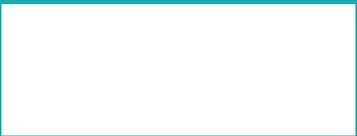


Regional Transit Corridor Strategy

February 2022



RTA

**REGIONAL
TRANSIT AUTHORIT
OF SOUTHEAST MICHIGAN**

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The RTA was created by Public Act No. 387 of 2012. Its 10-member board is appointed for three year terms by the county executives of Wayne, Oakland and Macomb counties, the chair of the Washtenaw County Board of Commissioners, the Mayor of Detroit, and the Governor of Michigan. The Governor’s appointee serves as chair and without a vote.

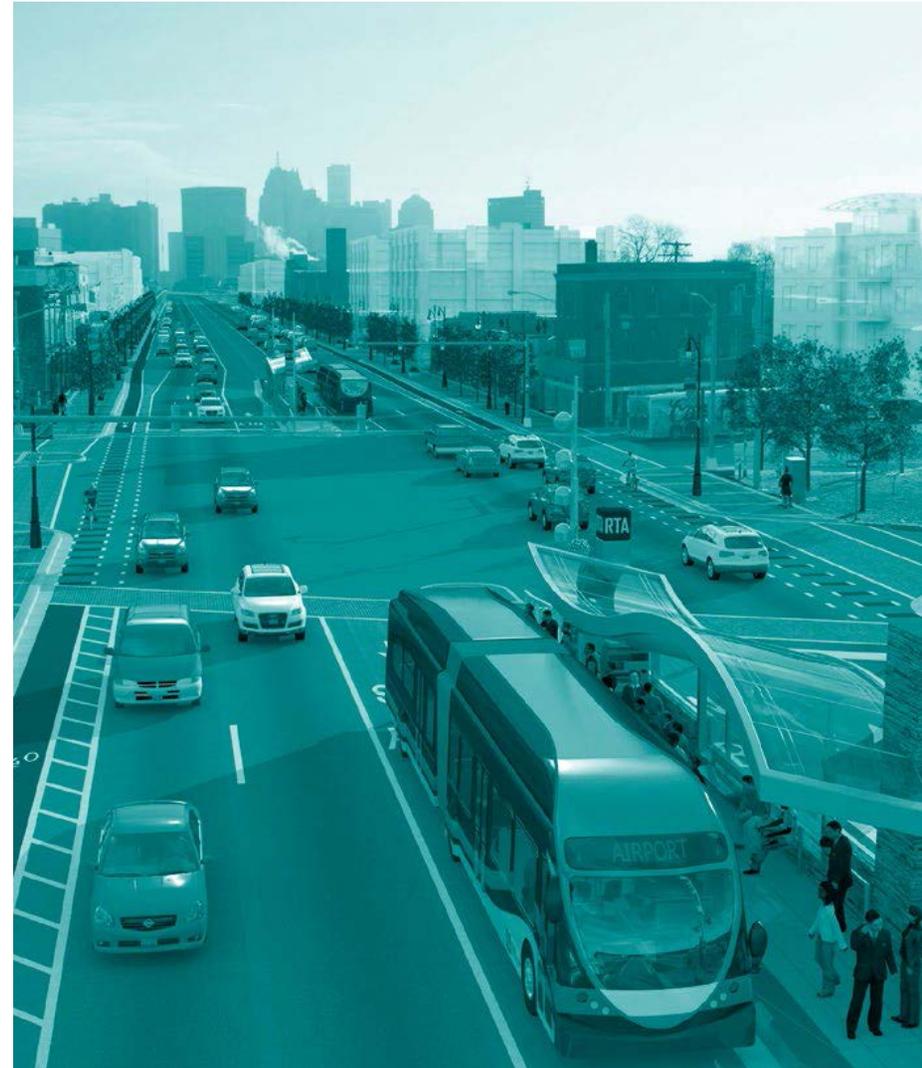
Prepared by HNTB Corporation.

Regional Transit Corridors

Fixed-route services on major corridors are the foundation of the regional transit system, moving large numbers of riders and helping them connect to other routes and services, and their final destinations. Corridor-based capital projects can help to improve the speed, reliability, and capacity of public transit services, and can spur economic development along them. There are multiple types of improvements transit agencies can implement toward these ends, from installing premium bus stop amenities or transit signal prioritization (TSP) at key intersections, to implementing bus rapid transit (BRT), light rail (LRT), and commuter rail services. BRT is a bus-based route that includes many of the amenities typically associated with rail such as stations, level boarding platforms, off-board fare collection, and priority lanes, all of which help to improve the speed of service. Frequent service is a critical element of BRT services, which typically operate at least every 15 minutes all day, or every 10 minutes during peak hours and every 20 minutes at other times.

Frequent and reliable corridor services improve the appeal of public transit and can increase ridership; since the Silver Line BRT launched in Grand Rapids in 2012, ridership on the corridor increased by 40 percent. Corridor services can also support economic development in station areas. A [National Institute for Transportation and Communities study](#) found that on average, every dollar invested in a BRT project was correlated to \$9.46 in development. Cleveland's RTA estimates that after 10 years its HealthLine BRT earned \$190 return on investment for every dollar spent on the project, about \$9.5 billion in development along corridor.

Southeast Michigan's transit riders, employers and other stakeholders have expressed a desire for corridor-based rapid transit routes through multiple planning processes. However, significant time and funding resources are required to plan, design, construct and operate these projects. **To implement transit corridor projects, RTA and partners will need to pursue funding through federal, state, and local resources, for both construction and service operations.**



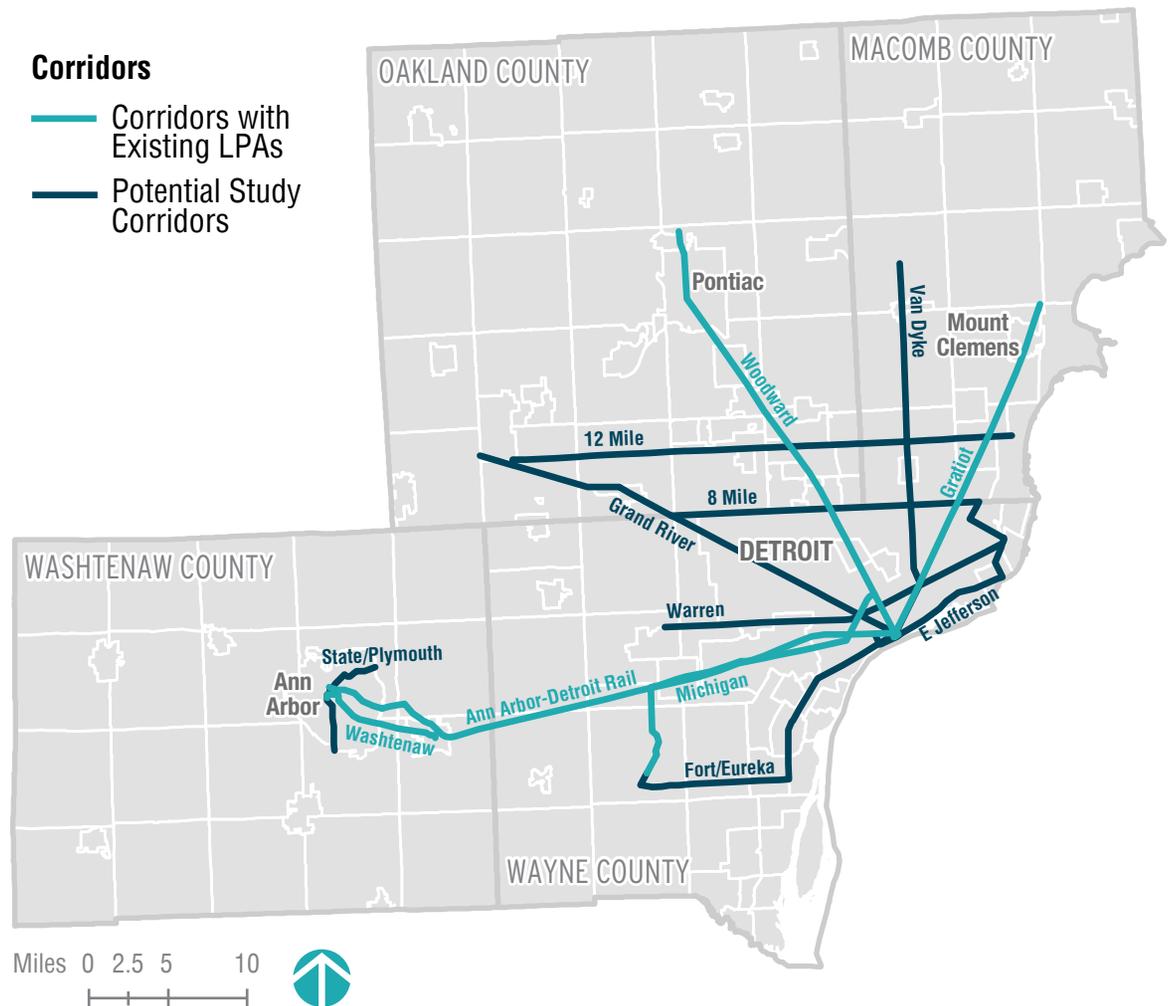
▲ A conceptual rendering of a BRT system on Michigan Avenue in Detroit from RTA's 2016 Regional Master Transit Plan.

RTA's most recent strategic plan, [Advance 2021](#), identifies 13 corridors in Southeast Michigan where premium transit services should be targeted (see Figure 1). These corridors generally serve the region's higher density areas, connect key regional destinations, and have strong ridership:

- ▶ Ann Arbor-Detroit Rail
- ▶ Gratiot Avenue
- ▶ Michigan Avenue
- ▶ Woodward Avenue
- ▶ Fort Street/Eureka Road
- ▶ Grand River Avenue
- ▶ East Jefferson Avenue
- ▶ State Street/Plymouth Road
- ▶ Van Dyke Avenue/Street
- ▶ Warren Avenue
- ▶ Washtenaw Avenue
- ▶ 8 Mile Road
- ▶ 12 Mile Road

Potential projects have been identified on some corridors through previous planning efforts. Locally preferred alternatives (LPAs) document the mode, routing, station areas, service characteristics, and budgets that were selected through technical planning and public outreach processes. RTA has adopted LPAs on Gratiot, Michigan, Washtenaw, and Woodward avenues, and on the Ann Arbor-Detroit rail corridor.

Figure 1: Potential Regional Transit Corridors



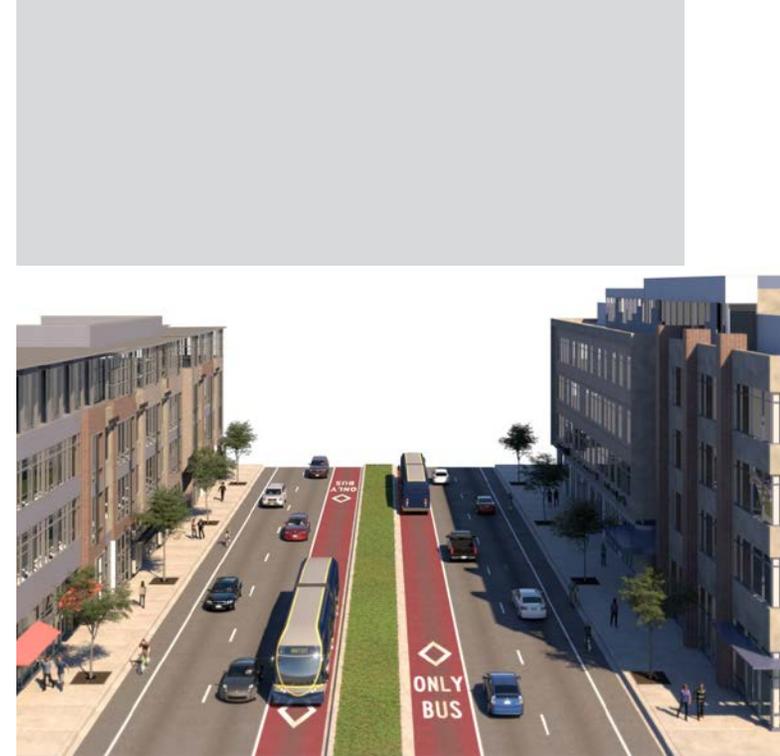
EXISTING LOCALLY PREFERRED ALTERNATIVES

The selection of an LPA is a critical step toward developing and implementing transit capital projects. An LPA is identified through an alternatives analysis, where an agency, in collaboration with the public and other stakeholders, explores a wide range of potential transit modes and options to determine which are feasible and have the highest potential to address the issues being considered.

The [Woodward Avenue](#) LPA, a BRT system from Downtown Detroit to Pontiac, was adopted in 2014. The LPAs for [Gratiot Avenue](#), and [Michigan Avenue, Washtenaw Avenue, and the Ann Arbor Detroit regional rail](#) were adopted in 2016. The Gratiot Avenue alternative includes BRT service from Downtown Detroit to M-59 in Clinton Township. The Michigan Avenue study includes LPAs for three services: a BRT on Michigan Avenue and Merriman Road between Downtown Detroit and the Detroit Metropolitan Wayne County Airport (DTW), BRT on Washtenaw Avenue between Ann Arbor and Ypsilanti, and regional rail between Ann Arbor and Detroit on the existing Amtrak alignment.

While these LPAs will be useful in advancing corridor projects, they will need to be updated to reflect recent current realities and priorities. In the years since they were adopted, there have been changes in transit and mobility technology and service models, transit services in the region, and regional development, demographic, and travel patterns. The ongoing COVID-19 pandemic has changed travel patterns and led to dramatic declines in public transit ridership, and a focus on public transit as an essential service. Additionally, recent planning efforts, such as RTA's [mobility-oriented development \(MOD\) study](#) from 2020, and MDOT's [Michigan Avenue Planning and Environmental Linkages \(PEL\) study](#) should be incorporated into the LPAs.

The LPAs include cost estimates, however, these are from the years they were completed and will need to be updated to reflect escalating construction costs and inflation. The LPAs were also completed in the run up to RTA's 2016 ballot initiative under the assumption that there would be regional funding to develop, construct, and operate services. **In the absence of dedicated funding for regional transit, project scopes will need to be reconsidered to align with current capital funding opportunities and operational capacities.**



▲ The Gratiot Avenue Transit Study identified BRT operating in a dedicated lane along the median as the LPA.



▲ The Michigan Avenue Corridor Study identified three projects, including BRT operating on Washtenaw Avenue.

OTHER PLANNING INITIATIVES

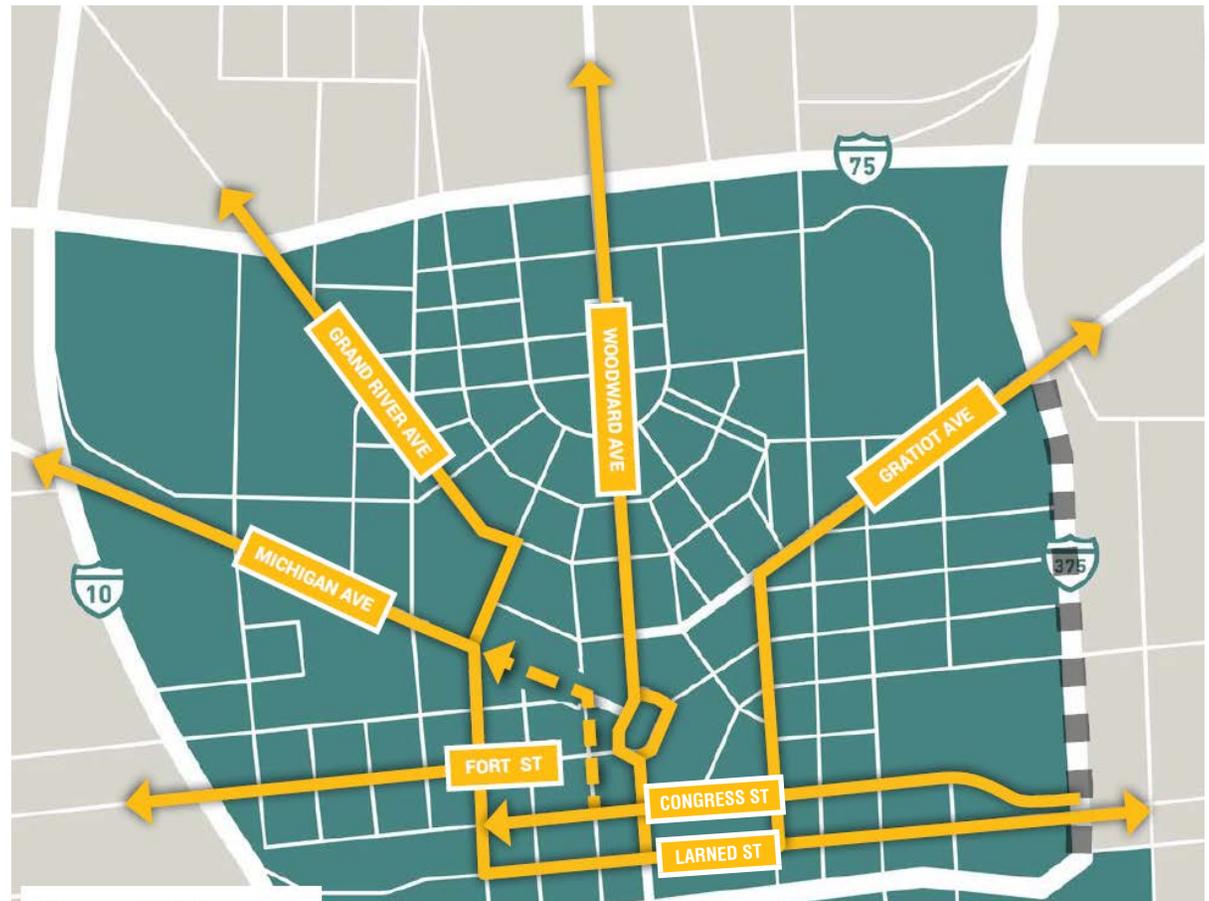
The 2018 [Downtown Detroit Transportation Study](#) identified streets that could serve as a potential transit priority network, and recommends implementing dedicated transit lanes to improve the efficiency and reliability of service (see Figure 2). The recommendations in this plan have the potential to benefit multiple corridors and should be considered when updating LPAs or developing alternatives analyses. Dedicated transit lanes on Congress and Larned Streets would benefit multiple bus routes and could serve as a future BRT hub.

In 2019, the City of Detroit completed a [transit-oriented development \(TOD\) study](#) on the East Jefferson Avenue corridor. Though an alternatives analysis was not conducted, this study will provide insight into the development of one and the eventual adoption of an LPA.

RTA's [mobility-oriented development \(MOD\) study](#) developed land use and mobility strategies that will allow transit agencies and local governments to coordinate development and mobility improvements around transit stops along the Woodward Avenue corridor and the Ann Arbor-Detroit rail corridor

MDOT is currently conducting the [Michigan Avenue PEL study](#) on a portion of the corridor from Campus Martius to I-96 in Detroit that considers integrating a dedicated lane for transit and autonomous and connected vehicles.

Figure 2: Downtown Detroit Transit Priority Network



▲ BRT services on major corridors could connect in Downtown Detroit, providing transfers and shared station areas on the Congress/Larned Loop. Image excerpted from the Downtown Detroit Transportation Study (2018), courtesy of the City of Detroit.

FTA's CIG Program

The Federal Transit Administration's (FTA) Capital Investment Grant (CIG) Program provides discretionary grants that fund a portion of fixed-guideway projects, such as light, heavy, and commuter rail, streetcars, and BRT, as well as corridor-based BRT. On fixed guideway BRT, the majority of the route must operate in a dedicated transit right-of-way, which is not required on corridor-based BRT projects.

Within the CIG Program, there are three categories of grants that support different types and scales of projects: Small Starts, New Starts, and Core Capacity. Small Starts funds up to 80 percent of projects that cost under \$400 million and require less than \$150 million in funding from the program. Small Starts is the only CIG category that supports corridor-based BRT projects. New Starts funds up to 60 percent of projects above the Small Starts thresholds, and Core Capacity supports projects that increase the capacity of existing rail systems.

All three programs require local match funding, which can be provided by the state, local governments, or private and nonprofit partners. At the state level, MDOT provides match funding for federally funded capital projects, and is required to provide up to two-thirds of the match, subject to the availability of funding. At the local level, funding can be provided through local dedicated tax revenues, local appropriations, private donations, and agency income from advertising and concessions. Other federal awards can be used in combination with CIG funding, but also require matching funds (see Figure 3).

FTA does not provide funding to operate service, though FTA formula funding can be used to maintain vehicles and stations. **Transit providers will need to be able to support service operations with existing funding sources.** There are opportunities to reallocate existing corridor services to operate BRT within current budgets.

To date, Southeast Michigan's transit agencies have not pursued CIG Program funding. Given the current realities of operations funding for regional transit, RTA and transit providers should pursue corridor projects that can be operated within available operating budgets and capacities. **RTA and its stakeholders need to develop a plan to secure match funding for these projects.** At this time, Small Starts is the best opportunity for Southeast Michigan to fund a corridor capital project, and gain experience delivering these projects.

Figure 3: Potential Funding Sources

Other Federal Funding Sources



Other Federal Grant Programs

FTA/FHWA formula and discretionary grants (e.g., Buses and Bus Facilities, Low or No Emission Vehicle, Urbanized Area Formula, Congestion Mitigation and Air Quality Improvement, and Surface Transportation Block Grant Programs)

Match Sources



MDOT Funding

Comprehensive Transportation Fund



Dedicated Transit Tax Revenue

Property Tax Millages,
Vehicle Registration Tax



Local Appropriations

County/City General Funds



Eligible Revenue

Advertising and Concessions



Private/Nonprofit Partnerships

Donations, Sponsorships, Grants

SMALL STARTS

FTA's Small Starts program provides up to 80 percent of the funding required for fixed-guideway projects and corridor-based BRT projects. Projects must cost under \$400 million and seek less than \$150 million in CIG funding. Historically, however, most projects are not funded with an 80 percent CIG project share; **FTA typically funds much closer to 50 percent of projects.**

For fiscal year (FY) 2022, FTA recommended that the President and Congress fund six Small Starts projects, which had an average award of \$50.5 million in year of expenditure (YOE) dollars. The average CIG share of these projects was 48 percent (see Figure 4).

However, the Infrastructure Investment and Jobs Act (IIJA) enacted in November 2021 doubled CIG Program funding, and FTA has stated that it may now have the capacity to fund more projects, or fund higher CIG project shares, particularly in areas that align with the Biden Administration's Justice40 Initiative.

Figure 4: FTA FY2022 Small Starts Funding Recommendations

Project	Location	Length (miles)	Total Project Cost (\$YOE*)	CIG Share	CIG Amount (\$YOE)	Local Match (\$YOE)
Rapid Transit	Rochester, MN	2.6	\$114.5M	49%	\$56.1M	\$58.5M
Expo Center Bus Rapid Transit	Austin, TX	12.0	\$35.6M	50%	\$17.8M	\$17.8M
Pleasant Valley Bus Rapid Transit	Austin, TX	14.0	\$36.6M	50%	\$18.3M	\$18.3M
RapidRide I Line	Seattle, WA	17.0	\$117.6M	47%	\$55.6M	\$62.0M
Pacific Avenue/ State Road 7 BRT	Tacoma, WA	14.3	\$170.0M	44%	\$75.2M	\$94.8M
East-West BRT	Madison, WI	15.5	\$160.0M	50%	\$80.0M	\$80.0M
FY2022 Small Starts Average		12.6	\$105.7M	48%	\$50.5M	\$55.2M

*\$YOE: Year of Expenditure Dollars



BRT has become a critical component of regional transit systems across the US and globally. In the Midwest, BRT routes currently operate in Cleveland, Columbus, Grand Rapids, Indianapolis, Kansas City, and Minneapolis. New routes are underway in Indianapolis, Madison, Milwaukee and Chicago. FTA's Small Starts program has been a key funding source for these projects.

The Rapid, in Grand Rapids, currently operates two BRT routes, the Silver Line and the Laker Line, completed in 2014 and 2020 respectively. The Silver Line is a 9.6-mile BRT system that operates in mixed traffic and serves 18 stations connecting Downtown Grand Rapids to the cities of Kentwood and Wyoming. Since opening, The Rapid has seen ridership on the corridor increase by 40 percent.

The total capital cost for the Silver Line was \$39.8 million, \$18.99 million (47.6 percent) of which was provided through Small Starts. Additional funding was provided through FTA's Bus and Bus Facilities program, the local match was provided by MDOT.

◀ A Silver Line station in Grand Rapids. Image courtesy of The Rapid.

SMALL STARTS AND RTA'S LPAS

RTA's LPAs include cost estimates from the years they were completed. Adjusting for inflation and escalation, these projects average much higher than FTA's FY 2022 recommendations, and the Woodward corridor project may no longer qualify for Small Starts. Applying the FY 2022 average CIG share to Southeast Michigan's LPAs (adjusted to 2022 dollars) demonstrates that these projects may not be competitive candidates for the Small Starts program, and that it may be a challenge to secure local match funding. **Additionally, the region's LPAs are, on average, twice the length of projects recommended in 2022, meaning they require additional operating funding** (see Figures 5 and 6).

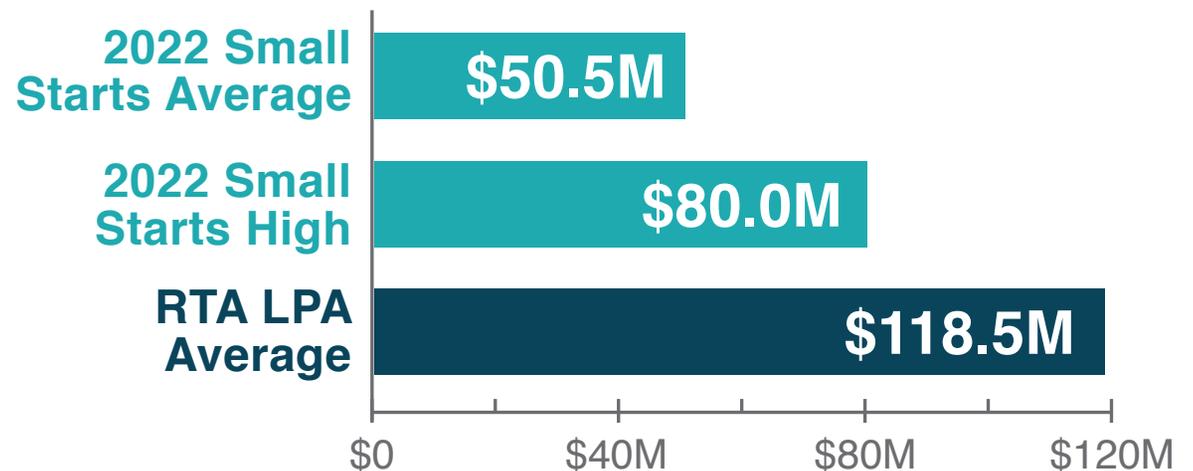
Though the CIG Program's cost ceilings are periodically updated by Congress, they are not indexed to inflation. As time goes on and inflation and escalation increase, these projects may be seeking the maximum CIG share, or may outgrow the program. While the New Starts program may be an option, this program will not support corridor-based BRT projects, has a longer process, and more expensive projects will require a higher local match.

Figure 5: Estimated Costs of Southeast Michigan's LPAs

Project	Length (miles)	Total Project Cost (\$2022)	CIG Share	CIG Amount (\$2022)	Local Match (\$2022)
FY2022 Small Starts Average	12.6	\$105.7M	48%	\$50.5M	\$55.2M
Gratiot Avenue LPA	23.0	\$310.3M	48%	\$148.9M	\$161.4M
Michigan Avenue LPA	22.5	\$162.3M	48%	\$77.9M	\$84.4M
Washtenaw Avenue LPA	9.0	\$68.8M	48%	\$33.0M	\$35.8M
Woodward Avenue LPA	27.0	*\$400.3M	37%	*\$150.0M	\$250.3M
Ann Arbor-Detroit Rail LPA	40.0	\$351.7M	43%	*\$150.0M	\$201.7M

*Small Starts awards are capped at \$150M and total project costs must be under \$400M.

Figure 6: Small Starts Amounts, 2022 Awards and RTA LPAs

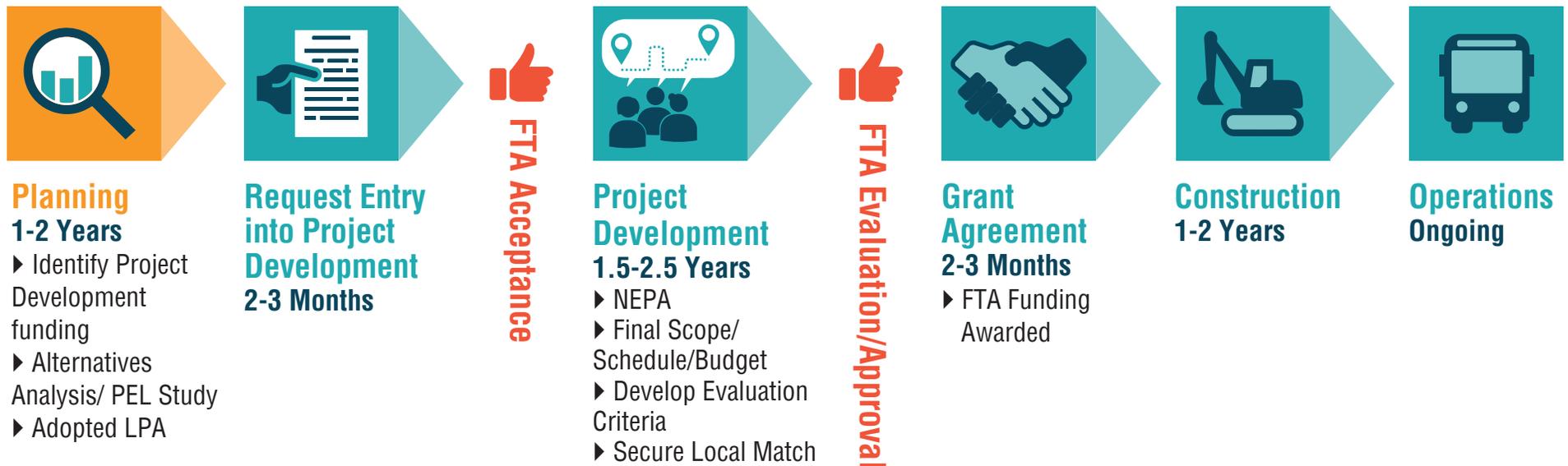


SMALL STARTS PROCESS

The Small Starts program requires that projects follow a multi-year and multiphase process (see Figure 7). Applicants (known as project sponsors) must complete corridor planning activities such as an alternatives analysis or PEL study prior to entering the process, and must be able to fund these planning studies. The first step in the process is requesting entry into Project Development, the phase where planning, design, and the environmental review process are completed. Sponsors request entry via a letter to FTA that provides information on the project including a problem statement, study limits, a draft timeline, project partners and their roles. **The project sponsor must document that they have committed funding to complete the Project Development phase**, though this may be eligible for reimbursement if the project is awarded Small Starts funding. Project Development costs vary based on the complexity of the project, but are typically about 10 percent of the total project costs. Other federal sources (such as formula funds) can be used toward completing this process.

If accepted, sponsors enter the Project Development Phase, where they must complete the environmental review process required under the National Environmental Policy Act (NEPA), develop a final scope, schedule, and budget, and identify and secure funding. During Project Development, FTA evaluates and rates the project. FTA can recommend projects that meet the evaluation criteria for funding, which has to be included in the President's budget and approved by Congress. FTA and the project sponsor then enter into a grant agreement and begin construction. The process, from planning to completing construction, can take between three and five years, and typically longer for complex projects.

Figure 7: Small Starts Process



PROJECT EVALUATION

FTA evaluates projects based on two sets of criteria: Project Justification and Local Financial Commitment (see Figure 8). Both categories, and their criteria, are rated on a five-point scale: Low, Medium-Low, Medium, Medium-High, and High. Projects must score at least a medium in both categories to be eligible for funding.

FTA is considering updating these criteria to align with the Biden Administration's Justice40 Initiative.

PROJECT JUSTIFICATION

The Project Justification rating is based on six equally weighted criteria that assess project impacts:

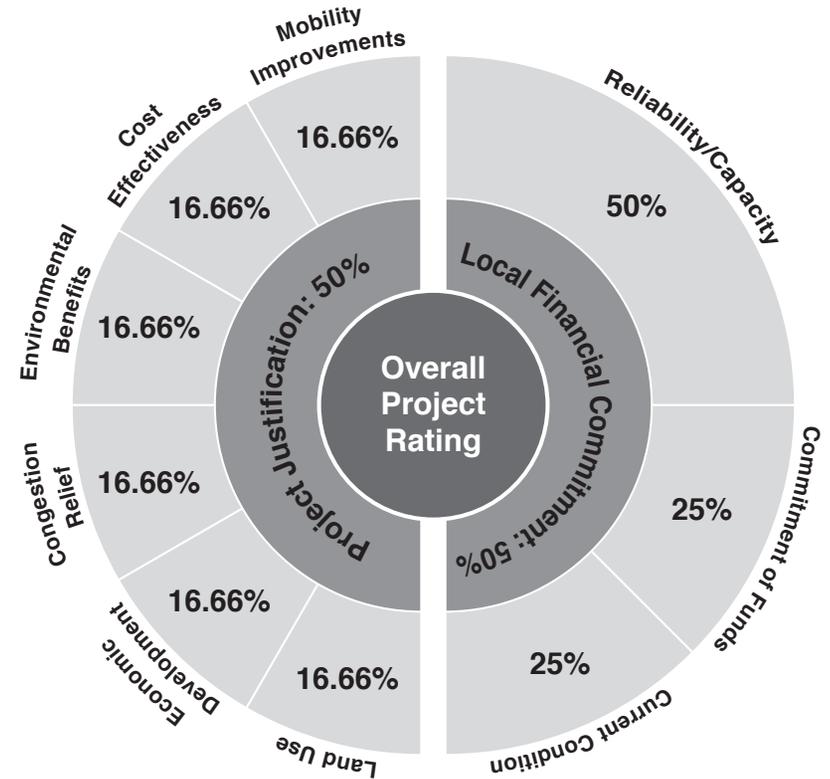
- ▶ **Mobility Improvements:** estimated ridership on the project, with extra consideration for trips taken by people who are transit dependent.
- ▶ **Environmental Benefits:** monetized benefits to air quality, safety, and energy.
- ▶ **Congestion Relief:** the number of new transit trips.
- ▶ **Cost Effectiveness:** the annualized federal share of capital costs, per trip.
- ▶ **Economic Development:** existing transit supportive and affordable housing plans, policies, and tools.
- ▶ **Land Use:** existing development patterns, pedestrian facilities, parking supply, and affordable housing in station areas.

LOCAL FINANCIAL COMMITMENT

The evaluation of Local Financial Commitment is meant to ensure applicants can successfully fund their share of the project. Ratings for projects that require less than a 50 percent CIG project share are raised one point (e.g. from Medium to Medium-High), making them more competitive. There are three criteria:

- ▶ **Current Condition (25 percent):** average fleet age, bond ratings, ratio or assets to liabilities, and recent service history (e.g., cuts in service).
- ▶ **Commitment of Funds (25 percent):** ratio of capital and operating funds that are secured versus those that are planned.
- ▶ **Reasonableness of Assumptions and Financial Capacity (50 percent):** an evaluation of revenue and expense assumptions, the cost estimate, the financial plan's ability to meet state of good repair needs, and the applicant's capacity to withstand funding shortfalls and cost overruns.

Figure 8: Small Starts Project Evaluation and Rating



WARRANTS

Projects that meet certain criteria are eligible for warrants, in which a project can qualify for automatic Medium ratings in certain Project Justification criteria. Project Justification warrants are applied to the Mobility Improvements, Cost Effectiveness, and Congestion Relief score if the project’s capital cost and current daily ridership in the corridor where the project is proposed fall within specific parameters. The higher the capital cost, the higher the existing ridership must be in order to qualify (see Figure 9). Project justification warrants can help raise the rating of a project that might score low and medium-low on one or more of these criteria. However, projects will need to fit into the appropriate budget ranges. Warrants are optional and project sponsors can choose to be rated in the criteria even if they qualify for warrants. The cost estimates in the existing LPAs do not meet the warrants criteria based on their 2019 daily ridership (see Figure 10).

For local financial commitment, a project may qualify for a warrant if FTA determines the project sponsor has a reasonable plan to secure non-CIG funds, is in good financial standing, and the project adds no more than five percent to the existing operations and maintenance costs. If the sponsor is seeking 50 percent or less of the project funding from the CIG program, the rating is raised from medium to high in this category.

GRANT AGREEMENT

If a project meets the evaluation rating criteria, FTA may recommend it for funding as part of its annual recommendations for the President’s budget, which is subject to Congressional approval. When deciding to recommend a project FTA considers the availability of CIG program funds, and project readiness, which includes whether sufficient design and engineering have been completed to develop a reliable scope, cost, and schedule, and if at least 50 percent of non-CIG funding has been secured with a reasonable plan to secure remaining match within a short period of time.

Once a grant has been awarded, a project can proceed to construction.

Figure 9: Project Justification Warrants Criteria

Total Proposed Project Capital Cost		Existing Weekday Corridor Transit Ridership
< \$50 million	AND	3,000+
\$50 to < \$100 million	AND	6,000+
\$100 to < \$175 million	AND	9,000+
\$175 to < \$250 million	AND	12,000+
\$250 to < \$400 million	AND	15,000+

Figure 10: LPA Costs and Project Justification Warrants Criteria

LPA	Average Weekday Ridership (2019)	LPA Cost Estimate (\$2022)	Warrant Cost Range
Gratiot	9,125	\$310.3M	\$100 to < \$175M
Michigan	3,540	\$162.3M	< \$50M
Washtenaw	3,440	\$68.8M	< \$50M
Woodward	9,908	*\$400.3M	\$100 to < \$175M

Developing a Corridor Strategy

Implementing rapid transit corridors requires partnerships with multiple communities, government entities, and transit providers to develop plans, secure funding, construct infrastructure, and operate service. The first step is identifying which corridors to prioritize resources on to develop plans and pursue funding.

CORRIDOR SCREENING

Thirteen corridors have been identified for potential regional transit capital projects (see Figure 1). Seven Mile Road was reviewed as an alternative to 8 Mile Road, given its proximity to the corridor, and high ridership. RTA screened these corridors by assigning points based on four criteria to identify which the region should prioritize in the near term. The criteria were (1) ridership, (2) transit markets, (3) areas of persistent poverty (APP) and historically disadvantaged communities (HDC), and (4) minimal preparedness jobs and job seekers.

The Ann Arbor to Detroit rail corridor was excluded from this screening because operating this service would require significant operations funding, new vehicles and facilities, and new staff capacities and expertise at transit agencies. This is a complex project that requires coordination among a number of public and private partners. Implementing regional rail service on this corridor should be explored through a separate process.

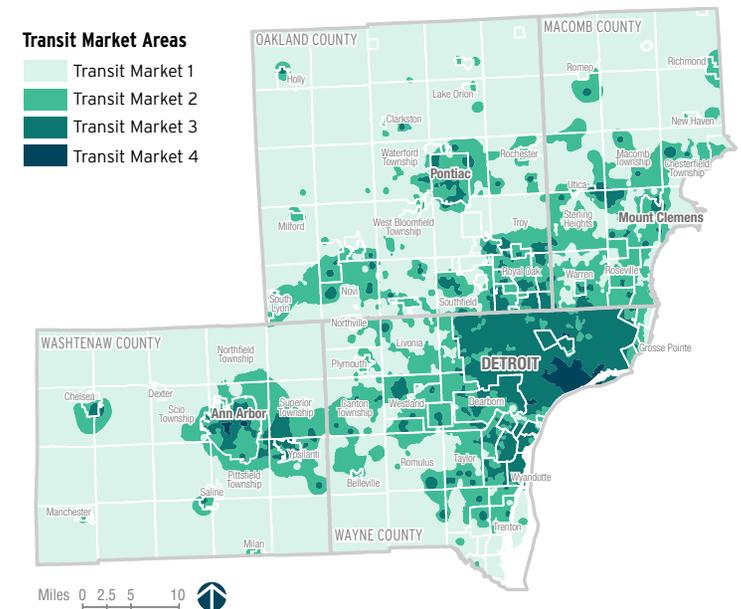
RIDERSHIP

Corridors that already have higher ridership are good candidates for service improvements. Points were assigned to corridors based on 2019 ridership.

TRANSIT MARKETS

Advance 2021 identified four [transit markets](#) in Southeast Michigan that have different levels of demand for public transit service. Transit markets were identified through an index that considered job and population density, walkability, transit dependence, and major destinations and essential services (see Figure 11). Corridor-based rapid transit

Figure 11: Southeast Michigan's Transit Markets



is most well suited to transit market 4, which are the densest areas of the region. Corridors were assigned points based on the proportion of transit market 4 areas to other market areas within a half-mile radius.

AREAS OF PERSISTENT POVERTY AND HISTORICALLY DISADVANTAGED COMMUNITIES

Consistent with the Biden Administration’s Justice40 Initiative, the US Department of Transportation considers APP and HDC when reviewing grant applications. These areas are important to consider because they may make a corridor a more likely candidate for federal funding, and more importantly, because it is critical that the region provides opportunities in communities that have been consistently underinvested in. RTA considered the percent of APP and HDC census tracts within a half-mile radius of the corridors.

MINIMAL PREPAREDNESS JOBS AND JOB SEEKERS

RTA is currently developing the Detroit Mobility Equity Analysis: Gap Analysis Report, which analyses the barriers job seekers face in accessing employment opportunities at jobs that require minimal preparation levels. These include jobs in the manufacturing sector, which, according to a [National Institute for Transportation and Communities study](#), experiences employment growth in BRT station areas. RTA considered the ratio of minimum preparedness jobs and job seekers per route mile within a half-mile radius of the corridor.

METHODOLOGY

These data points were calculated and normalized into a range of zero to one point, and then added together to create the corridor prioritization index (see Figure 12). Corridors with two or more points should be considered near-term priorities for the Small Starts Program. Those with fewer than two points should be considered for high-frequency limited-stop services, such as SMART’s FAST, or other frequency improvements, and should be considered for corridor capital improvements in the longer-term.

PRIORITY CORRIDORS

Based on this screening exercise, Woodward, Jefferson, Washtenaw, Gratiot, Michigan, and Grand River avenues are the region’s priorities for entry into the Small Starts Program.

Figure 12: Corridor Prioritization Index

Corridor	2019 Ridership	Transit Markets	APP/HDC	Min. Prep. Jobs/Job Seekers	Total
Fort-Eureka	0.1	0.2	0.7	0.5	1.5
Grand River	0.4	0.4	0.9	0.4	2.0
Gratiot	0.7	0.4	0.8	0.2	2.1
Jefferson	0.1	1.0	0.7	0.8	2.6
Michigan	0.3	0.2	0.9	0.5	2.0
State-Plymouth	0.1	0.2	0.6	0.6	1.6
Van Dyke	0.3	0.3	0.8	0.5	1.9
Warren	0.2	0.4	1.0	0.2	1.8
Washtenaw	0.2	0.2	0.8	1.0	2.2
Woodward	1.0	0.4	0.6	0.8	2.8
7 Mile	0.3	0.0	1.0	0.1	1.4
8 Mile	0.3	0.0	0.9	0.2	1.4
12 Mile	0.3	0.0	0.1	0.5	0.7

PRIORITY CORRIDORS

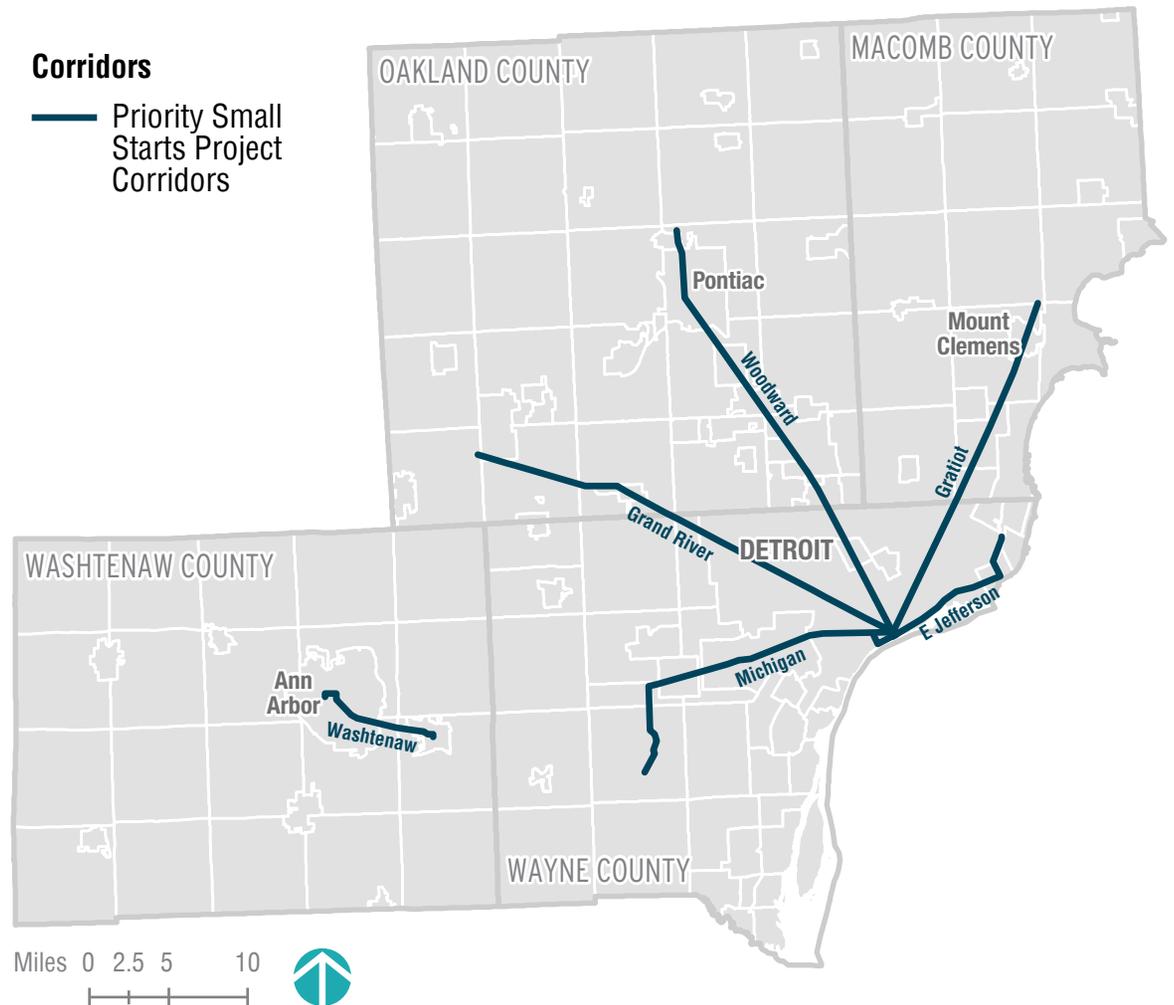
Southeast Michigan should pursue Small Starts funding for East Jefferson, Grand River, Gratiot, Michigan, Washtenaw, and Woodward avenues in the near-term (see Figure 13).

Corridors where planning work has already been conducted and LPAs have been adopted are good candidates for the Small Starts program, since they have already completed part of the planning process. The City of Detroit's East Jefferson Avenue TOD Study will be a useful input for further planning activities.

Using the Small Starts Project Justification criteria, a preliminary evaluation was conducted to assess the region's priority corridors to determine which might have the best opportunity for funding. This assessment is based on available data and will need to be updated and refined if RTA or a transit agency seeks to advance a project into the Small Starts program.

Some regions do advance multiple projects into the CIG Program simultaneously. Capital Metro in Austin was recommended for two Small Starts grants in FY 2022 (see Figure 4), and currently has a third project in the Project Development phase. This may be an option for Southeast Michigan, if funding can be secured for Project Development and the program match.

Figure 13: Priority Corridors



PRELIMINARY SMALL STARTS EVALUATION

Using the Small Starts Criteria, priority corridors were assessed to understand the likelihood of a favorable rating. Only Project Justification was considered, since budgets and funding plans will need to be developed to assess Local Financial Commitment. Each priority corridor's preliminary Project Justification score is shown in Figure 14. Based on this evaluation, East Jefferson, Gratiot, Washtenaw, and Woodward avenues are the strongest candidates for Small Starts funding.

However, project ratings can change depending on the LPA, including the project's costs, limits, station areas, service characteristics, and local jurisdictions' efforts to support TOD and affordable housing. Updating the LPAs to focus service on the shorter segments of the corridors, or taking a phased approach will impact the overall project ratings. Additionally, reducing project costs to qualify for warrants may improve the Mobility Improvements, Cost Effectiveness, and Congestion Relief ratings. The ratings in Figure 14 should be considered a starting point, and the region should update and refine corridor plans exploring potential changes that would improve project ratings.

On corridors that are not immediately considered for Small Starts funding, the region should evaluate the potential to implement other service improvements, including frequency and service span increases as well as operating high-frequency limited-stop services on corridors that currently lack them.



Figure 14: Corridor Prioritization Index



EVALUATION SCORE RANGES

The Project Justification criteria are scored within ranges. As this is a preliminary rating, scores may change when the projects are officially rated by FTA. Scores that are closer to the edges of their ranges demonstrate areas that might have higher levels of risk that may need to be mitigated when considering updates to the project scopes and budgets. Figure 15 demonstrates where within each criteria the corridors scored.

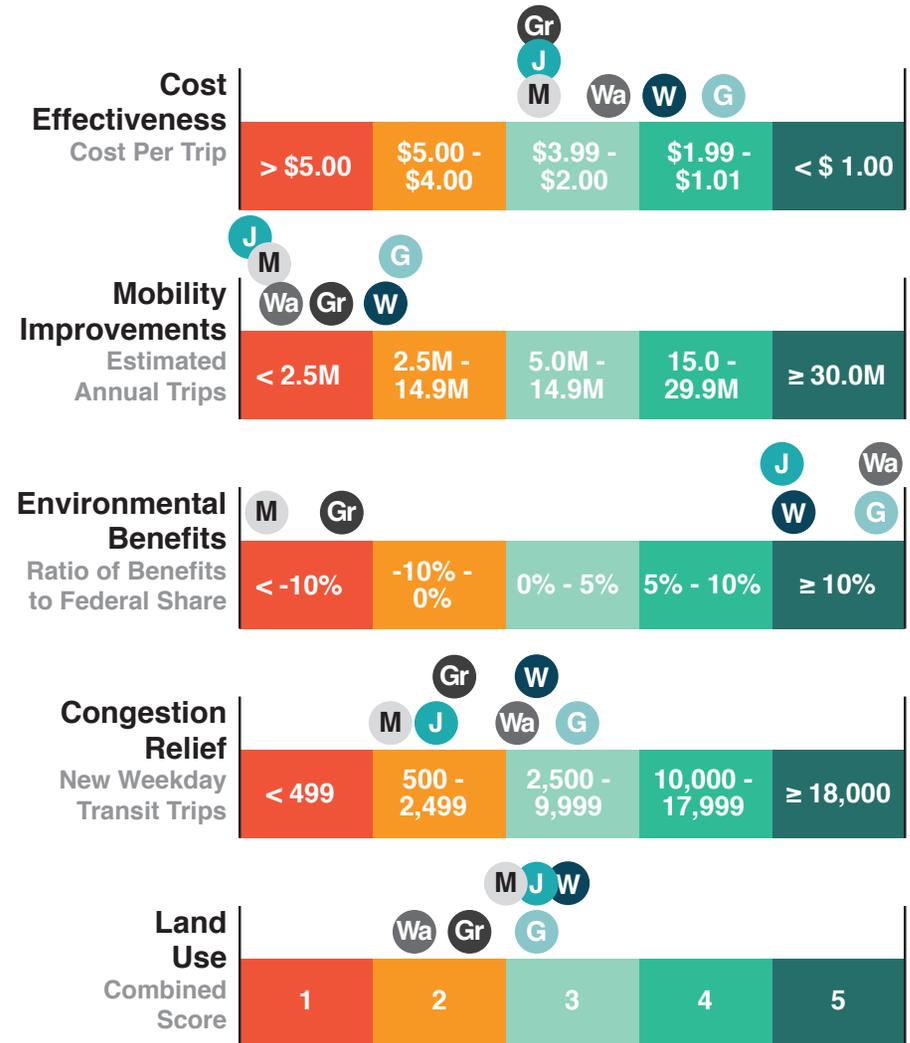
As an example of a risk, when the corridors are accessed using a travel forecast model, a decline in the estimated number of annual trips might lower Woodward's Mobility Improvements score from a Medium-Low to a Low. A potential mitigation might be to reconsider station locations.

For the Environmental Benefits rating, a potential mitigation might include operating an all electric BRT. On the Grand River corridor, this would increase the Environmental Benefits rating from a Low to a Medium-Low.

The Economic Development criteria is scored qualitatively, and was assumed to be a Medium for this assessment. Affordable housing policies and tools in all jurisdictions that corridors operate in will need to be reviewed to better understand the Economic Development criteria score, and what might need to be addressed to improve it.

- J East Jefferson
- Gr Grand River
- G Gratiot
- M Michigan
- Wa Washtenaw
- W Woodward

Figure 15: Priority Corridor Evaluation Score Ranges



Next Steps

With IIJA, the federal government is prepared to invest in transit projects across the country, and the Biden Administration is committed to funding projects in APP and HDC, a number of which are located along the region's priority corridors. It is critical that Southeast Michigan gets these projects ready to enter Small Starts Project Development and advances them toward a CIG grant so that the region does not miss out on historic funding levels and priorities that might help make these projects more competitive. There are four next steps the region must take to pursue Small Starts funding:



1. DEVELOP PARTNERSHIPS AND IDENTIFY ROLES

Implementing transit corridor capital projects will require coordination between RTA, transit agencies, MDOT, local governments, and communities along the corridors. Stakeholders will need to identify a project sponsor to lead the Small Starts process with FTA.



2. BUILD CONSENSUS

It is unlikely that there will be enough funding to advance all of the priority corridors at once. The region will need to build consensus around which project should be implemented first. Stakeholders will need to determine how to revise project scopes to be more competitive for federal funding, and more viable from an operations perspective.



3. UPDATE AND COMPLETE PLANS

Existing LPAs will need to be updated to reflect recent changes and to make projects more competitive for federal funding. Alternatives analyses or PEL studies will need to be conducted on corridors that do not have LPAs.



4. ENTER PROJECT DEVELOPMENT

Once a project sponsor is identified and a project is selected, a new or updated LPA has been adopted, and funding for Project Development has been secured, the region can submit a letter to FTA requesting entry into Small Starts Project Development.



5. COMPLETE PROJECT DEVELOPMENT

Upon acceptance, the region will need to complete the NEPA process, develop a final cost estimate, and secure match funding. Based on final cost estimates, the region will need to develop budgets and secure state, local, and private/nonprofit funding. Multiple federal funding sources can be leveraged, so there will need to be a clear understanding of existing funds.

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Appendix A: Project Justification Evaluation Methodology

Corridor evaluations were conducted using FTA's Small Starts Templates spreadsheet. Data inputs to the template were chosen based on availability and are conservative estimates. This is a preliminary evaluation and will need to be refined for use in Small Starts Project Development. The following data points were used as inputs to the template to generate ratings:

Project Characteristics: The LPAs were used to determine project characteristics, however, for this analysis specific station areas were not used. Instead, station spacing was assumed to be one-mile apart and a half-mile radius of the corridor was used to define all station areas. Headways and service hours were determined based on the LPAs. Where LPAs did not exist, those from the LPA with the longest headways were used (10 minutes during peak-hours, 20 minutes off-peak, and 30 minutes on weekends).

Project Costs: Project cost estimates from LPAs were used and inflated and escalated by 3.5 percent each year, which FTA's Standard Cost Categories for Capital Projects workbook uses as a default. For corridors without cost estimates, the average cost per mile from the LPAs was used to assume project costs.

Ridership: As the most recent year with pre-COVID-19 data available, 2019 ridership was used to conduct the analysis. FTA is currently allowing project-sponsors to use pre-pandemic data from 2019 to develop ridership estimates. Ridership on all-day routes operating for over one mile on a corridor were used, and the percentage of the route operating on the corridor was determined to assume ridership on that length.

Trips: For this assessment, trips were not modeled. Corridor ridership from 2019 was applied to percent increase in ridership identified in previous LPAs. Where LPAs did not exist, the average increase from the LPAs was used. Information from Southeast Michigan Council of Governments' (SEMCOG) [2019 Regional On-Board Transit Survey](#) was used to determine a general ratio of trip types and the percentage of the population that is transit dependent. As corridors are further prioritized, trips should be reevaluated to using a model.

Population, Housing Units, and Employment: The US Census Bureau's American Community Survey Five-Year estimates from 2019 were used to determine population and the number of housing units. The [National](#)

[Housing Preservation Database](#) (NHPD) was used to determine the number of Legally Binding Affordability Restricted Housing Units in each county and within a half-mile of routes. On corridors, the percentage of Census Tracts that fell partially within a half-mile of the route was determined, and that percentage was applied to that Census Tract's population as a proxy for the population in that portion. Employment information was accessed through the US Census Bureau's [Longitudinal Employer-Household Dynamics](#) (LEHD) Origin-Destination Employment Statistics (LODES). Employment from 2019 was used.

Vehicle Miles Traveled (VMT) and Transit Vehicle Hours: Annual transit VMT and vehicle hours were determined using Remix based on the project characteristics. Since a traffic model was not used for this assessment, changes in daily automobile VMT were based on the changes identified in the Gratiot corridor LPA and scaled to the estimated number of new transit trips for each project.

Annualized Federal Share of Project Capital Costs: Small Starts funding was assumed to be the only federal share of project costs. Project cost estimates were inflated and escalated to 2025, the assumed YOE. Project costs were capped at \$400M, the Small Starts program maximum. The CIG share was assumed to be 50 percent for all projects except the Washtenaw Avenue corridor, which was assumed at 80 percent due to its lower costs. CIG shares were capped at the program maximum, \$150M. To determine the annualized costs, an average minimum useful life of 30 years was assumed, and the federal project share was divided by 30 years.

Parking Supply and Costs: The central business district (CBD) parking supply and costs for Ann Arbor was assumed based on information on the [Ann Arbor Downtown Development Authority's](#) website. For Detroit's CBD, off-street parking was derived from all public spaces in Data Driven Detroit's dataset "[Downtown Detroit Parking Lots & Decks, 2012](#)," which was updated in 2017. On-street parking was assumed based on the ratio of on-street parking in Ann Arbor's CBD compared to its area, which was applied to the area of Detroit's CBD. Daily costs were assumed based on Detroit's metered parking rates and posted daily parking rates. A detailed inventory of parking supply and average costs will be required for a final rating.

Economic Development Rating: FTA evaluates the Economic Development criteria qualitatively based on existing transit supportive plans and policies, their demonstrated performance, and policies and tools in place to preserve or increase the number of affordable housing units in the corridor. This will require looking at policies and plans in all jurisdictions along each corridor, and how they have impacted the supply of affordable housing. For this evaluation, a Medium score for the Economic Development criteria was assumed for all projects. This category will need to be further explored, and plans may need to be completed and policies may need to be put in place to achieve a favorable rating in this criteria.

Appendix B: Priority Corridors

East Jefferson Avenue

DESCRIPTION

The East Jefferson Avenue Corridor is a 12.4-mile route between Michigan Avenue and Rosa Parks Boulevard in Detroit's Corktown neighborhood and Mack Avenue and Moross Road on Detroit's far east side. The majority of the potential route would operate on East Jefferson Avenue, with portions on West Jefferson and Mack Avenues, and Rosa Parks Boulevard. DDOT and SMART both currently operate service on the corridor. DDOT's Route 9-Jefferson operates along East Jefferson Avenue between RPTC and the city limits at Alter Road. Route 13-Conner also serves a small portion of the corridor in the Jefferson-Chalmers neighborhood. SMART's Commuter Routes 620-Charlevoix and 635-Jefferson Express operate on and alongside the corridor during peak hours. Route 610-Kerchval-Harper extends along East Jefferson Avenue to Downtown Detroit during peak hours.

2019 RIDERSHIP ESTIMATE

1.1 million annual trips.

STATUS

The City of Detroit completed a TOD study of the [East Jefferson Avenue](#) corridor in 2019. An alternatives analysis has not been conducted and an LPA has not been selected. The TOD study can be used to help inform an alternatives analysis.

COST ESTIMATE

Based on the average cost per mile of the Gratiot, Michigan, Washtenaw, and Woodward avenue LPAs, a corridor-based BRT on East Jefferson is estimated to cost \$131.8M in 2022 dollars.

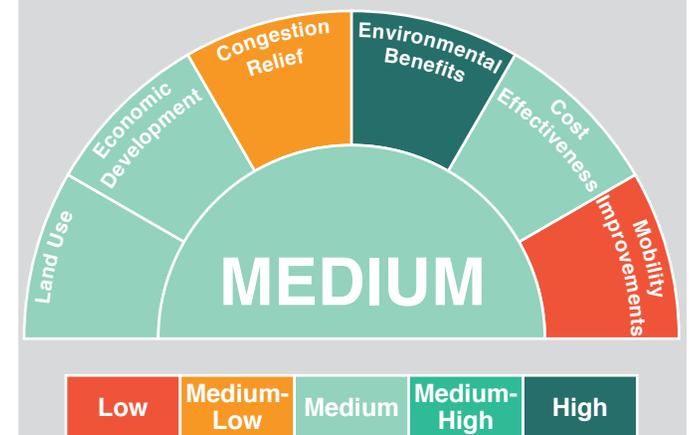
NEXT STEPS

- ▶ Complete a PEL study that includes an alternatives analysis.
- ▶ Identify and adopt an LPA that includes a budget and schedule.
- ▶ Submit project to the CIG Program and seek local funding sources.

Figure B-1: East Jefferson Avenue Corridor



Figure B-2: Preliminary Small Starts Evaluation, East Jefferson Avenue



Grand River Avenue

DESCRIPTION

The Grand River Avenue transit corridor connects Downtown Detroit and the City of Novi at St. John Providence Park Hospital. DDOT and SMART both operate service on the corridor, including DDOT's Route 3 - Grand River and SMART's Route 305 - Grand River. Additionally, SMART's routes 280, 350, 375, and 805 (a commuter route) operate on segments of the corridor.

SMART's 2020 [SMART Path Comprehensive Operations Analysis Plan](#), identified the Grand River Avenue corridor as a potential opportunity for new FAST service.

2019 RIDERSHIP ESTIMATE

1,861,850 annual trips.

STATUS

An alternative analysis has not been conducted and there is no LPA for this corridor.

COST ESTIMATE

Based on the average cost per mile of the Gratiot, Michigan, Washtenaw, and Woodward avenue LPAs, a corridor-based BRT on East Jefferson is estimated to cost \$303.0M in 2022 dollars.

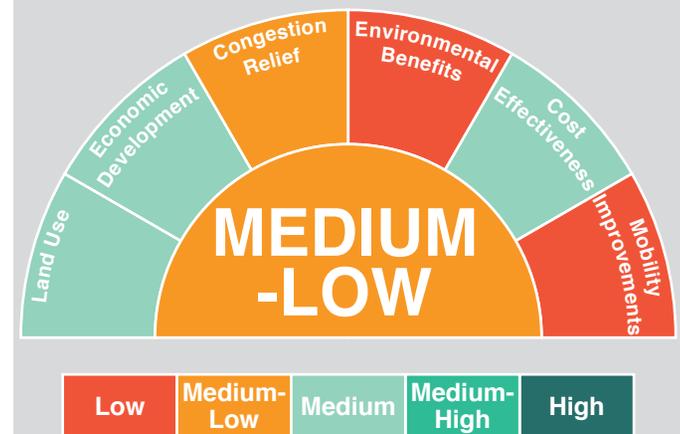
NEXT STEPS

- ▶ Complete a PEL study that includes an alternatives analysis.
- ▶ Identify and adopt an LPA that includes a budget and schedule.
- ▶ Submit project to the CIG Program and seek local funding sources.

Figure B-3: Grand River Avenue Corridor



Figure B-4: Preliminary Small Starts Evaluation, Grand River Avenue



Gratiot Avenue

DESCRIPTION

Gratiot Avenue serves as a major arterial road from Downtown Detroit to St. Clair County. DDOT and SMART both operate service on the corridor. DDOT's Route 6-Gratiot operates between the Rosa Parks Transit Center and 8 Mile Road. SMART operates seven routes along various portions of the corridor, including local routes, commuter routes, and FAST service: 510, 530, 560, 561, 562, 563, and 580, as well as the New Haven/Chesterfield/Lenox Shuttle, which is operated in partnership with Richmond Lenox EMS. Routes 561, 562, and 563 are SMART's FAST Gratiot routes, and Route 560 is the Gratiot Local.

2019 RIDERSHIP ESTIMATE

4.2 million annual trips.

STATUS

LPA, adopted in 2016, is a 23-mile-long BRT service operating on a center running dedicated lane between Downtown Detroit and M-59 or the border of Clinton and Chesterfield Townships.

COST ESTIMATE

The LPA report The LPA Report estimated that the LPA would cost \$252.4 million, at a cost of \$10.9 million per mile. This equates to \$310.3 in 2022 dollars, or \$13.5 million per mile.

NEXT STEPS

- ▶ Update LPA, budget, and schedule to reflect current conditions and priorities.
- ▶ Consider options to value engineer or phase project.
- ▶ Submit project to the CIG Program and seek local funding sources.

Figure B-5: Gratiot Avenue Corridor

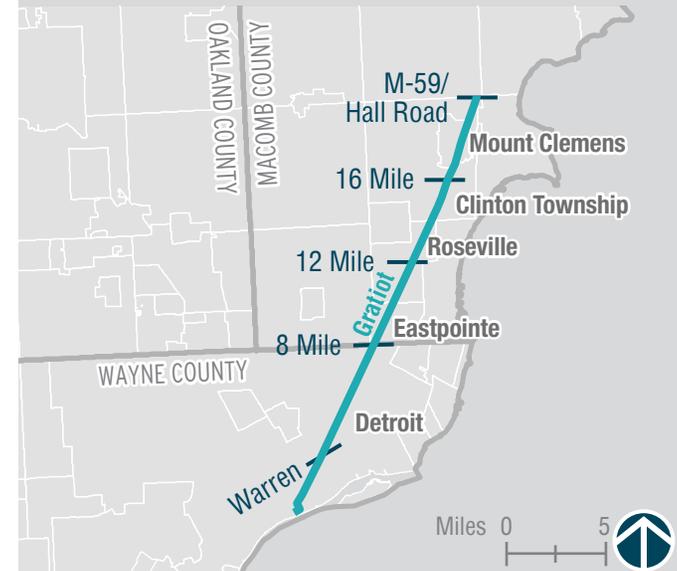
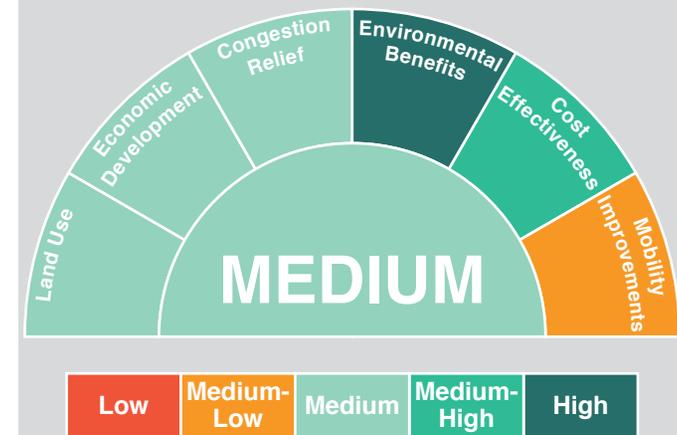


Figure B-6: Preliminary Small Starts Evaluation, Gratiot Avenue



Michigan Avenue

DESCRIPTION

The Michigan Avenue transit corridor is an arterial road from Downtown Detroit to South Merriman Road, the border between Inkster and Wayne, where it connects to DTW. DDOT and SMART both operate service on the corridor. DDOT's Route 2-Michigan operates between the Rosa Parks Transit Center and Fairlane Town Center in Dearborn. SMART operates two local routes, Route 200 between Dearborn and Wayne, and Route 210, between Dearborn and Westland. Both routes serve Downtown Detroit during peak hours. SMART also operates Route 261 FAST Michigan, a limited stop service between Downtown Detroit and DTW.

2019 RIDERSHIP ESTIMATE

1.9 million annual trips.

STATUS

The LPA in 2016 included BRT service along Michigan Avenue and Merriman Road between Downtown Detroit and DTW in Romulus. The preferred route is 22.5 miles long.

MDOT is currently conducting a PEL study on a portion of the corridor from Campus Martius to I-96 in Detroit that considers integrating a dedicated lane for transit and autonomous and connected vehicles.

COST ESTIMATE

The LPA Report estimated that the LPA would cost \$131.9 million in 2015 dollars, at a cost of \$5.8 million per mile. In 2022 dollars, this is approximately \$162.3 million total and \$ 7.2 million per mile.

NEXT STEPS

- ▶ Update LPA, budget, and schedule to reflect current conditions and priorities.
- ▶ Consider options to value engineer or phase project.
- ▶ Submit project to the CIG Program and seek local funding sources.

Figure B-7: Michigan Avenue Corridor

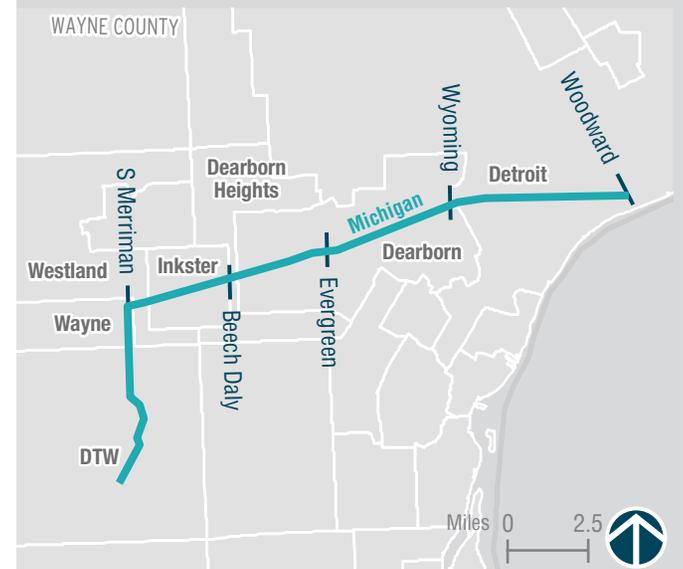
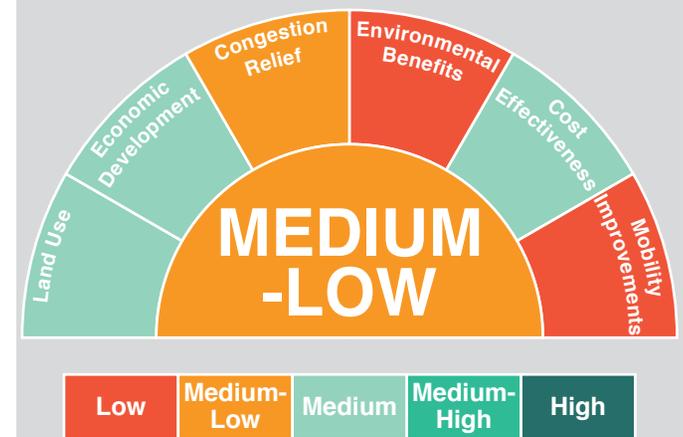


Figure B-8: Preliminary Small Starts Evaluation, Michigan Avenue



Washtenaw Avenue

DESCRIPTION

Washtenaw Avenue connects Downtown Ann Arbor and Downtown Ypsilanti. TheRide’s Route 4-Washtenaw operates the full length of the street and serves both the Blake Transit Center in Ann Arbor and the Ypsilanti Transit Center in Ypsilanti. The route also serves the University of Michigan and Eastern Michigan University’s campuses.

2019 RIDERSHIP ESTIMATE

1.2 million annual trips.

STATUS

The LPA, adopted in 2016, includes a nine-mile BRT service along 4th Avenue and Washtenaw Avenue between the Blake Transit Center and the Ypsilanti Transit Center.

COST ESTIMATE

The LPA Report estimated that the LPA would cost \$55.8 million in 2015 dollars, at a cost of \$6.1 million per mile. In 2022 dollars, this is approximately \$68.8 million, or \$7.6 million per mile.

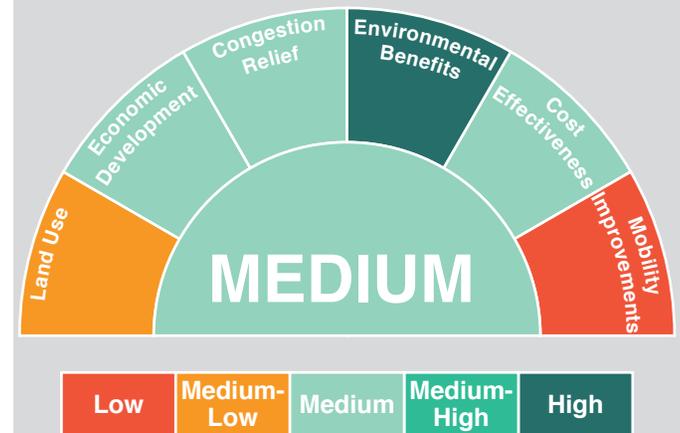
NEXT STEPS

- ▶ Update LPA, budget, and schedule to reflect current conditions and priorities.
- ▶ Consider options to value engineer or phase project.
- ▶ Submit project to the CIG Program and seek local funding sources.

Figure B-9: Washtenaw Avenue Corridor



Figure B-10: Preliminary Small Starts Evaluation, Washtenaw Avenue



Woodward Avenue

DESCRIPTION

The Woodward Avenue corridor is a 29.7-mile road that runs from Downtown Detroit to Pontiac, and then along Baldwin Road to the Great Lakes Crossing mall in Auburn Hills. DDOT, SMART, and QLINE all operate on portions of the corridor. DDOT's Route 4-Woodward operates in Detroit between Larned Street and the State Fairgrounds at 8 Mile Road. SMART predominately serves Woodward Avenue with four routes. Routes 450-Woodward Local/Pontiac and 462 FAST Woodward operate between Downtown Detroit and Pontiac, with Route 462 extending to Great Lakes Crossing. Routes 460-Woodward Local/Somerset and 461 FAST Woodward operate between Downtown Detroit and Troy. QLINE operates a streetcar between Congress Street and Grand Boulevard in Detroit.

2019 RIDERSHIP ESTIMATE

5.0 million annual trips. There are an estimated average of 9,125 weekday trips. A project may qualify for a project justification warrant if the total budget is below \$175 million.

STATUS

The LPA adopted in 2014 included a 27-mile BRT service between the Rosa Parks Transit Center (RPTC) in Detroit and Pontiac. The service would operate on Cass Avenue and John R Street between RPTC and Grand Boulevard, and on Woodward Avenue north of Grand Boulevard. In 2011, FTA determined that NEPA requirements were satisfied for an LRT system on Woodward Avenue from Downtown Detroit to 8 Mile Road.

COST ESTIMATE

The LPA is estimated to cost \$400.3 million (\$14.7 million per mile) in 2022 dollars, well above the Small Starts threshold. Reconsidering the scope may result in cost savings.

NEXT STEPS

- ▶ Update LPA, budget, and schedule to reflect current conditions and priorities.
- ▶ Consider options to re-scope, value engineer or phase project.
- ▶ Submit project to the CIG Program and seek local funding sources.

Figure B-11: Woodward Avenue Corridor

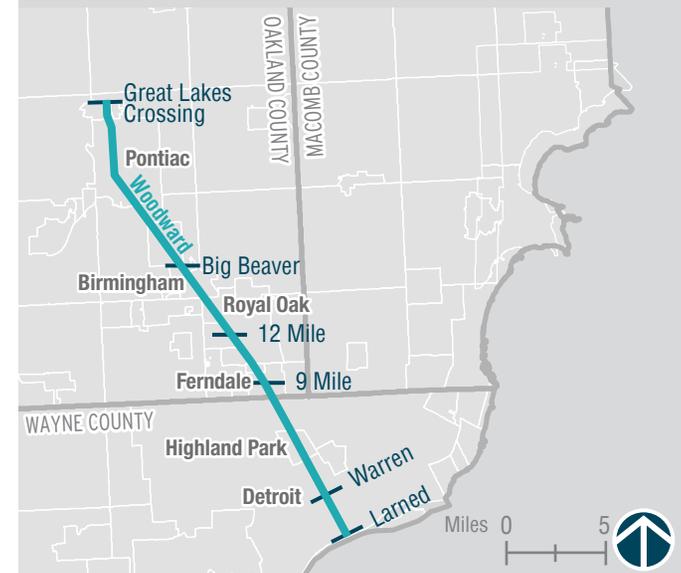
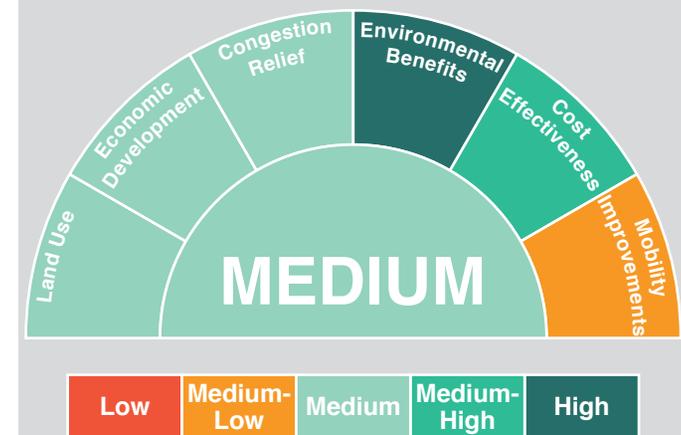


Figure B-12: Preliminary Small Starts Evaluation, Woodward Avenue





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