Dequindre Cut Greenway and Dueweke Park.

a. Social

As identified in the MDOT Environmental Scoping Review, a few areas of concern within the project area were identified and are outlined below.

- Nonmotorized facilities including sidewalks and bus stops are currently present based on a desktop review using Google Maps.
- Scope of work concerns for ROW include fee ROW, easement, grading permit, or consent to close and relocate drives.
- Scope of work concerns for social factors include:
  - neighborhood/community cohesion,
  - travel patterns or accessibility to vehicles, bicycles, transit users, commuters or pedestrians,
  - effect on elderly, handicapped, non-motorized users, transit dependent users,
  - minority and ethnic groups or the economically disadvantaged,
  - impact on school district, recreation areas, churches, businesses, police and fire protection services,
  - any total takes or displacement of households, businesses, or services.

These areas of concern were considered throughout the PEL process; the project development included special consideration for the social factors listed under part C above. Public involvement that occurred during the PEL process helped identify additional community concerns and community issues.

Additionally, as discussed in **Section 14**, lane narrowing and limited access over the centerline may impact large vehicle movements and turns. Further coordination will be necessary with businesses expecting vehicles larger than a single unit truck to ensure that access is maintained.

b. Environmental Justice

There are 39 Census tracts located within a half-mile buffer of the Gratiot Avenue project limits. Most of the Census tracts (36) are in Wayne County, with three in Macomb County near the project limits' northern end. Both minority and low-income populations are present within the study area. Minority populations are concentrated along the entire corridor, with the lowest concentrations at the southernmost extent of the project. Low-income populations are also concentrated along the entire corridor; however, Census tracts (5169, 5170, 5171, 5172, and 5208) in the southernmost

extent of the project study area are above poverty level. Environmental justice values for each tract were calculated using Michigan's Environmental Justice Guidance for Michigan Transportation Plans, Programs, and Activities. A map of EJ scores can be found in the existing conditions report, which is in the appendix.

MDOT acknowledges that vital importance of avoiding potential impacts to environmental justice communities. Environmental justice analysis will be required based on potential temporary/permanent impacts of the project to analyze the project's effects related to each resource category on Environmental Justice populations. According to the MDOT Environmental Scoping, areas of concern include relocations, ROW, and vehicle and non-motorized/sidewalk detours within MDOT EJ Zone Census tracts. However, it is not anticipated that any adverse impacts will occur as a result of implementing either acceptable alternative, as no relocations are anticipated due to the fact that construction will occur within the existing ROW.

c. Noise

Title 23 Code of Federal Regulations (CFR) Part 772 provides procedures for noise studies and noise abatement measures to help protect the public's health, welfare, and livability, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. Highway traffic noise impacts, as defined by FHWA, are "design year build condition noise levels that approach or exceed the [noise abatement criteria for various land use categories] for the future build condition; or design year build condition noise levels that create a substantial noise increase over existing noise levels." Adverse noise impacts are determined by land use and project type.

A review of land use codes for parcels within the project area indicate Categories B, C, E, and F. These categories, as defined below by Federal Highway Administration (FHWA), are discussed below.

- Category B: Residential.
- Category C: Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structure, radio stations, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
- Category E: Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D, or F.
- Category F: Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.

The majority of land use adjacent to Gratiot Avenue and within the study area falls within Category B. Categories C, E, and F are scattered throughout the corridor. Category E land use is concentrated toward the project's southern terminus in Downtown Detroit. Categories C and F are located in pockets of commercial and institutional nodes along Gratiot Avenue and major cross-streets such as 7 Mile Road, Harper Avenue, and Mt. Elliott Street, while there is a concentration of industrial land use between I-75 and E. Grand Boulevard. Land use is discussed in more detail in the Existing Conditions Report located in the appendix**.**

Federal Highway Administration (FHWA) has developed noise thresholds for various activity categories. The noise thresholds for the categories found in the study area are defined below.

- Category B: Highway traffic noise abatement shall be considered whenever the design year total predicted noise levels approach or exceed 67 dB(A) Leq(h), or there is a substantial noise increase between existing and design year predicted noise levels.
- Category C: Traffic noise abatement shall be considered whenever the design year total

predicted noise levels approach or exceed 67 dB(A) Leq(h) or there is a substantial noise increase between existing and predicted noise levels.

- Category E: Highway traffic noise abatement shall be considered whenever the design year total predicted noise levels approach or exceed 72 dB(A) Leq(h), or there is a substantial noise increase between existing and design year predicted noise levels.
- Category F: Category F land uses do not require noise abatement analysis.

d. Biological

A biological review was conducted of a large assessment area encompassing the study corridor in and around the City of Detroit. A desktop review was conducted of potential rare and/or protected species and their habitats within the study area. As part of this assessment, the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) and Michigan Natural Features Inventory (MNFI) databases were reviewed.

Seven federally threatened (LT) or endangered (LE) plants and animals were identified by IPaC as potentially inhabiting the project area. Additionally, one proposed endangered (PE) species, (Tricolored Bat - *Perimyotis subflavus*), and one candidate species (Monarch Butterfly - *Danaus plexippus*) were also identified to potentially inhabit the study area. Due to the current classification of these species, they are not afforded legal protections at the time of the review.

Additionally, the MNFI database of state-threatened and state-endangered plant and animal species was reviewed. The MNFI database identified 52 state-threatened and 35 endangered species in Wayne County, including eleven federally listed species.

None of the species identified as part of the IPaC and MNFI review mentioned in this report are anticipated to have any adverse impacts as a result of implementing either acceptable alternative as construction for either alternative will likely take place within the existing ROW.

e. Contamination

It's important to identify contaminated locations and media as it must be handled and disposed of appropriately in accordance with state and federal regulations. A total of 522 sites were indicated in the Department of Environment, Great Lakes, and Energy (EGLE) Environmental Mapper database as sites of known or potential subsurface contamination and/or Underground Storage Tanks (USTs).

Sites were grouped into the following categories:

- Part 213 Leaking Underground Storage Tanks (LUST) sites with CLOSED status. 48 sites where a LUST release had occurred and has been cleaned up to applicable standards and is considered closed by EGLE. EGLE may or may not have reviewed and concurred with the conclusion that corrective action meets criteria.
- Part 213 LUST sites with OPEN status. 48 sites where a LUST release has occurred, and corrective actions have not been completed to meet the criteria. More than one release may have occurred.
- Part 211 USTs with ACTIVE status. 39 sites where there is at least one tank at the facility that is not closed in place or removed. Closed tanks or active non-regulated tanks may be present.
- Part 211 USTs with CLOSED status. 90 sites where all USTs under Part 211 are closed. These sites can overlap with the Part 213 OPEN or CLOSED LUST sites. This listing only indicates that underground storage tanks were once present at the site and are now closed and no longer active. Non-regulated active tanks at the facility or tanks that are smaller than the regulatory cutoff may be present.
- Part 201 Sites of Contamination. 124 sites where there has been a release of hazardous substances(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed to meet the applicable cleanup criteria for unrestricted residential use. Sites of environmental contamination that are not known to MDEQ are not on the list.

- Baseline Environmental Assessments (BEAs). 173 sites where a BEA has been completed to provide liability exemption to an owner/operator of a pre-existing "facility" under Part 201. A "facility" is a site where the property is contaminated at concentrations greater than the unrestricted residential criteria. These sites, therefore, identify where subsurface impacts have been historically identified. These sites overlap with Part 201 and Part 213 sites, and it is possible to have more than one BEA completed for an individual site, having been completed for different owners/operators at different years.

These 522 sites represent all the sites identified within the database for the study area. Sites from various lists likely overlap, so the actual number of physical sites is likely lower (for example, a site can be both a Part 213 LUST site and have a BEA completed, be a Part 201 site and have a BEA completed, and multiple BEAs are possible for individual sites).

A full analysis of contaminated sites during the NEPA phase is recommended given the volume of contaminated sites identified along the corridor. It is recommended a Project Area Contamination Survey (i.e., PACS, Phase I Environmental Site Assessment) be conducted to confirm known and identify potential sites of contamination and locations of known and unknown monitoring wells.

f. Cultural Resources and Archaeology

Cultural Resources

To assist with planning efforts and future compliance with the National Historic Preservation Act (54 USC 300101) and its Section 106 process (36 CFR Part 800), project architectural historians prepared a broad historic context and completed a desktop survey of the PEL Study Area, which included identification of built resources more than 40 years old that may require future evaluation, identification of National Register of Historic Places (NRHP)-listed and previously determined NRHP-eligible historic properties, and properties previously determined not NRHP eligible. The *Desktop Above-Ground Cultural Resources Identification Memorandum* is located in the appendix.

Online consultation of the National Register of Historic Places and the results of a records request from the Michigan State Historic Preservation Office (SHPO) were the primary resources referenced when identifying above-ground cultural resources. Through desktop screening and survey, qualified architectural historians identified 6,730 above-ground resources within the PEL Study Area 40 years of age or older. Of these, 98 properties have been previously surveyed and include 78 buildings, two structures, and 18 districts. Thirty-five properties are individually listed in the NRHP, and 43 properties have been previously determined NRHP-eligible. There are 10 properties where more information is needed or that are currently unevaluated, and nine properties have been previously determined not eligible for the NRHP.

During NEPA and after an Area of Potential Effects (APE) is established for the final design, a field survey can determine project effects on historic properties. There are three possible findings for any historic properties: "No Historic Properties Affected," "No Adverse Effect," and "Adverse Effect." It is not anticipated that any adverse cultural resource impacts will occur as a result of implementing either acceptable alternative as the alternatives are planned to occur within the existing ROW. However, as discussed in **Section 14**, intersection improvements have the potential to require ROW acquisition depending on final design. If this occurs, the impacts will be explored in more detail during the NEPA phase.

Archaeology

Known historic uses of the area around Gratiot Avenue in the City of Detroit and disturbances that have occurred in the area that would limit or eliminate the potential of important archaeological sites were collected to assess the effects the project may have on archaeological resources. A collection of 43 historic and contemporary maps and atlases, nine volumes of fire insurance maps, seven sets of historic aerial imagery, and contemporary aerial and Google Streetview images were consulted. By analyzing historic maps and reviewing documents that describe historic and modern activities within and near the project, the archaeological potential of the general project area has been preliminarily assessed. This review suggests that:

- Most of the landforms that would be impacted by potential design alternatives have been extensively disturbed and have a very limited potential for the presence of significant archaeological resources. Noted disturbances include the late historic and modern construction of infrastructure such as roadways (e.g., Gratiot Avenue), modern landfills, industrial development, and periods of redevelopment like Urban Renewal. It is generally considered unlikely that intact prehistoric, early historic, and early colonial period sites with sufficient integrity to meet NRHP eligibility criteria will persist in the study area.
- A total of 28 inventoried archaeological sites have been recorded within 1,640' of the corridor: three are prehistoric; two are multicomponent sites with unidentified prehistoric components; 21 are historic, mostly dating to the nineteenth century; and two sites have no data available. Of these, 21 sites are located between Randolph St and the Dequindre Cut.
- Prehistoric sites, early colonial sites, remnants of the nineteenth-century plank road, and remnants of the twentieth-century railways that once used the street right-of-way have the potential to persist throughout the project corridor.

It is not anticipated that any adverse archeological impacts will occur as a result of implementing either acceptable alternative. However, further study during the NEPA phase will help determine any potential effects on archaeological resources.

Greater detail is provided in Technical Memo, which was provided to MDOT.

g. 4(f)/6(f)

Section 4(f) properties are park and recreation lands, wildlife and waterfowl refuges, historic sites, and other publicly owned recreational resource. Transportation project development must include consideration of Section 4(f) properties. Per FHWA, "Before approving a project that uses Section 4(f) property, FHWA must determine that there is no feasible and prudent alternative that avoids the Section 4(f) properties and that the project includes all possible planning to minimize harm to the Section 4(f) properties; or, FHWA makes a finding that the project has [no adverse affect] on the Section 4(f) property."

Consideration of Section 6(f) land and/or properties is also required under NEPA; 6(f) properties are any lands or facilities acquired with Land and Water Conservation Fund Act funds. Under the Act, conversion of 6(f) properties to non-recreational use is prohibited unless approved by the National Park Service.

The PEL process helps identify any potential environmental resources within the project area. The MDOT Environmental Scoping document includes information about Section 4(f)/6(f) properties. Areas of concern from desktop review are included below.

- Dequindre Cut Greenway and associated property runs under M-3 (Gratiot Avenue) just east of Orleans Street. This is a DNR grant funded property. There is associated additional property/parking on the southeast side of the trail's bridge.
- Dueweke Park is located on the east side of M-3 (Gratiot Avenue), south side of Warren Avenue.

There are no specific 4(f) surveys required. Determining as early as possible if there are any ROW needs on the properties is important. If permanent ROW is needed from the properties, then coordination with DNR, the local official with jurisdiction, FHWA, and the public (public involvement) would be required. If temporary ROW is needed from the properties the coordination will be similar, but it can be expedited with no public involvement nor replacement of property expected unless the project is impacting any recreational use on the property. Trail traffic detours and/or closures also have coordination requirements with the DNR and/or the local official with jurisdiction over the trail route. A temporary trail closure, with no detour, would have public involvement and FHWA coordination required as well.

The park properties are not expected to be impacted since proposed construction activities will not likely occur outside of the existing ROW. Temporary impacts will be determined during the NEPA phase and, if present, will include any required coordination as outlined above.

11. Environmental Resources Not Involved in the Study

MDOT's Environmental Section prepared an Environmental Scoping Memo that was discussed in **Section 10**; this section also includes environmental resources reviewed for and included in the existing conditions report, as well as above-ground cultural resources studied in the *Desktop Above-Ground Cultural Resources Identification Memorandum* found in the appendix. The environmental scoping document and existing conditions report can also be found in the appendix. These memos are comprehensive and all environmental resources that the Study Team is aware of were reviewed in this PEL study.

12. Cumulative Impacts

Cumulative impacts are those impacts on the environment which are expected from the actions taken as a result of implementation of each acceptable alternative. Cumulative impacts can result from individually minor, but collectively significant actions taking place over time. Indirect and cumulative impacts were identified as part of MDOT's Environmental Scoping Review (November, 2022) and reviewed as part of the existing conditions report, and explored in more detail in **Section 10**.

The two acceptable alternatives proposed for further consideration are not anticipated to have any impacts to environmental or cultural resources due to the nature of the alternatives being completely within previously disturbed right-of-way. It is not anticipated that the proposed project will adversely change land use patterns in the area and any impacts on future development patterns should only be positive. If an alternative should move ahead to design, it is recommended that additional stakeholder meetings be held with the Gratiot Avenue business community during the design phase to ensure freight generating or receiving land uses have sufficient access and are not hindered in a way that results in economic strain. The chosen alternative should also include additional outreach within the Environmental Justice populations identified in this study in order to ensure that community concerns are identified and documented.

13. Future NEPA Considerations and Mitigation Strategies

Although coordination occurred with MDOT's partner resource organization as well as regional stakeholders and the community, future coordination will need to occur if acceptable alternatives move forward into a design and NEPA phase to quantify what, if any, specific impacts to environmental and cultural resources might occur. Specifically, as the two (2) acceptable alternatives advance into the NEPA phase, further determination and assessment of proposed impacts will provide greater insight into the feasibility of a particular alternative over the other.

If more significant issues are identified upon additional review of the two (2) remaining alternatives, an Environmental Assessment (EA) may be required to further develop mitigation strategies and formally determine that the action will not have a significant environmental impact.

Depending on the final design and associated environmental impacts, potential mitigation may be required. Mitigation measures are commitments that will be integrated into the project once the locally acceptable alternative proceeds to the design phase. Below is a preliminary list of potential mitigation that may be required for the project.

Noise Impacts: 136 Activity Category C properties were identified within the project area. If alternatives move ahead to design and NEPA, further consideration of the construction impacts to these properties will need to be considered. Whether a noise analysis is required depends on project type, classified as Type I or Type III under MDOT standards. Type I projects require a noise abatement analysis, while Type III projects do not. If the noise abatement analysis determines that a barrier meets both the feasibility and reasonableness criteria, the project will need to include a noise barrier. To meet the feasibility requirement, the barrier must provide at least a 5 dB(A) reduction in design year traffic noise for 75% of impacted receivers. To meet the reasonableness requirement the construction cost must be equal to or less than $49,907 (2022 dollars) per benefiting unit, the majority of benefiting residents and property owners are in favor of the noise barrier, and the barrier must provide a design year traffic noise reduction of 10 dB(A) for at least one benefitting unit and at least a 7 dB(A) reduction for 50% or more of the benefitting units.

Section 106 Impacts: The desktop review of the PEL study area identified 98 previously surveyed historic properties, comprising 65 historic buildings, two structures, and 18 historic districts. Of these, 35 historic properties are listed in the NRHP, and 43 historic properties have been determined NRHP-eligible but have not been listed. Depending on the final roadway design, a full Section 106 impact assessment may be warranted depending on the determination of effect. According to the Michigan State Historic Preservation Office, "If the project will have no effect on historic properties, the proposed undertaking may proceed. If the project will have no adverse effect on historic properties, the agency must submit project documentation to Council for concurrence. If the project will have an adverse effect on historic properties, the agency must begin consultation with the SHPO and Council to minimize the adverse effect."

Tree Replacements: The resource specialist or MDOT roadside development unit will make recommendations on tree replacement requirements.

Endangered Species - Flora: If any of the endangered species listed in **Section 10** are determined to be present, and avoidance is not possible, a MDNR Threatened and Endangered Species Permit will be required which would typically include mitigation such as fencing and signage to avoid plants, transplanting impacted species, and site/habitat restoration.

Endangered Species - Fauna: If any of the endangered species listed in **Section 10** are determined to be present, and avoidance is not possible, mitigation could be required and may include fencing, wildlife friendly erosion control, and restrictions on tree removal.

14. Potential Issues for Future Consideration

The two alternatives identified as acceptable alternatives have the support of stakeholders and the community; they have been analyzed for feasibility, cost, and impact at a high level and meet the stated purpose and need. The project's potential impacts on right-of-way (ROW) are expected to be minor or non-existent, with temporary grading easements potentially required for sidewalk work. There are a few potential issues for future consideration:

Both Acceptable Alternatives:

- If intersection reconfigurations along Gratiot Avenue are included in future work, more significant ROW acquisition would likely be required to ensure proper turning radii are available to accommodate trucks where necessary, especially at acute intersections, and redesigning driveways to minimize damage to roadway features caused by truck movements. At this time, the ROW acquisition cost is undetermined but could be significant.
- All alternatives being considered include restricted left turns, with potential options for mid-block direct lefts to accommodate businesses expecting increased truck traffic, necessitating further analysis for implementation. Several intersections require special consideration due to their high number of KA crashes and complex layouts, including:
    - 7 Mile Road
    - Conner Street
    - McNichols Road/Seymour Street
    - 8 Mile Road
    - Van Dyke Street
    - Vernor Highway/St Aubin Street
    - Grand Boulevard/Warren Avenue
- Under either acceptable alternative, lanes will be narrowed and access over the roadway centerline will be limited, thereby impacting the way trucks and other large vehicles operate. Trucks will be constricted to left turns only at signalized intersections and will be required to use alleyways to deliver to businesses, and often make right turns off of Gratiot Avenue onto adjacent collector and arterial roadways. Further coordination will be necessary with businesses expecting vehicles larger than a single unit truck to ensure that access is maintained.
- Although they've been involved in the M-3 (Gratiot Avenue) PEL from the beginning, continued coordination with transit providers will be necessary to fund and construct transit amenities such as station shelters, seating, and bike racks. MDOT looks forward to working with them to pursue discretionary grant funds for various items where applicable. These items are considered necessary but are not accounted for in the cost estimates for either acceptable alternative.

Center Running Transit - Alternative B

- Consideration must be given to center-running transit routes to ensure compatibility with truck movements. Coordination between transit agencies, designers, and MDOT is essential to determine suitable locations for stops that avoid acute turns and accommodate truck movements onto and off Gratiot Avenue. While single-unit truck left and right turns onto and off Gratiot Avenue are feasible, acute right turns encroach on the buffer area of the Bus Rapid Transit (BRT) lane. Bus stops at acute intersections should be placed prior to the intersection to avoid conflicts with left turning movements. U-turns are designed for passenger cars only.
- Coordination with transit providers will be necessary to decide the type of transit they would like to prioritize. Center running dedicated transit lanes lend themselves to longer distance/express transit service and therefore accommodations would need to be made to service local stops.

- While not currently included in the planning level concept, future consideration should be given to the addition of dedicated bike facilities. Space would need to be prioritized away from parking and or narrowed from proposed sidewalk width.

Center Landscaped Median – Alternative C

In this alternative, a 22-foot median is proposed, allowing for the successful accommodation of left and right turns and through movements for semi-trucks, single-unit trucks, and passenger cars at signalized intersections. However, U-turns are limited to passenger cars unless adjustments are made to relocate bus stops to create space for U-turn lanes. Additionally, all driveways are designed to cross the bike lane rather than open directly onto the roadway. Reconstruction of all driveways will be necessary to ensure proper turning radii and proper drainage.