TheRide 2045

Long Range Plan – DRAFT

June 2022

Left Turn Right Turn

Contents

Acknowledgements i
1 Introduction 2
1.1 Current state 4
1.2 Future context 7
1.3 Strengths, Weaknesses, Opportunities and Challenges 14
2. Process 16
2.1 Planning Methodology 17
2.2 Public and Stakeholder Engagement Summary 19
2.3 Public Advisory Group 20
3. Guiding Framework 21
3.1 Board's Vision and Goals 21
3.2 Board's Planning Framework 22
3.3 Other guiding documents 24
3.4 Additional Considerations 24
4. Overview of the Plan 27
5. Service Network 29
5.1 Service Types 29
5.2 Transit Hubs 42
5.3 Service Outcomes 44
6. Other Service Features 51
6.1 Off-Peak Services 51
6.2 Paratransit Service (A-Ride) 51

6.3 On-demand Service Delivery 53
7. Infrastructure 55
7.1 Facilities 55
7.2 Fleet 59
7.3 Technology 60
7.4 Workforce 62
8. Regional Transit Network 63
9. Advocacy & Partnerships 65
10. Implementation 68
10.1 Implementation and Performance monitoring 76
11. Financial plan 79
11.1 Operating Budget 79
11.2 Capital Budget 81
11.3 Additional Funding Sources 88
12. Conclusion 90

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- The Public Advisory Group, for their time and insight provided through the various workshops and reviews;
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- To the dozens of stakeholders we engaged with, for providing your perspective and knowledge to better the outputs;
- And to the thousands of individuals from our communities that we heard from, for taking the time to share your aspirations, concerns, and ideas for how to make transit better.

1 Introduction

TheRide 2045 is a Long-Range Plan that will transform transit in the Ann Arbor-Ypsilanti area. The plan lays out a strategy for transit over the next 25 years that will achieve the Board's stated vision:

A robust public transportation system that adapts to the area's evolving needs, environment, and quality of life.

Developing a long-range plan is a critical step toward transforming TheRide. It will allow the organization to plan further into the future and strive for substantial changes that would extend beyond the life of a typical 5-year plan. Simply put, many public transit projects (e.g., buying new buses and building new infrastructure) require significant investments and long timelines to complete. By planning with a longer-term horizon, TheRide can make sure short-term decisions align with a single shared long-term vision. The plan must be firm enough so TheRide can plan its budgets but be flexible enough to adapt to opportunities and challenges that arise.

Development of the plan began in the fall of 2019. Planning efforts were stalled due to the onset of the COVID-19 pandemic and was resumed in 2021. Communities and stakeholders were actively engaged throughout the process, with significant input and guidance provided by TheRide's Board of Directors and a Public Advisory Group that was created for this project.

The plan focuses on improving **social equity** by providing better transportation to jobs, education, services, and housing, **improving our environment** by giving travelers efficient transportation alternatives, and **supporting a strong economy** by better connecting businesses and people. The result will be a more competitive transit system that will **grow ridership**, resulting in a more sustainable and vibrant community.

The following table summarizes the key elements covered by TheRide 2045:

Captured in the Long-Range Plan	Being addressed outside the Long-Range Planning Process

• Geography:
  ○ The core scope of evaluation covers the three member municipalities of TheRide: the City of Ann Arbor, the City of Ypsilanti, and the Township of Ypsilanti.
  ○ There is limited treatment of adjacent municipalities, with a focus on where current residents are already using TheRide's service.
• Investments that are longer-term in nature, including:
  ○ Evolving the service network and introducing bus rapid transit, priority routes and high-frequency routes across the service area.
  ○ Other service features, including off-peak services, A-Ride, and on-demand services,
  ○ Changes to facilities, fleet and technologies, including construction of a new garage, transit hubs, a shift to a zero-emissions fleet, and improvements to fare and technologies
  ○ Regional connections and collaborations
	• Exploration of an expanded service area or member representation within TheRide – these will be explored in consultation with other jurisdictions and based on the vision defined through this plan
	• Detailed planning of regional connections – this falls under the jurisdiction of the Regional Transit Authority (RTA) of Southeast Michigan
	• Detailed route design, that is the specific alignment for each route and service – this would be undertaken through the short-term planning process based on the overarching concepts elaborated in this plan
	• Organizational structure and design

1.1 Current state

TheRide has high levels of customer satisfaction, ridership, and level of service for a transit agency of its size. Over the 10 years prior to the COVID-19 pandemic, service expanded significantly. Much of the growth was driven by an ambitious 5-Year Transit Improvement Plan in 2014 that received strong community support and allowed TheRide to provide service to more places, operate more hours, and at an increased frequency. As a result, when COVID-19 started TheRide covered a larger service area, longer service span, and more frequent services along key corridors with record ridership.

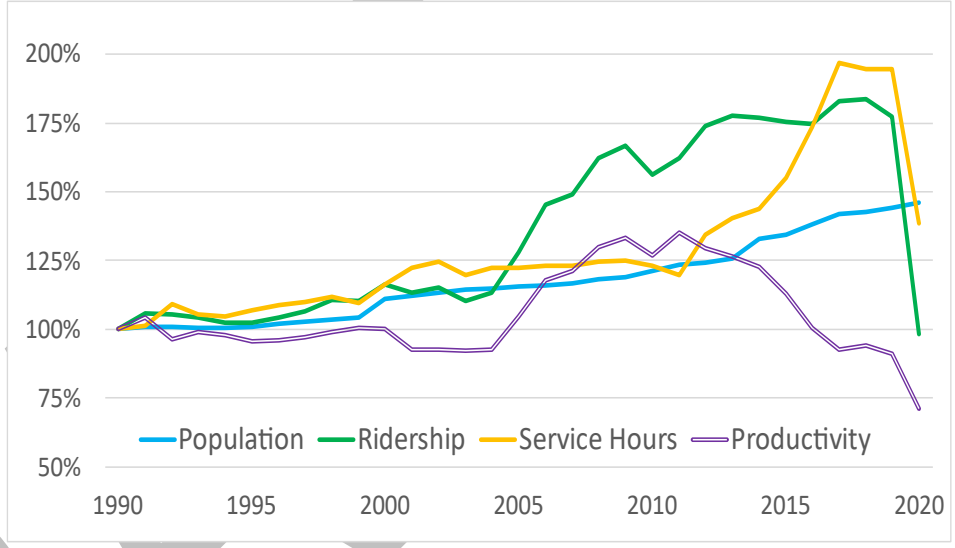


Figure 1 TheRide Performance History – Source: TheRide

As service levels increased, ridership also grew, albeit at a slower pace. The declining productivity (a key measure of service efficiency) was expected and is in line with a declining national trend in ridership productivity. Although productivity declined, the successful implementation of the 2014 plan enabled TheRide to increase ridership at a time when ridership decreased nationally due to declining gas prices and the emergence of Transportation Network Companies (e.g., Uber, Lyft).

As with transit across the country, TheRide was hard hit by COVID-19. Ridership was dramatically impacted and a temporary service plan was put into place focusing on high use corridors and essential destinations. In August 2021, TheRide reintroduced pre-pandemic levels of service, including adjustments to all routes and services. Initial data suggests ridership is beginning to return.

In addition to a strong fixed route bus service, TheRide provides a diverse array of services. Demand response services are undergoing a period of expansion and change in response to technological advances and changes in planning approaches. FlexRide has been used to replace low-demand fixed routes resulting in improved service quality and cost

efficiency. Steps are also being taken to improve the cost efficiency and service quality for A-Ride, GoldRide Demand Response, and FlexRide – Late Night and Holiday service, which are less cost-efficient compared to fixed route services.

Within the strong overall performance, various opportunities for improvement have been identified. These include high demand on certain corridors leading to overcrowding, low schedule reliability, some low productivity routes, and low levels of off-peak service. TheRide has been monitoring these issues and adjusting service to address them, and TheRide 2045 presents an opportunity to plan for adjustments to tackle them both in the near and long-term.

AAATA 2019 Ridership

The major source of ridership for TheRide is the University of Michigan Central Campus and downtown Ann Arbor. There is a large concentration of boardings at the Blake Transit Center and Ypsilanti Transit Center. Transfers represent a significant portion of these, confirming the important role that these locations play within the current and future network.

Secondary demand nodes are located at the southern end of Eastern Michigan University, Nixon Rd. and Plymouth Rd., the University of Michigan North Campus, Briarwood Mall, the Meijer on Carpenter Rd. and at Washtenaw Community College. Washtenaw Ave. provides the highest and most continuous ridership corridor in the area between two nodes in downtown Ann Arbor and downtown Ypsilanti. Other high ridership corridors lie between Plymouth/Nixon and Briarwood Mall and running north along State St. Both corridors also show high levels of ridership relative to service provided.

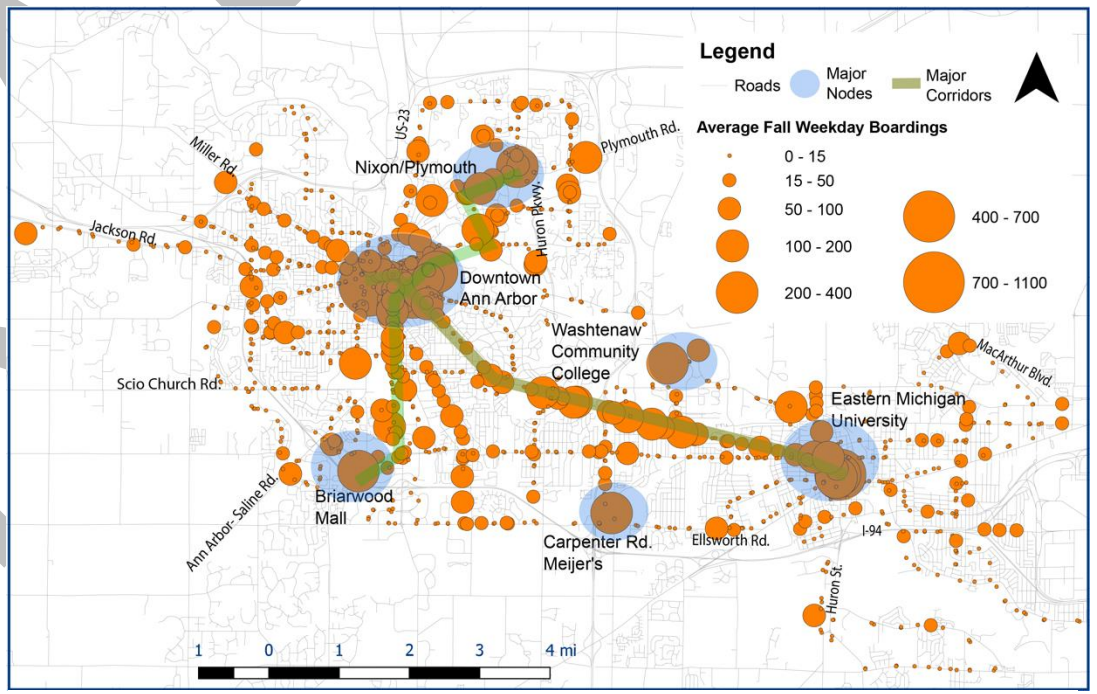


Figure 2 - AAATA 2019 Ridership – Source: TheRide

Washtenaw County Equity and Opportunities Map

Examining the equity considerations of the current transit service, the greatest equity challenges are located in the southeast service area for TheRide. While most of this area has good levels of service, the area lacks fast and direct travel to where people are going. This results in the correlation of low Opportunity Index scores (see figure) and longer trip lengths.

The Opportunity Index created by Washtenaw County measures access to opportunities in five categories: health, job access, economic well-being, education & training, and community engagement & stability. Very low opportunity areas are concentrated within the City of Ypsilanti, eastern parts of Ypsilanti Township, and southern parts of Superior Township. Improving direct and fast service to these areas would improve connectivity and access to opportunities for residents in this area and are considered in TheRide 2045.

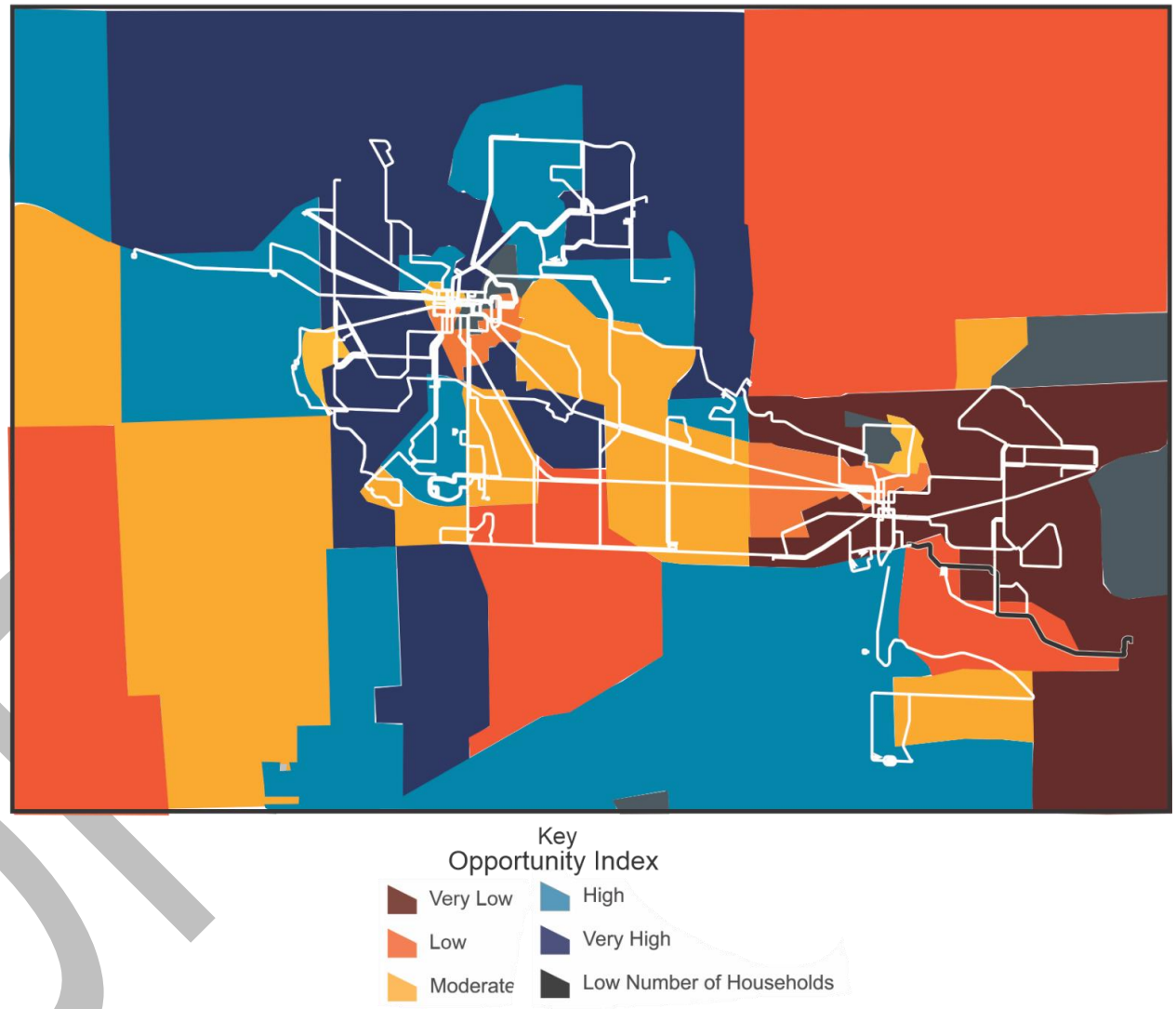


Figure 3: Opportunity Index Map – Source: http://www.opportunitywashtenaw.org/

1.2 Future context

The Ann Arbor-Ypsilanti area is a dynamic region with diverse municipalities. The next 25 years will see moderate levels of change to the area, including population and employment growth in the area. While employment growth will be focused in the urban centers, population growth will be distributed through a combination of suburban sprawl as well as key urban destinations (including around University of Michigan and Eastern Michigan University campuses).

Municipalities in the region have all committed to supporting their communities to be more sustainable, resilient, and vibrant. In some cases, these commitments include transit-supportive plans that result in more livable communities – aspiring to improve densities, improve pedestrian access, and introduce parking constraints in certain areas. As a result, transit will continue to play a vital role in supporting the economic, environmental, and equity goals of the area.

To that end, transit must be designed within the future context and travel needs. Population growth and employment growth are the two most significant factors used to forecast future transit demand. Demographic variables such as age, income, employment type, etc. were also considered in developing transit demand forecasts, as were municipal plans related to transportation and urban development.

Major growth in transit demand (relative to pre-COVID-19 numbers) is projected to occur in:

- downtown Ann Arbor,
- along the Plymouth Rd. corridor, and
- at the two University of Michigan campuses.

Good growth is also expected at the W. Stadium/Liberty/Jackson, Washtenaw/Huron Pkwy, Carpenter/Ellsworth nodes and along State St. Elsewhere, strong transit demand growth is projected to occur around Eastern Michigan University and along the Washtenaw Corridor.

The following sections provide additional detail regarding key factors that have been considered in forecasting transit demand, and how these factors change in the Ann Arbor-Ypsilanti area over the next 25 years.

Population and Employment Growth

	Population Growth 2020-2045		Employment Growth 2020-2045	
	Percent Growth	Absolute Growth	Percent Growth	Absolute Growth
Ann Arbor City	8.7%	10,500	9.6%	12,750
Ann Arbor Township	12.7%	1,000	11.6%	1,250
Ypsilanti City	6.8%	1,500	9.8%	1,250
Ypsilanti Township	11.0%	6,000	10.0%	1,750
Pittsfield Township	32.6%	13,750	13.8%	3,750
Scio Township	33.3%	6,500	10.5%	1,500
Superior Township	42.1%	5,750	6.8%	750
Total	15.8%	45,000	10.1%	23,000

Figure 4: Population and Employment Growth – Source: SEMCOG Regional Forecast

The rate of population growth is most significant in suburban township areas. However, strong growth is expected in urban areas for absolute population. Specific areas of note include:

- Downtown Ann Arbor,
- Plymouth Rd.,
- Superior Township east of Leforge Rd. and south of Geddes Rd.,
- the area around Carpenter/Ellsworth Rds.,
- the area around W. Michigan Ave./ W. Textile Rd., and

- the area around Packard Rd./Eisenhower Pkwy.

Adjacent to Washtenaw County, significant growth is expected in western Canton Township. Moderate growth is also expected in southeastern Livingston County and southwestern Oakland County.

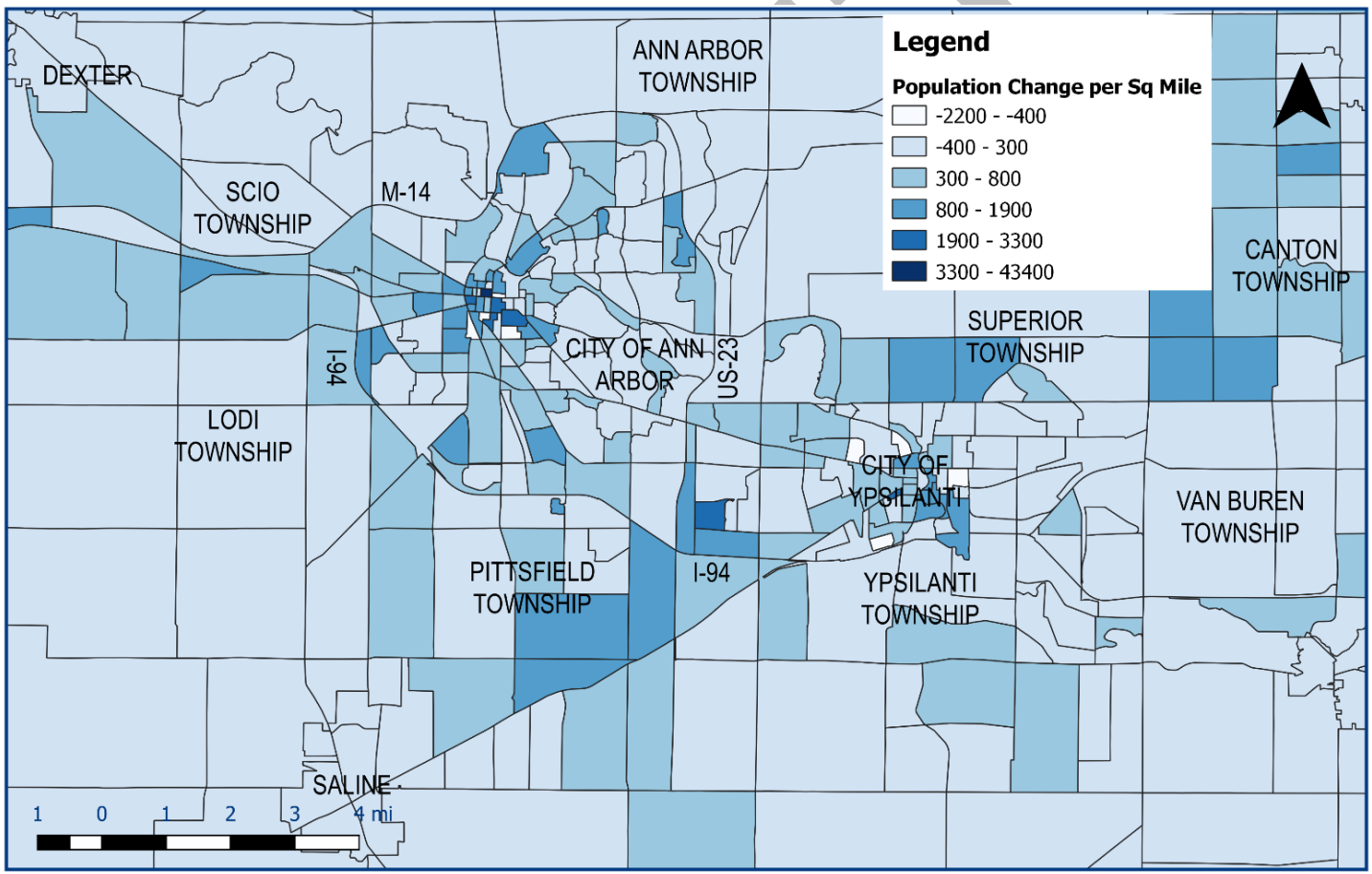


Figure 5 - Population Growth Map – Source: SEMCOG Regional Forecast

In comparison with population growth, employment growth is projected to have a far more urban focus. The University of Michigan campuses and downtown Ann Arbor will be the predominant drivers of employment growth. From a corridor perspective, projected employment growth aligns well with a linear route between Plymouth/US-23 and State St./I-94. Washtenaw Ave. east of US-23 is another area of notable projected employment growth.

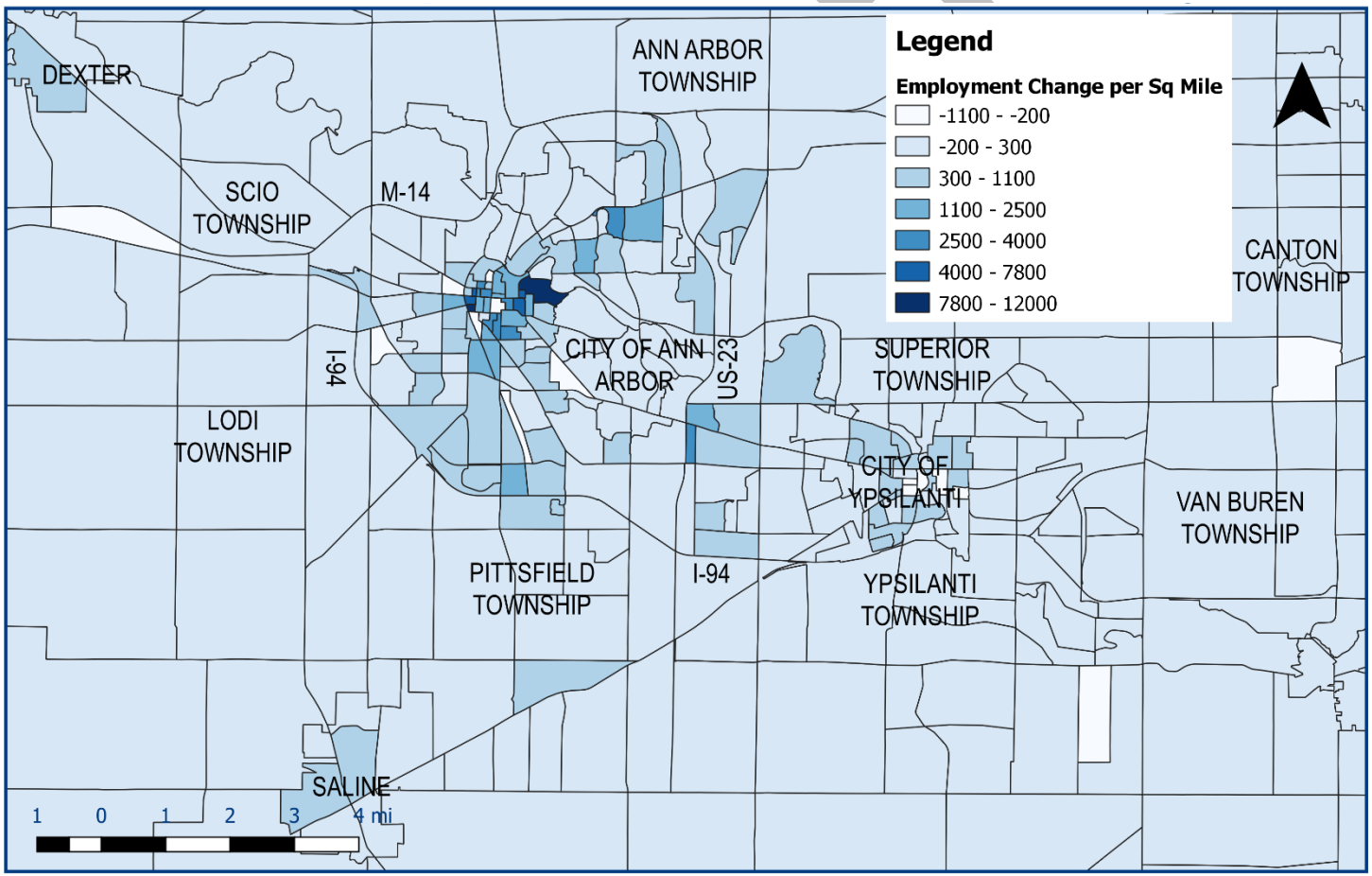


Figure 6 - Employment Growth Map – Source: SEMCOG Regional Forecast

Ann Arbor-Ypsilanti Area Travel Patterns 2045

Travel between the City of Ann Arbor and Pittsfield is forecasted to be the most significant inter-municipal flow in the Ann Arbor-Ypsilanti Area, which aligns with significant population growth in both. Travel in the area in general is focused on the City of Ann Arbor with large flows between the City of Ann Arbor and Scio and Ypsilanti Townships, and notable flows between the City of Ann Arbor and all area municipalities. In assessing forecasted travel flows within municipalities, travel between downtown and northeast Ann Arbor forms the dominant travel pattern. Other specific hubs of travel flows with

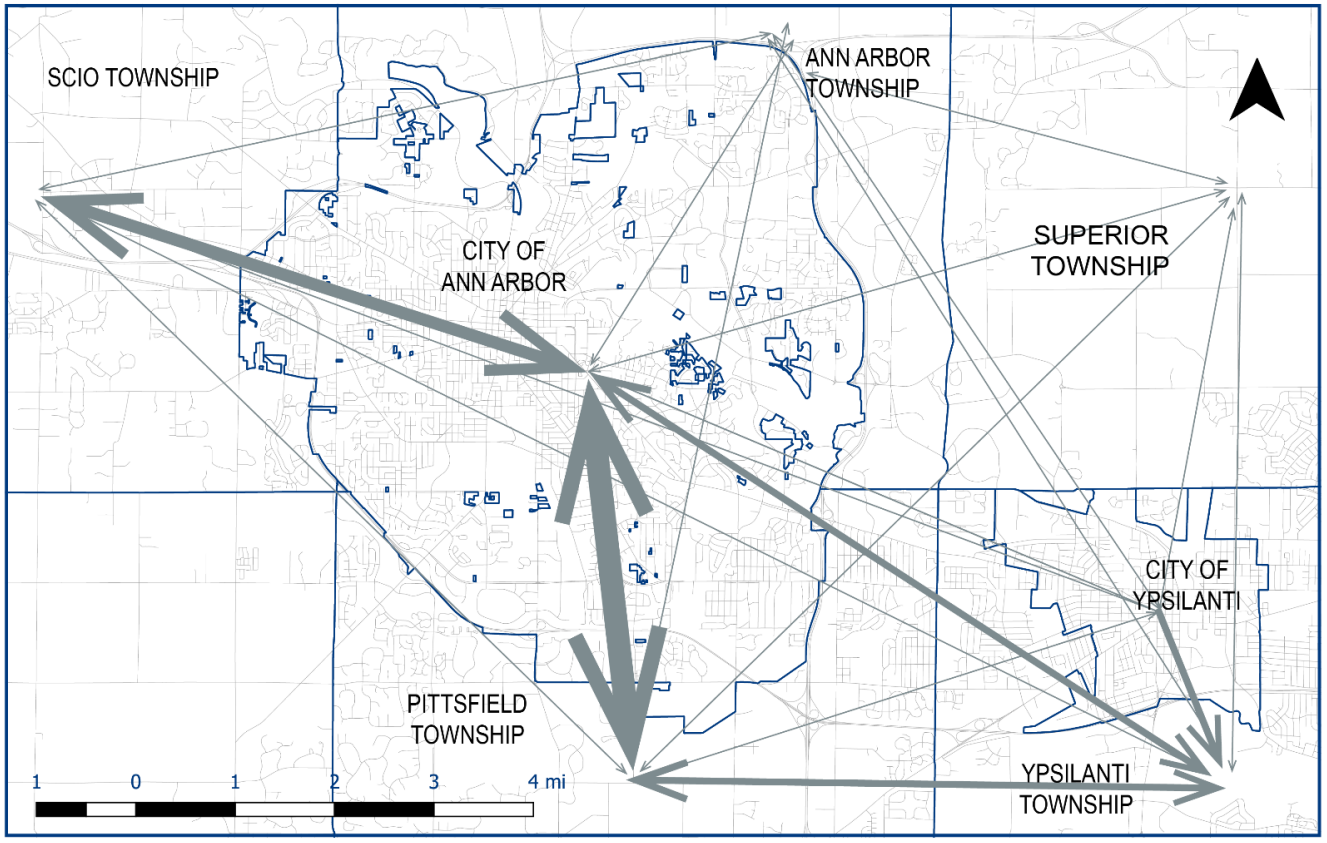


Figure 7 - Ann Arbor-Ypsilanti Area Travel Patterns 2045 – Source: SEMCOG Travel Forecast

many trips from several areas include the University of Michigan North campus, Nixon/Plymouth, Briarwood Mall, Eastern Michigan University, Washtenaw Ave. adjacent to US-23 and Carpenter/Ellsworth.

Regional Travel Patterns in 2045

Regional travel (highlighted in Figure 8) will continue to be a significant factor in the broader transportation context for the Ann Arbor-Ypsilanti area, with the following notable highlights:

- Travel between the Ann Arbor-Ypsilanti area and east (Canton Township, Dearborn, Detroit) is anticipated to continue to be the main flow by a significant margin. Canton Township is the dominant origin-destination within this Wayne County travel flow.
- Travel between the Ann Arbor-Ypsilanti Area and southeast (Van Buren Township, Romulus Township) and southwest (Saline, Lodi Township) are projected to be other notable regional flows.
- Within the Ann Arbor-Ypsilanti Area, the City of Ann Arbor is projected to be the dominant demand point for regional travel. Northern travel is almost exclusively to the City of Ann Arbor and is projected to have strong proportional growth.
- There are also sizable travel flows between Wayne County and the City of Ypsilanti and Townships of Pittsfield and Ypsilanti.

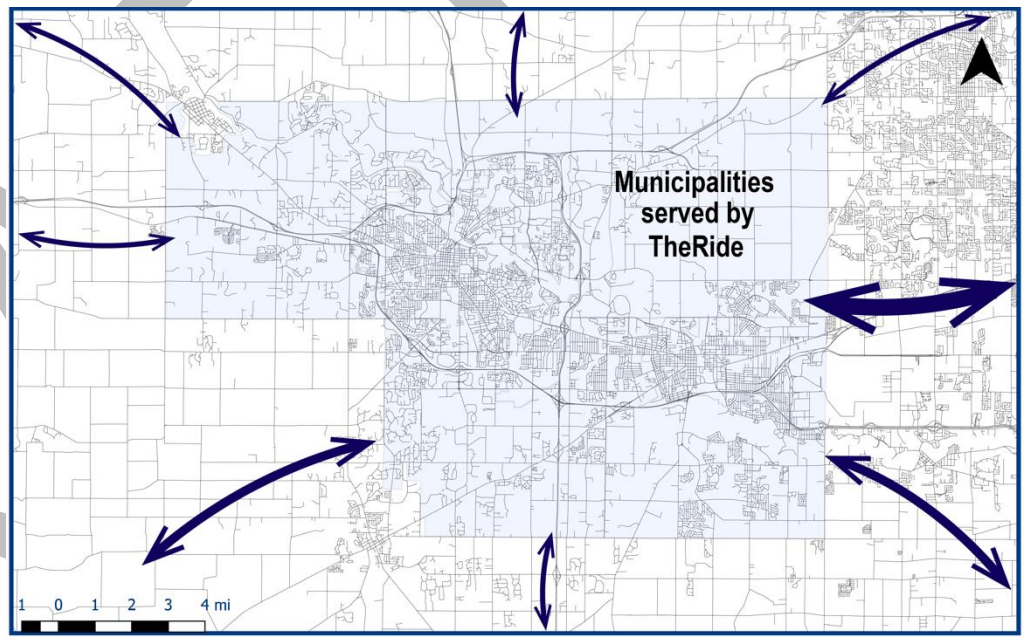


Figure 8 - Regional Travel Patterns 2045 – Source: SEMCOG Travel Forecast

Urban Structure and Transportation Context

Transit-supportive land use and built infrastructure conditions have a significant impact on future transit demand. Elements such as the availability of free parking, density, compactness, active transportation connectivity, the quality of active transportation environment and roadway design and capacity have all been shown to significantly influence transit ridership and transit sustainability.

Planning in the City of Ann Arbor significantly emphasizes and prioritizes transit-supportive policies, development, and infrastructure as compared to other municipalities in the region. Future ridership demand in the city is projected to exceed what would be expected considering only demographic changes. Transit-supportive changes are expected to be particularly strong in the four new Zoning District for Transit Corridors:

- Plymouth/Nixon
- State/Eisenhower
- W. Stadium/Liberty/Jackson
- Washtenaw/Huron Pkwy

The Washtenaw Ave. corridor has strong transit-supportive plans across all corridors. Conversely, new subdivision growth on the urban periphery will be considerably less transit-supportive than infill growth within existing urban areas.

COVID-19 Related Trends

The COVID-19 pandemic has added significant uncertainty to transit planning. It is expected that increased telecommuting rates, safety fears, an increase in private car purchases, and more dispersed housing purchases will have negative impacts on transit in the near term. However, stagnant incomes, increasing inequality, and greater mode share of active forms of transportation will positively affect ridership. Taking all of this into account, it is likely that the former factors will prove more influential in the short-term.

Due to the pandemic, several other trip-taking patterns are expected to change. The number of longer commutes is anticipated to decrease per capita as more people work from home. Furthermore, their longer commute trips could translate to more frequent, shorter trips. This is due to the additional time that has been gained from their previous

commute that could be used for retail and leisure uses. As work/school commutes are generally concentrated in peak periods, it is expected that there will be less peaking of travel demand.

This short-term outlook is much closer to pre-pandemic conditions as compared to the pandemic conditions. This will be the case even more so when looking at ridership, travel patterns, and expectations in general over the 25 years.

1.3 Strengths, Weaknesses, Opportunities and Challenges

The vision for society is changing, and transit and TheRide have a role to play. Addressing changing societal trends in population, employment, and a greater emphasis on equity and environmental sustainability will require significant improvements and investments in transportation systems, infrastructure, and policy. TheRide 2045 provides a blueprint for these short and long-term efforts. This includes capturing funding opportunities from the state and federal governments, and efficiently spending it on major infrastructure projects that are required to maintain existing service and to meet the changing needs of the community.

The COVID-19 pandemic has added to the those changing dynamics with shifts in ridership, travel patterns, and community expectations. Additionally, the challenges of operating within a diverse, multi-jurisdictional area add to the importance of establishing a clear vision for transit to unite behind and build toward. Success at TheRide requires many collaborators, including various municipalities, organizations, institutions, individuals, and TheRide itself to work together towards a common vision.

The following strengths, weaknesses, opportunities, and challenges summarize the key facets of the current state and future context of transit in the Ann Arbor-Ypsilanti area that have helped to drive and shape TheRide 2045. Overall, TheRide is performing strongly, with promising opportunities to build on over the next 25 years.

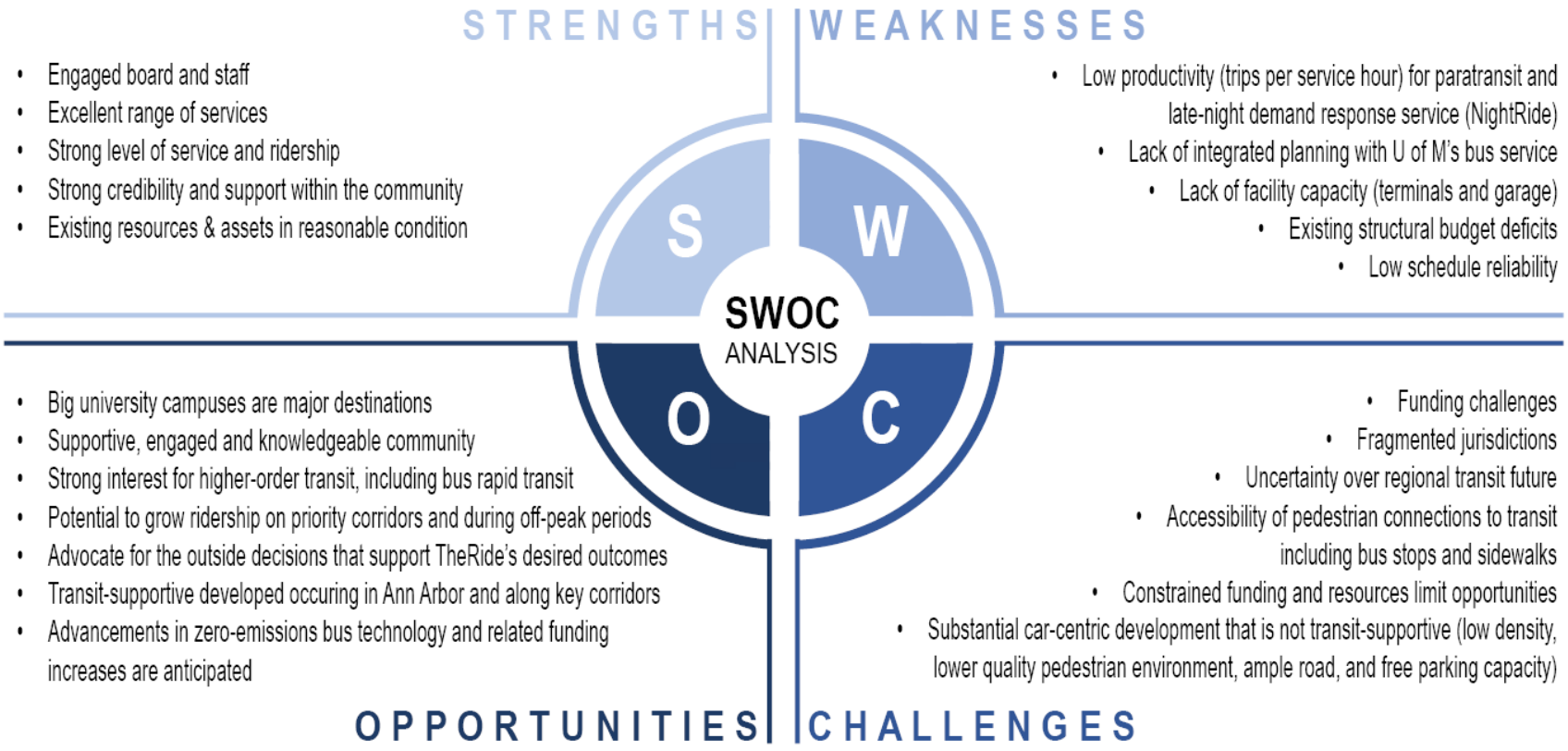


Figure 9 – SWOC Analysis

2. Process

TheRide 2045 process included rigorous public engagement and analysis. The development of the plan occurred over four phases as outlined below.

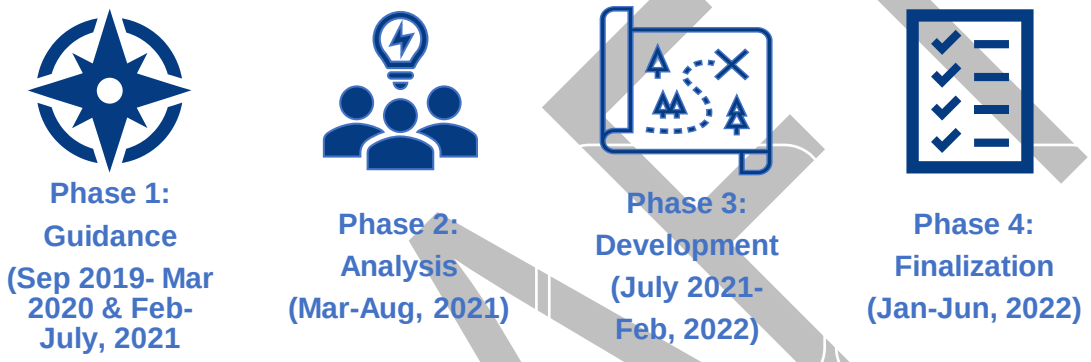


Figure 10 – Process Timeline

The first phase was Guidance, where we which developed a guiding framework including the goals, principles, and methodology to guide the remainder of the planning process. Feedback from the public, TheRide Board, and stakeholders were all considered. The Public Advisory Group was also established: 12 individuals with different backgrounds that were consulted with at regular points throughout the process to make sure that diverse perspectives were considered.

The next phase was Analysis, where TheRide's current situation was evaluated to consider what is working well and what could be improved. The future context over the next 25 years was considered next to ensure that transit was oriented to the expected changes in the community, including population, demographics, and employment. Existing plans from other municipalities and peer agencies were also considered, in addition to emerging technologies.

In the third phase, different elements and design options for the future plan were developed, before narrowing to four distinct scenarios based on different levels of funding.

In the fourth phase, Finalization, this draft plan was developed based on the results of the previous phases and the feedback received from the public and key stakeholders. The plan is intended to be an achievable roadmap that lays out the steps over the next 25 years to build a future transit system that achieves the goals developed in phase 1.

Significant public and stakeholder engagement was held throughout the planning process, including three formal rounds of engagement held in Phase 1, 3 and 4 respectively (summarized in greater detail in Section 2.2).

2.1 Planning Methodology

The development of the recommended solutions and initiatives for the TheRide 2045 is based on an assessment of the current state of the service and the future context within which service might operate against the Board's Ends (refer to Section 3.1). This included the identification of gaps and opportunities and a staged plan that continuously progresses towards the approved Ends.

The development of the plan relied on the construction and evaluation of plan options – amalgams of individual solutions and initiatives that together form a comprehensive plan that effectively advance the board's vision. These plan options vary according to the prioritization of specific gaps or opportunities, different funding scenarios, and themes related to the Board's Ends Policy such as access and equity, environmental sustainability, economic development, and transit mode share growth.

The following figure provides an overview of the planning methodology that was employed in developing the plan.

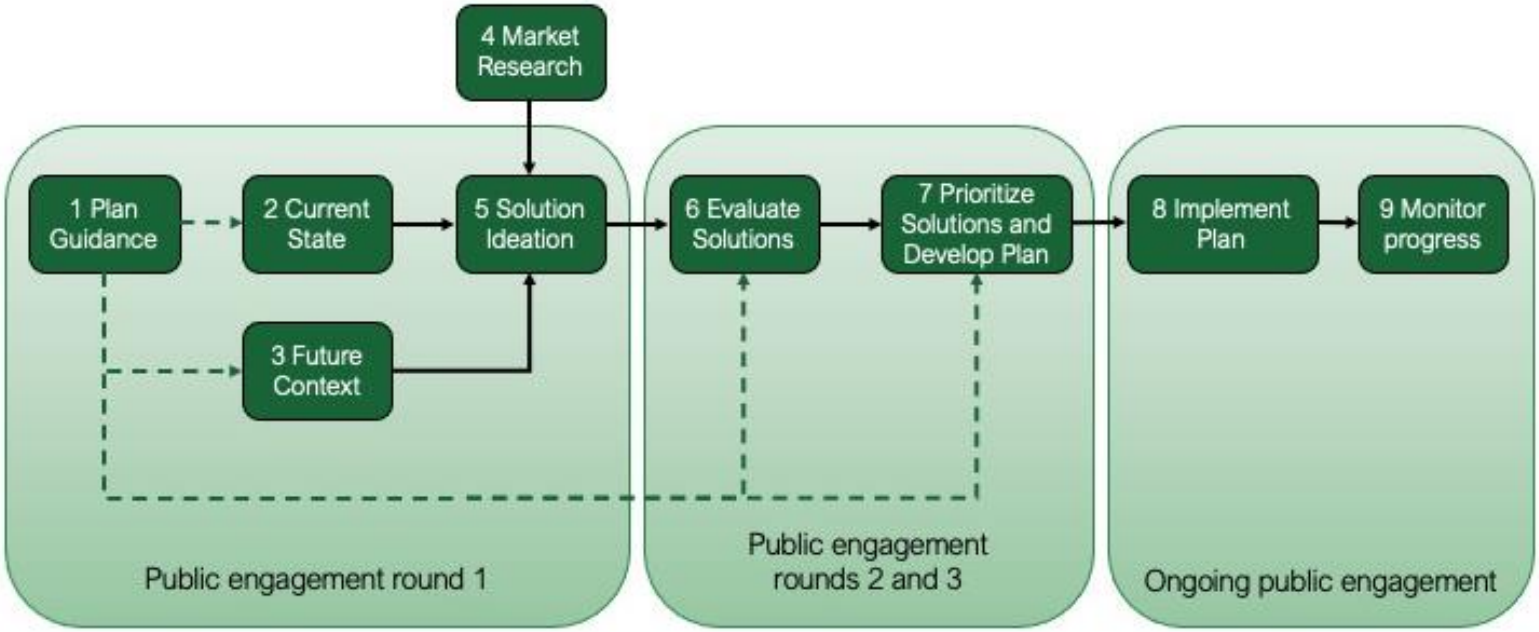


Figure 11 – Overview of Planning Methodology

Plan Guidance (1), summarized in Section 3, guided the entire project, informing areas of focus for research and analysis and establishing how solutions are evaluated and prioritized. The Current State and Future Context (2, 3), summarized in Sections 1.1 and 1.2, informed an understanding of TheRide's strengths, weaknesses, opportunities, and challenges (SWOC) currently and in the future. Potential solutions (5) were generated based on the SWOC analysis, market research, and the first round of public and stakeholder engagement. Evaluation of the solutions (6) and then final selection and prioritization (7) were informed by the Plan Guidance and additional public engagement and are summarized within this plan. Following implementation of the plan (8), progress will be monitored and informed by ongoing public engagement.

Ridership and emission modelling was conducted to help establish a future context and to support the development and evaluation of solutions. Ridership projections consider both projected demographic changes (e.g.., population and jobs)

and the impacts of various service changes on ridership. The projected demographic changes are drawn from the SEMCOG regional forecast.[1] A sample of these outputs is found in Figures 8 and 9 in the future context section. The impacts of service changes on ridership are drawn from industry research.[2]

Greenhouse gas emissions modeling was developed based on the City of Ann Arbor's GHG inventory.[3] The modelling considers projected changes in zero-emission vehicle usage, demographic changes, and changes to the proportional use of transit relative to private car travel.

2.2 Public and Stakeholder Engagement Summary

TheRide2045 included significant public and stakeholder engagement at three key points of the process. The first round of public and stakeholder engagement included collecting comments from conversations with stakeholders and the public. Key themes were identified and each comment was tagged with the themes that applied. Based on this engagement some measures of success were then identified.

The second round of public and stakeholder engagement was open for comment from October 18 to November 24, 2021. During that time, the project team spoke to almost 700 people through direct in-person or on-line engagement, received 653 responses to the on-line survey, and had over 50 additional points of interaction (including emails, phone calls and contacts through social media). In this round the team made special efforts to speak with elected officials from all three members of the authority.

The third round of public and stakeholder engagement was open for comment from March 14 to April 22, 2022. During that time, the project team spoke to approximate 880 people through direct in-person engagement, 210 people in on-line public and stakeholder meetings, received 478 responses to the on-line survey, and over 25 additional points of

[1] https://semcog.org/regional-forecast
[2] Litman, Todd. "Transit price elasticities and cross-elasticities." *Victoria, Canada: Victoria Transport Policy Institute* (2019).

Dunkerley, Fay, et al. "Bus fare and journey time elasticities and diversion factors for all modes." *RAND Corporation* (2018).

Coogan, Matthew, et al. Understanding changes in demographics, preferences, and markets for public transportation. No. Project H-51. 2018.

[3] https://www.a2gov.org/departments/sustainability/Carbon-Neutrality/Pages/Greenhouse-Gas-Inventory.aspx

interaction (including emails, phone calls and contacts through social media). In this round the team made special efforts to speak with non-transit users.

In total, over 4475 points of community interaction were recorded through in-person and virtual engagement sessions, surveys, email, and phone. During this engagement, the community generally communicated a strong desire for transformational change. This included a vision in overall transportation options for the community with a particular focus on improving transportation equity.

2.3 Public Advisory Group

A Public Advisory Group (PAG) was also formed that provided guidance throughout the process. The group comprised of 12 individuals of diverse backgrounds and helped inform key decisions. The PAG was established to reflect the demographics of TheRide customers, accounting for diversity of race/ethnicity, age, income, place and type of residence, transit ridership, disability, and gender identity. At every stage of the project development, the group provided insight based on their own personal experiences. The first meeting of the group was used to gain feedback on the current strengths and challenges of the various services offered by TheRide, and the overall vision for Ann Arbor-Ypsilanti's future regarding transit. Through subsequent meetings, the PAG helped review solutions, plan scenarios, and draft recommendations. They also helped frame public engagement material and review and reflect on community feedback. Due to Covid-19, all meetings were held online.

3. Guiding Framework

The development of the plan was shaped by several guiding elements. Principally, the TheRide's Board of Directors sets the outcomes/goals that the organization should seek to achieve (i.e. Ends Policies). In addition, TheRide 2045 aimed for consistency with community and transportation plans in the Ann Arbor-Ypsilanti area such as A2Zero, the Ypsilanti Township Master Plan, Shape Ypsilanti, and the Ann Arbor Zoning Districts for Transit Corridors. Lastly, public and stakeholder engagement provided another layer of guidance, particularly related to the prioritization of various goals. Figure 12 sets out some key plan goals and corresponding sources of community values.

Figure 12 Plan goals and sources of community values

3.1 Board's Vision and Goals

The Board of Directors defines the outcomes/goals that TheRide is supposed to be achieving in the future (i.e. Ends Policies). The "vision" for the plan is to achieve, or make headway on achieving, ***all*** of these outcomes, at least to some degree.

The Board establishes its Ends policies within its Vision for public transportation:

A robust public transportation system that adapts to the area's evolving needs, environment, and quality of life.

The Board of Director's Ends (outcomes/goals):

1. **AAATA exists so that an increasing proportion of residents, workers, and visitors in the Ann Arbor-Ypsilanti Area utilize public transportation options that contribute to the Area's social, environmental and economic**

vitality at a cost that demonstrates value and efficient stewardship of resources.

1.1. Residents in the area have equitable access to public transportation services that enables full participation in society.

1.1.1. People with economic challenges have affordable public transportation options.

1.1.2. People with disabilities or mobility impairments, seniors, minors, and non-English speakers have equitable access to opportunities and destinations in the area.

1.2. Public transportation positively impacts our environment.

1.2.1. Public transportation options are increasingly chosen over use of a personal car.

1.2.2. Public transportation options minimize energy use and pollution, and conserve natural resources.

1.2.3. Public transportation options produce conditions favorable to more compact and walkable land development.

1.2.4. Relevant public policy is transit supportive.

1.3. Public transportation positively impacts the economic prosperity of the area.

1.3.1. Public transportation facilitates labor mobility.

1.3.2. Students can access education opportunities without need of a personal vehicle.

1.3.3. Visitors use public transportation in the area.

1.3.4. Public transportation connects the area to the Metro Detroit region.

1.4. Passengers are highly satisfied with public transportation services.

1.5. Residents of the area recognize the positive contributions of public transportation to the area's quality of life.

3.2 Board's Planning Framework

The Board of Directors has also created a planning and governance framework within its governance policies that primarily focus on funding and defining the planning process itself. The key policies are summarized below:

1. **Strategic Framework** As a long-term planning exercise, the process and outcomes captured in this plan must show progress towards the Board's defined Ends. Part of that process includes defining multi-year plans that include the best available information on financial implications, and clear staging plans (captured in the Implementation Plan in Section 8) that will allow staff to recommend changes to the Board based on new information over time. This plan must be prudent and in line with common business practices and must also identify and evaluate risks for staff to manage. [4]
2. **Financial Planning and Stewardship:** In developing a long-term plan, it is always necessary to balance short-term financial constraints with longer-term aspirations. This means that the plan must be financially realistic, even if based on financial resources or funding sources not currently available. This long-term plan should not be constrained by the current financial environment but must be developed with clear assessment of financial requirements, potential funding sources and levels, and consideration of the risk to the plan and its alternatives if additional funding is not secured. Ultimately, the plan must demonstrate value and efficient stewardship of resources, and be based on realistic and transparent financial assumptions.[5]
3. **Public and Stakeholder Involvement:** Public and stakeholder engagement is a cornerstone of the Board's approach, and vital to the development of this long-term plan. The planning process must meaningfully engage

[4] Board's policy #2.4-2.4.8, 2.10.1.3, 2.0

[5] Board's policy #2.4, 2.4.3, 2.4.5, 2.4.8, 2.5

riders, residents, stakeholders, partners, and staff. There should be good communication and transparency to the planning process and rely on and develop collaborative partnerships with community stakeholders.[6]

3.3 Other guiding documents

In addition to complying with and supporting the Board's policy Ends, the plan also builds on previous and current planning studies addressing long-term planning for TheRide. Specifically:

- TheRide's Corporate Business Plan (FY 2022) set four medium-term priority areas for the organization:
  - Support community recovery (including restoring services, and ensuring safe operations)
  - Planning for the future (including developing a long-range plan, advocacy strategy and expanding terminals)
  - Servicing customers (including enhancing fare collection and fare structure as proposed in the 2018 Fare Study and planning for the bus rapid transit)
- Modernizing TheRide (including implementing recommendations from a 2019 paratransit study and conducting a propulsion study)

3.4 Additional Considerations

The following additional considerations reflect early-stage input from the public, stakeholders, and staff. These very much echoed themes and areas of importance highlighted by the Board's Ends.

- Be an attractive transportation option

The overarching priority for the Board, which was echoed unanimously by customers, stakeholders, and staff alike, is that public transportation be a viable and increasingly selected mode of travel for travelers. Thus, success of the plan will

[6] Board's policy # 2.1.3, 2.1.4, 2.2.1, 2.9, 2.9.4, 2.9.5

revolve around increasing modal share of TheRide services within the community, and specifically trips per capita. To get people out of cars and choosing public transit, the Plan must address customers' service design concerns:

- More reliable off-peak service including extended service span
- Enhanced quality of experience including customer amenities
- Increased service frequency
- Faster trips
- More reliable service

- Be a fully integrated public mobility provider

Many stakeholders emphasized the importance of providing a variety of services to meet the diverse travel needs of the community. This desire was also expressed as growth towards becoming a mobility-as-a-service provider for a streamlined user experience and for better planning integration around diverse internal and external services.

- Organizational sustainability

TheRide's stakeholders felt that the organization needed to be financially sustainable over the long-term to ensure it is able to continually operate and support the community. This includes having the finances necessary to grow and develop.

- Focus on integrating transit infrastructure to surrounding community development

Stakeholders specifically voiced desires that fit within a general vision for influential community collaboration. There is a desire to improve external elements that have a significant bearing on transit success such as land use/transportation policy; improved access and maintenance of stops and supporting infrastructure, and better regional collaboration.

- Enhance regional connections

Customers and stakeholders specifically focused on the importance of establishing better regional connections.

- Contribute to affordable and equitable communities

The public and stakeholders expressed a desire to help improve affordability and equity through the provision of affordable and high-value transportation and by working to reduce inequities in transportation along income, racial and ADA-related perspectives.

- Efficient service provision

Public feedback leans toward improved frequency over increased coverage of the service. With fixed resources, that means focusing on improving system efficiency. This focus on service efficiency also captures frequently cited visions for better matching of service to demand, such as on high demand corridors, efficient use of service different modes and a network that meets the travel patterns of current and potential customers.

4. Overview of the Plan

TheRide 2045: Long Range Transit Plan is the result of 18-month-long process involving significant analysis and input from thousands of individuals and stakeholders. The plan will effectively advance the organization toward the goals and vision laid out by the Board and echoed by the community. The following table highlights the key elements of TheRide 2045. These are explored in greater detail in the subsequent sections of this report.

Highlights of the plan

- Two high-speed Bus Rapid Transit lines that will form the backbone of the network
- 10 minute or better service with priority features on high-use corridors
- High-frequency network of 15-minute or better services across the service area
- Better off-peak services, including a minimum of 30-minute frequency service throughout the service area, 7-days per week
- Later weekend and weeknight service hours
- Enhanced On-Demand service including overnight with expanded coverage areas and shorter wait times
- Four new transit hubs and improvements to our two Transit Centers to better connect services across our community
- A zero-emissions bus fleet
- Partnerships and collaborations to enhance regional transit, first/last mile solutions and general transit outcomes
- Infrastructure plans to enable service growth and enhance the customer experience
- Technology plans to enhance customer experience and operational efficiency
- An achievable financial plan that effectively harnesses important funding opportunities from State and Federal governments while also highlighting how TheRide can work towards developing alternative funding sources.

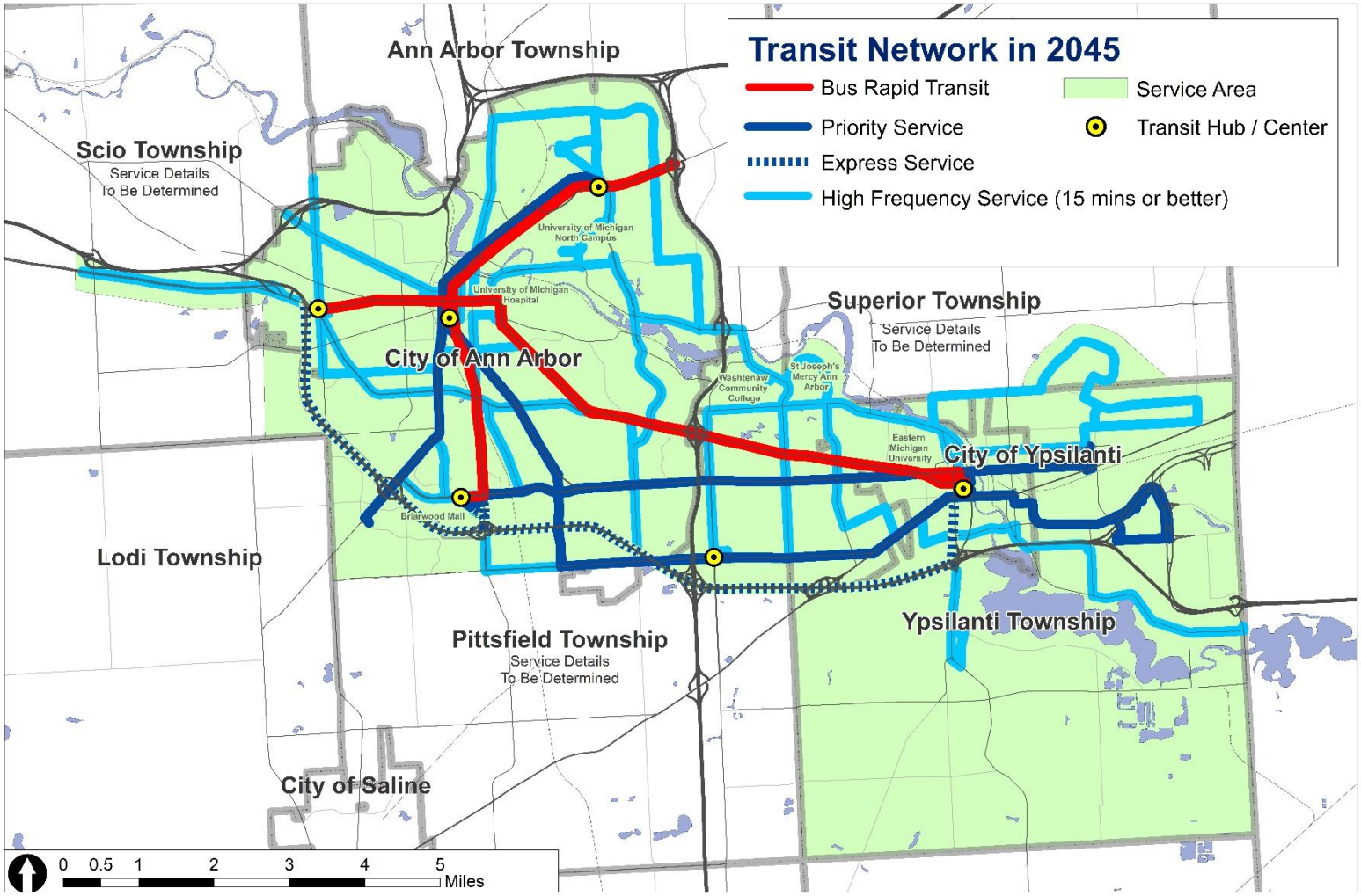


Figure 13 – Proposed Service Network

5. Service Network

The plan envisions TheRide's fixed-route service evolving from local routes in a hub-n-spoke configuration to a high-frequency network with more opportunities for quick transfers and direct trips. The essential backbone of the new network are two Bus Rapid Transit (BRT) routes, providing fast and reliable north-south and east-west connections throughout the service area. The rest of the network is designed to allow riders to travel faster and maximize BRT's transportation benefits across the system.

TheRide 2045 proposes an 97% increase in vehicle service hours. The scale of this investment is essential to achieve the structural network changes that will result in greater efficiency and lead to a transformational improvement to the area's transportation system. The proposed network provides value and will lead to a more equitable community, a better economy and a more sustainable environment.

5.1 Service Types

The network reorganization is founded on new transit priority measures and the introduction of a Bus Rapid Transit (BRT) spine. This BRT spine provides fast and reliable north-south and east-west connections throughout the service area and is the backbone of the system and essential to the enhancements that are provided. The rest of the network is designed to funnel into the BRT to maximize BRT benefits across the system. The rest of the service network is provided by a diversity of service types, highlighted by numerous high-frequency routes that broadly crisscross the service area. More diverse service types are introduced to better meet the needs of different types of customers, enhance efficiency and to provide the best transit service to the most people and in an equitable fashion.

Summary of Service Types

	Description	Frequency (Peak periods)	Stop spacing	Proportion of fixed route service hours
Bus Rapid Transit	Fast and the most frequent service. Significant transit priority measures, high-capacity buses and higher quality amenities.	5 minutes	0.5-1.0 miles	16%
Priority	Limited stop, very frequent service with some transit priority features. The routes serve the busiest corridors and are intended to move people quickly across the area.	Corridor – 10 minutes	0.5-1.0 miles	23%
Express	A point-to-point type service. Intended to effectively use high-speed roadways and move customers quickly over long distances.	15 minutes	3+ miles between stop clusters	2%
High Frequency	Routes with frequencies of 15-minutes or better during peak periods. Run along busier corridors and are broadly spread throughout service area.	15 minutes or better	Follows current stops spacing standards - .25mile target	46%
Base Routes	Routes with frequencies of 16-30 minutes during peak periods. Serve lower-demand corridors and help to improve transit choice.	16-30 minutes	Follows current stops spacing standards - .25mile target	13%
On-Demand	Provided in areas of low demand and to fill coverage gaps to improve access to transit.	Not applicable	No stops	Not applicable

The above frequency and stop descriptions do not constitute standards but describe what is envisioned for the transit network in 2045.

Bus Rapid Transit (BRT)

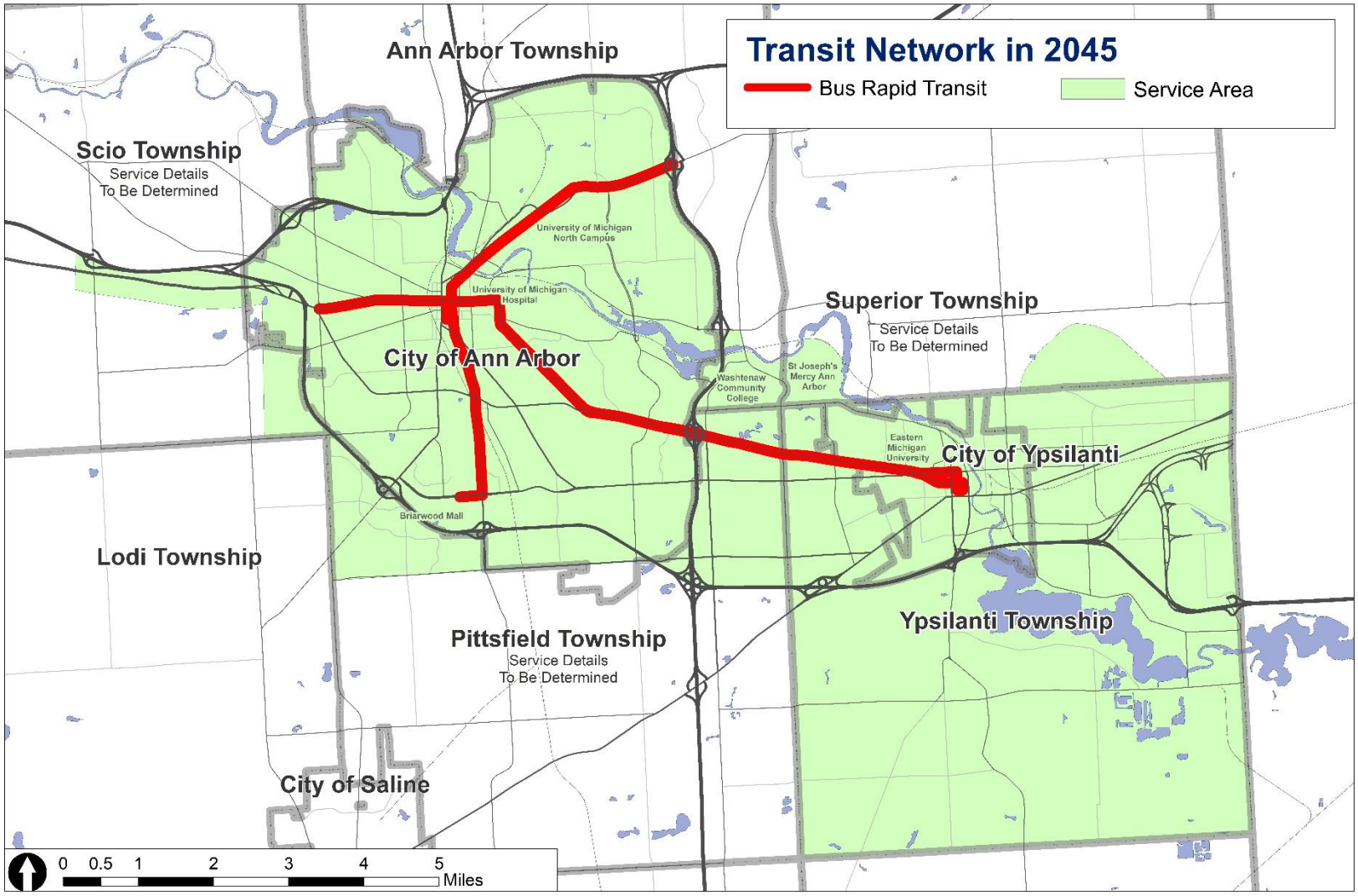


Figure 14 – BRT Network

Bus Rapid Transit, or BRT, are frequent, comfortable and fast services that will form the spine of the future network and reshape transit in the Ann Arbor-Ypsilanti area. BRTs can provide faster service through transit priority features, longer distances between stops and off-door fare boarding. Transit priority features are a variety of elements that help to improve transit operations relative to private automobile travel. These features include:

Dedicated lanes: Transit-only lanes that could be separated by a barrier or demarcated as transit only lane often using paint. They allow transit vehicles to avoid competing with traffic which improves speed and allows buses to meet scheduled times more reliably.

Traffic signal priority: Traffic signal technology and the backend control system that senses transit vehicles at signalized intersections and tries to maximize green signals for them.

Queue jump lanes: Short dedicated transit lanes strategically located for transit vehicles to bypass traffic buildup. Often located at intersections.

The BRT in the Ann Arbor-Ypsilanti area is envisioned to significantly use these measures with more than half of routing being provided by a dedicated transit lane. While the potential for dedicated lanes was considered when determining the approximate BRT routing alignment, the exact BRT alignment and usage of transit priority features will be determined in later

Figure 15 – Example of a BRT station Example of a Bus Rapid Transit (BRT) station - Ontario Growth Secretariat, Ministry of Municipal Affairs (2014)

studies. These studies will involve discussions with State and municipal officials to determine optimal right-of-way configurations along the BRT routes.

Transit priority features help to make a transportation system become more efficient and cost-effective by providing optimal prioritization for a mode of transportation that can move more people and do so at lower overall cost to the community.

In addition to BRT corridors, transit priority features will be built strategically across the service area. These features will be targeted at areas based on their potential to create customer travel time savings, enhance reliability, and be feasibly implemented. Areas that are likely to achieve these goals will have traffic congestion, be served by numerous or high-frequency routes, and have high through volumes of transit customers. Figure16 shows TheRide's proposed areas for transit priority features. These areas will guide TheRide in discussions with municipalities to determine final locations. Specific transit priority features will also be established in discussions with municipalities.

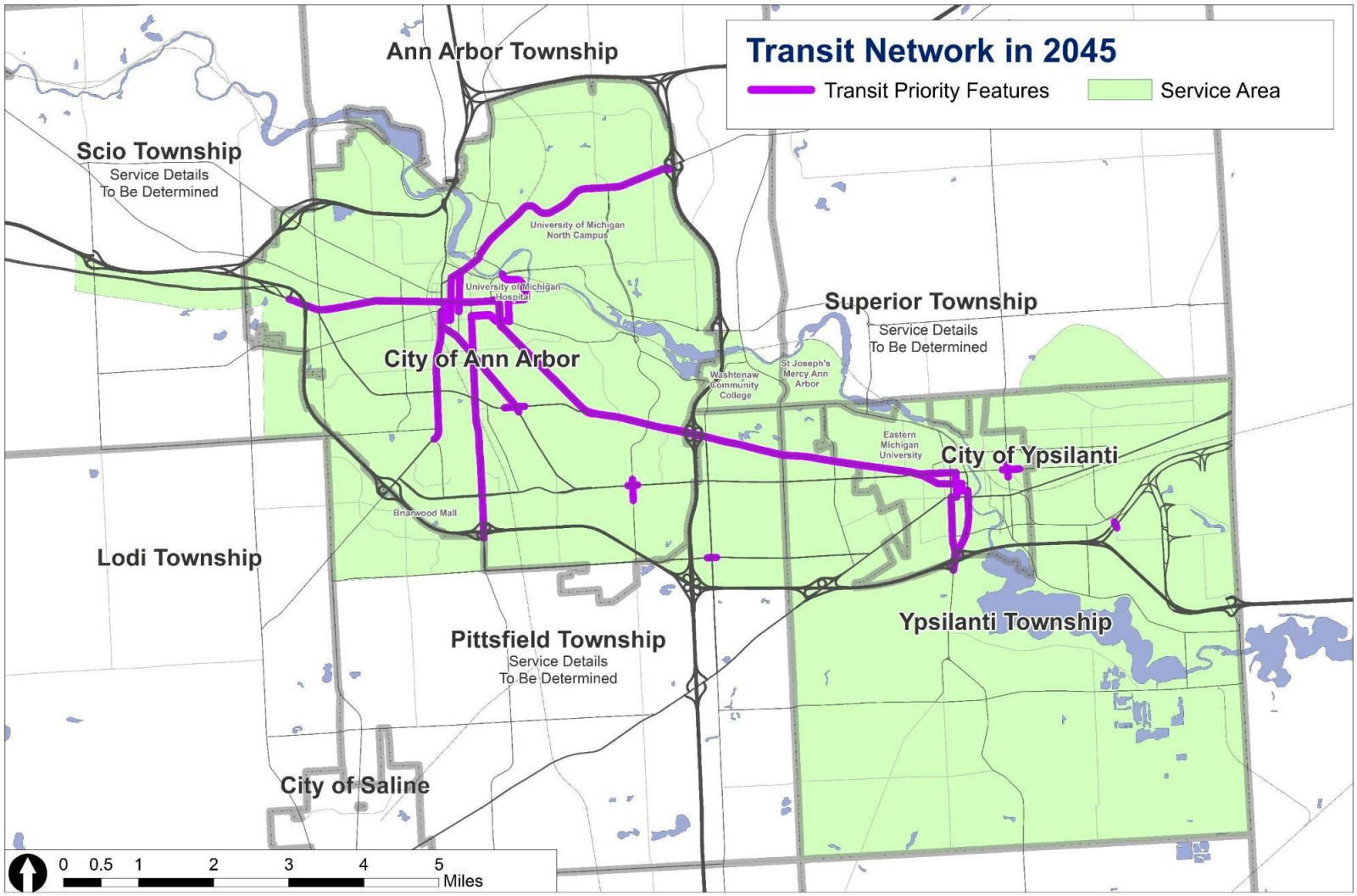


Figure 16 – Recommended areas for transit priority features

TheRide's BRT system will also include articulated buses that allow more people to be more comfortable funneled into the BRT spine. The proposed network is designed to funnel a greater proportion of riders into the BRT as compared to those corridors now. Due to the network focus on the BRT, the routes will also have a higher degree of amenities at stops and on buses. Stops might have real-time information, larger shelters with unique branding, wayfinding information and ticketing machine among other items.

Two BRT lines will span the service area. The Washtenaw BRT will run between the City of Ypsilanti and Maple/Jackson, roughly spanning the service area from east to west. The North-south BRT will run between Plymouth/US-23 and Eisenhower/State, spanning the service area from north to south.

The approximate proposed routing for the BRT is intended to provide a centralized, high-demand and direct high-speed corridor. The centralized corridor relative to demand minimizes connecting route time into the BRT, increases the proportion of a trip taken on the faster BRT service. Focusing the BRT on high demand areas helps to minimize transfers and maximize its time saving impact. Direct BRT routing helps to make it the system as fast as possible for the most amount of people.

The exact BRT alignment will be established in a subsequent study. A specific focus for future alignment analysis will be the area between downtown Ann Arbor and Nixon/Plymouth of the North-south BRT. It should be noted that the University of Michigan Hospital will likely be served by the North-south BRT, a Priority Route or both.

Priority

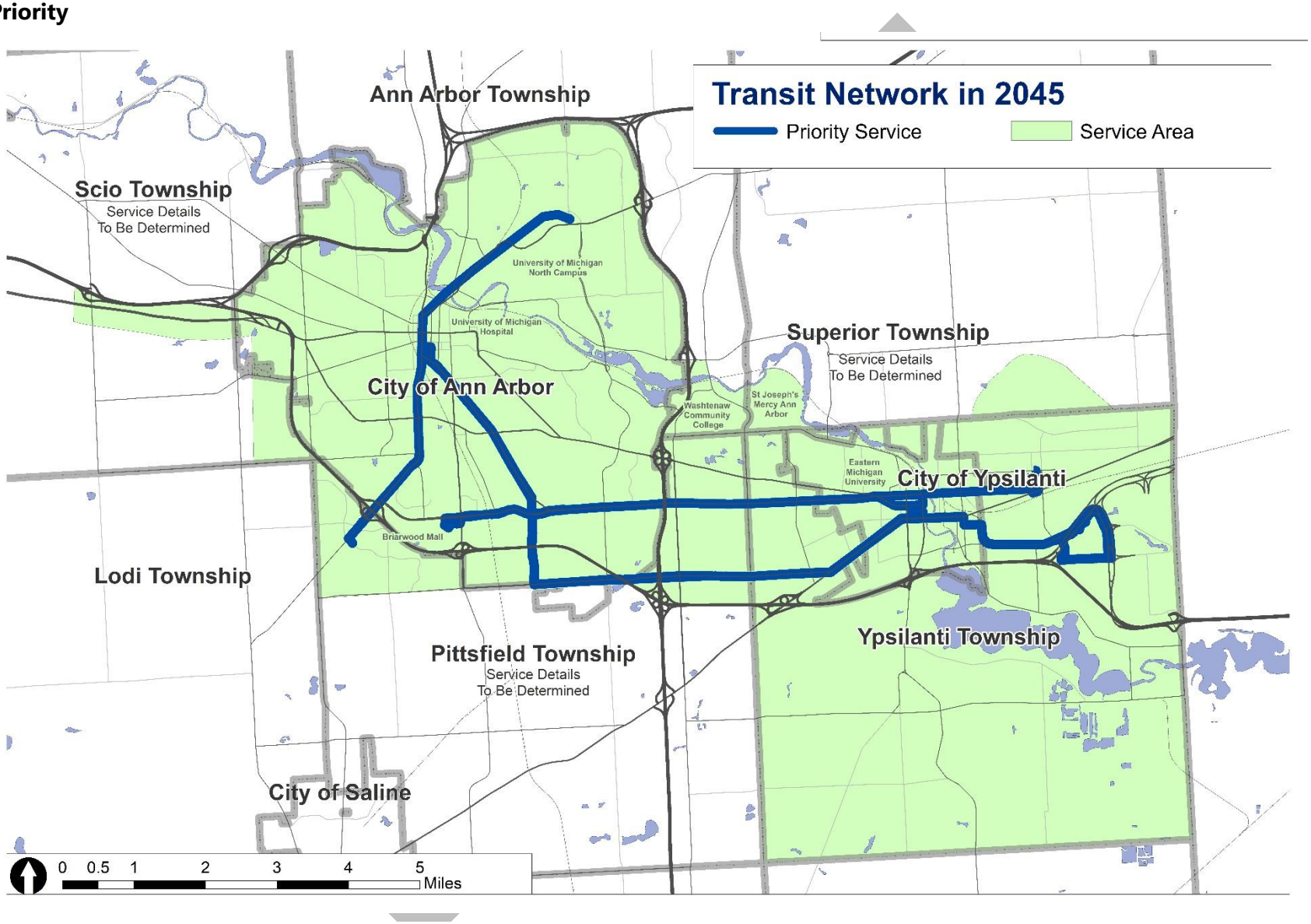


Figure 17 – Priority Route Network

These routes provide some of the beneficial elements of a BRT and are a secondary level of enhanced service. The priority service is intended to provide higher frequency service to higher demand areas and facilitate fast longer trips. The routes are somewhat enhanced by transit priority features with transit signal priority and queue jump lanes as more likely solutions. Stop spacing is like that of BRT but the service would be provided for the most part alongside a high-frequency or base route on a corridor, creating both rapid and slower/high access options. Routes would be served by conventional 40 ft buses as their capacity is deemed sufficient considering frequency and projected demand.

Frequency on priority routes would range 15-20 minutes during peak periods but reach 10 minutes for the combined corridor frequency when paired with high-frequency or base route. This higher level of services matches the higher demand arterial corridors that priority routes are planned for.

Priority is also planned to facilitate faster long trips across the service area and fill projected higher demand long trip travel patterns that the BRT spine does not provide a convenient option for. To enable these fast and long trips, routes are long with limited deviations.

Three priority routes are planned:

End Point	End Point	Routing
Downtown Ann Arbor	West Willow	Packard, Ellsworth & Ecorse
Nixon/Plymouth	Ann Arbor Saline/Oak Valley	Ann Arbor Saline, Main & TBD*
Eisenhower/State	Cross/Harris	Eisenhower, Cross & Packard

*Priority alignment will be established during the BRT detailed design process

Express

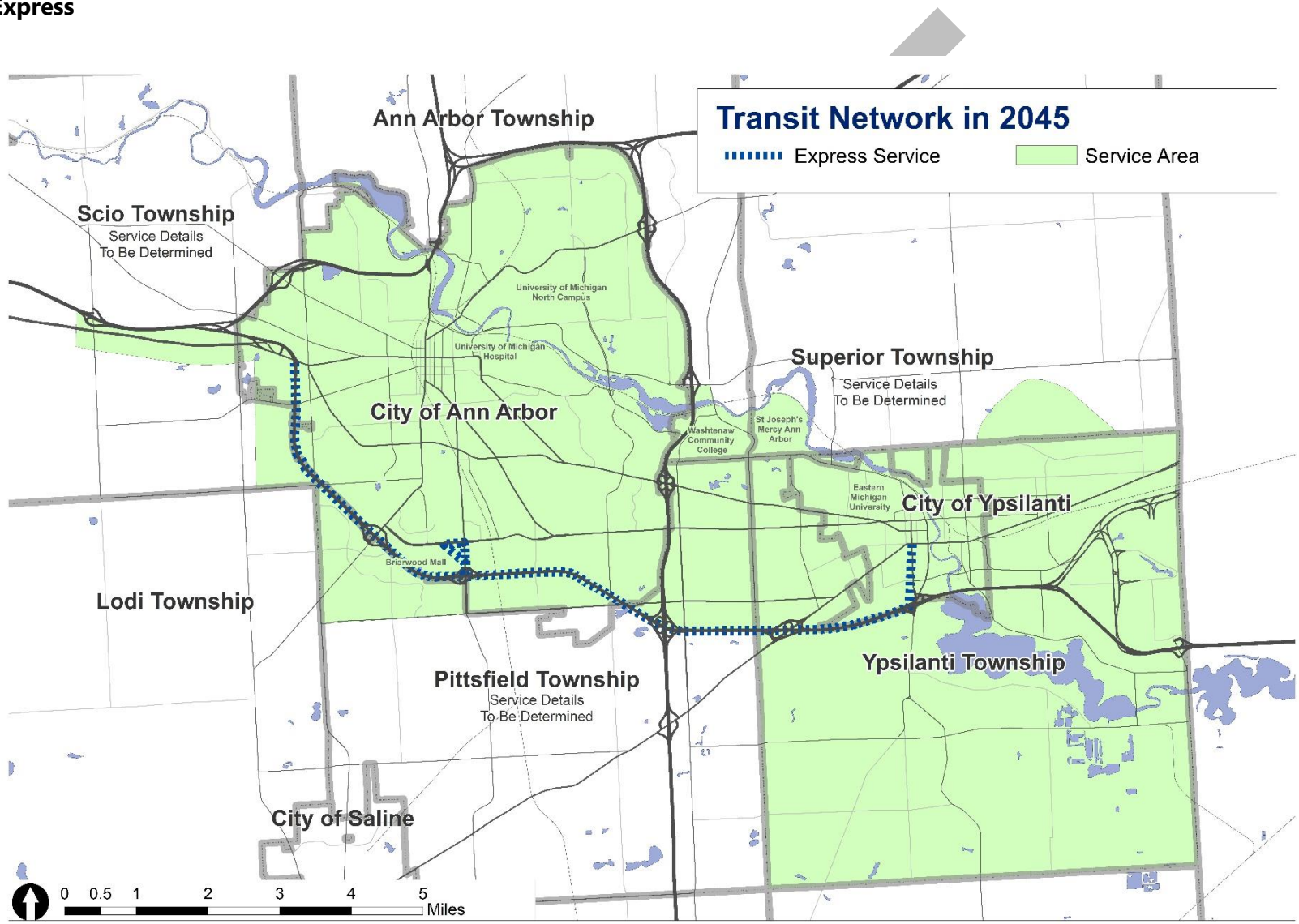


Figure 18 – Express Network

Express routes are a point-to-point type of service centered on the I-94. The route is intended to effectively use this high-speed roadway to move customers quickly over long distances in the service area. It is the fastest proposed service with stops located in The City of Ypsilanti, the Eisenhower/State area and the Jackson/Maple area. These areas would be served by a stop or stops ranging from one to several. All three stop areas would connect into the BRT spine.

Using shoulder lanes on the I-94 would help improve the service's speed, efficiency, and reliability. Discussions should be held with the Michigan Department of Transportation to explore this opportunity.

Figure 19 Example of transit bus using a highway shoulder lane "Metrobus shoulder bypass in Arlington, VA" by SounderBruce is licensed under CC BY-SA 2.0

High-Frequency

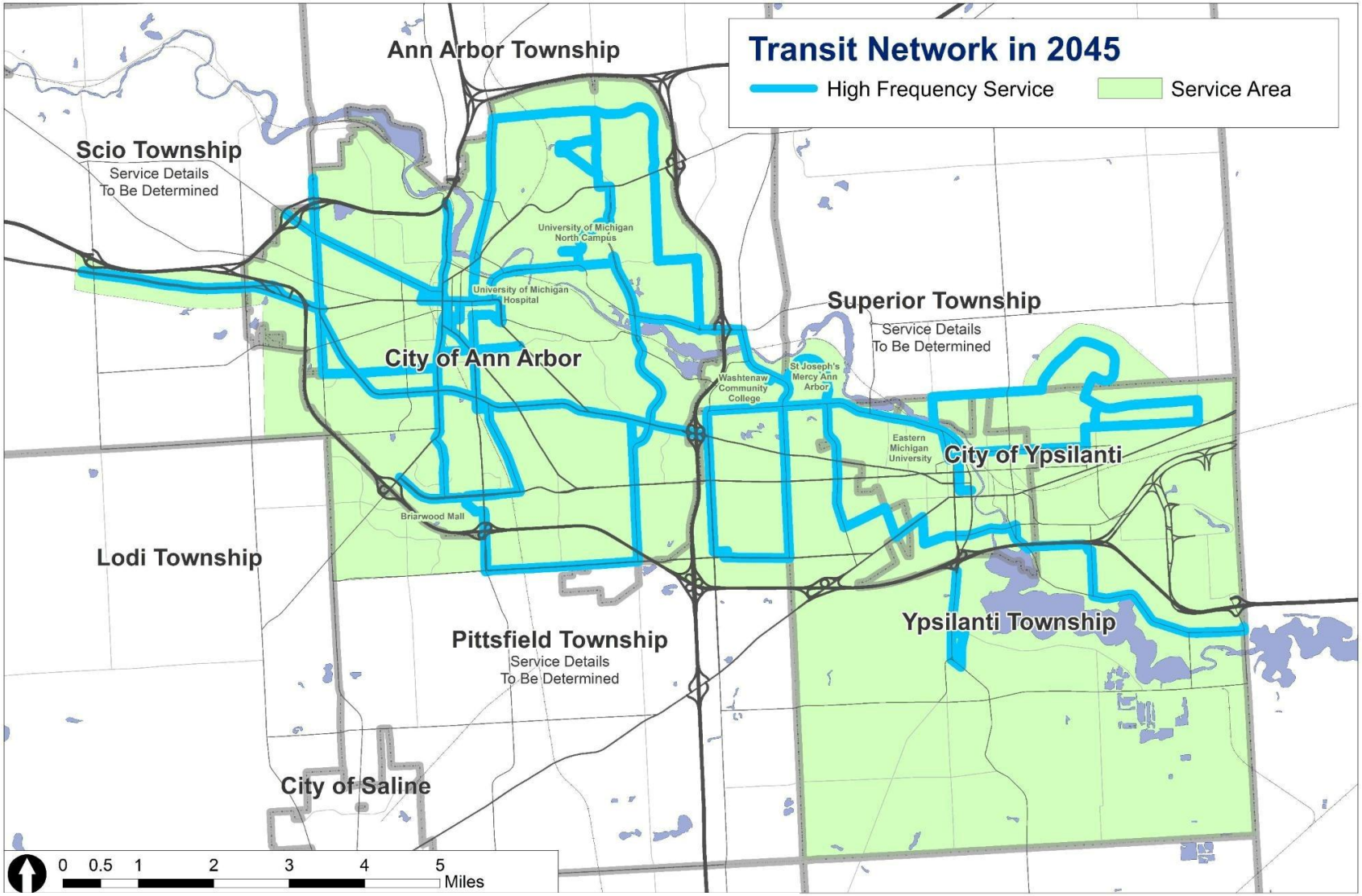


Figure 20 Map of High Frequency Routes

High-frequency routes cover most of the service area and are conventional routes operating at 15-minute or better frequencies during peak periods. They have stop spacing of approximately 0.25 miles. High-frequency routes are intended to cover moderate to higher demand areas.

Providing access to high-frequency service is an important step in making transit more convenient and growing ridership. Frequency of service was a commonly mentioned and prioritized area of improvement during public engagement. At a 15-minute frequency, people tend to start feeling like they can take transit at anytime and not rely on a schedule.

In addition to broad service coverage, high-frequency routes cross each other and other frequent routes at short intervals. This allows convenient high-frequency trips to be taken in various directions from most locations in the service area. Having this broad grid network of high-frequency routes is essential to facilitating transfers outside of the downtown cores. The ability to do so accomplishes the following:

- Improves travel between non-downtown locations
- Provides more travel options in different directions
- Better uses less congested streets leading to faster travel speeds and greater efficiency
- Allows routes to travel longer distances, creating more one bus journeys and generally allows routes to cover the service area more efficiently.

While this long-range plan identifies where high-frequency service will be provided, the exact routing details will be determined in medium-term planning processes. Conceptual base routes were developed to guide modelling of metrics,

Base

Base routes are conventional routes with frequencies of 16-30 minutes in peak periods. These routes are intended to provide local service connections in areas of lower to moderate demand and to enhance transit options with new travel directions.

The specific routing of base routes has not been determined in this long-range plan and will be determined in short- and medium-term planning processes guided by service standards. To guide modelling of metrics, conceptual base routes were developed. The entire service area not within 0.25 miles of other fixed route services, will have either base routes or on-demand coverage. The specific service will be determined in short-term planning processes

Like the high-frequency routes, base routes are intended to cross other routes at even intervals and to feed into the BRT or into transit hubs.

5.2 Transit Hubs

Four transit hubs will be developed outside of the downtown cores to facilitate better connectivity between peripheral areas.

- State & Eisenhower area
- Jackson & Maple area
- Carpenter & Ellsworth area
- Nixon & Plymouth area

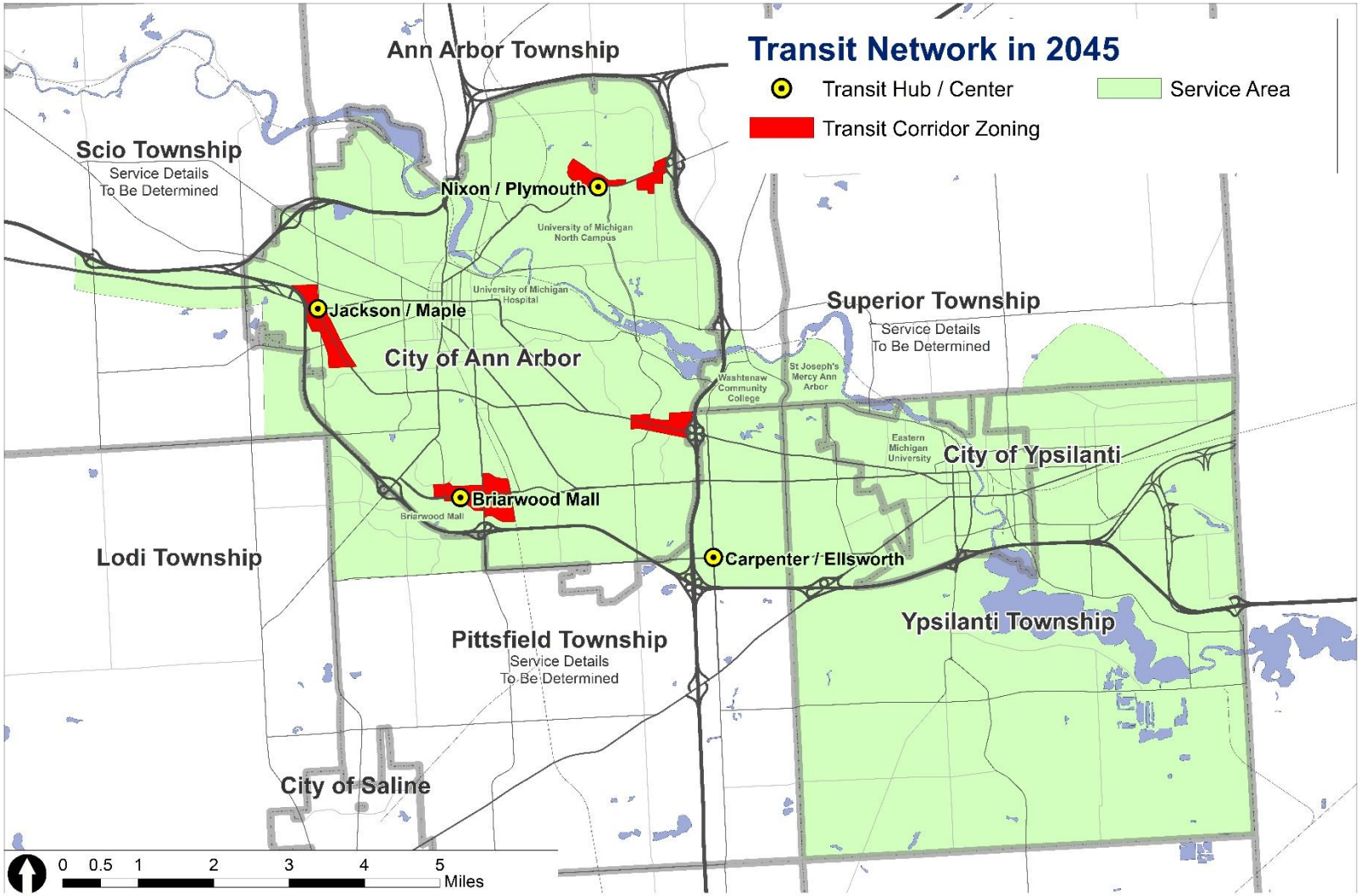


Figure 21 Map of transit hubs and their relation to transit supported development districts

The hubs are placed in strategic areas that currently have high demand, are projected to have significant growth in demand and are located at logical connection points between numerous routes. The service network is further designed to connect into these points with several frequent services. The proposed hubs are closely tied to the City of Ann Arbor's Transit Supported Development Districts.

5.3 Service Outcomes

The service network has been designed to meet several objectives that help further organizational goals. These include aiming to: make the average trip taken by transit as fast as possible, provide the average person with the most amount of service as possible, provide more one-bus connections, make more direct routing, focus service enhancements on low opportunity areas, provide broad access to high quality transit and better match service to demand. These objectives help to improve the quality of transit service, grow ridership, provide more cost-efficient service, and achieve other goals of TheRide and the community. The projected beneficial outcomes of this network are shown in Figure 22

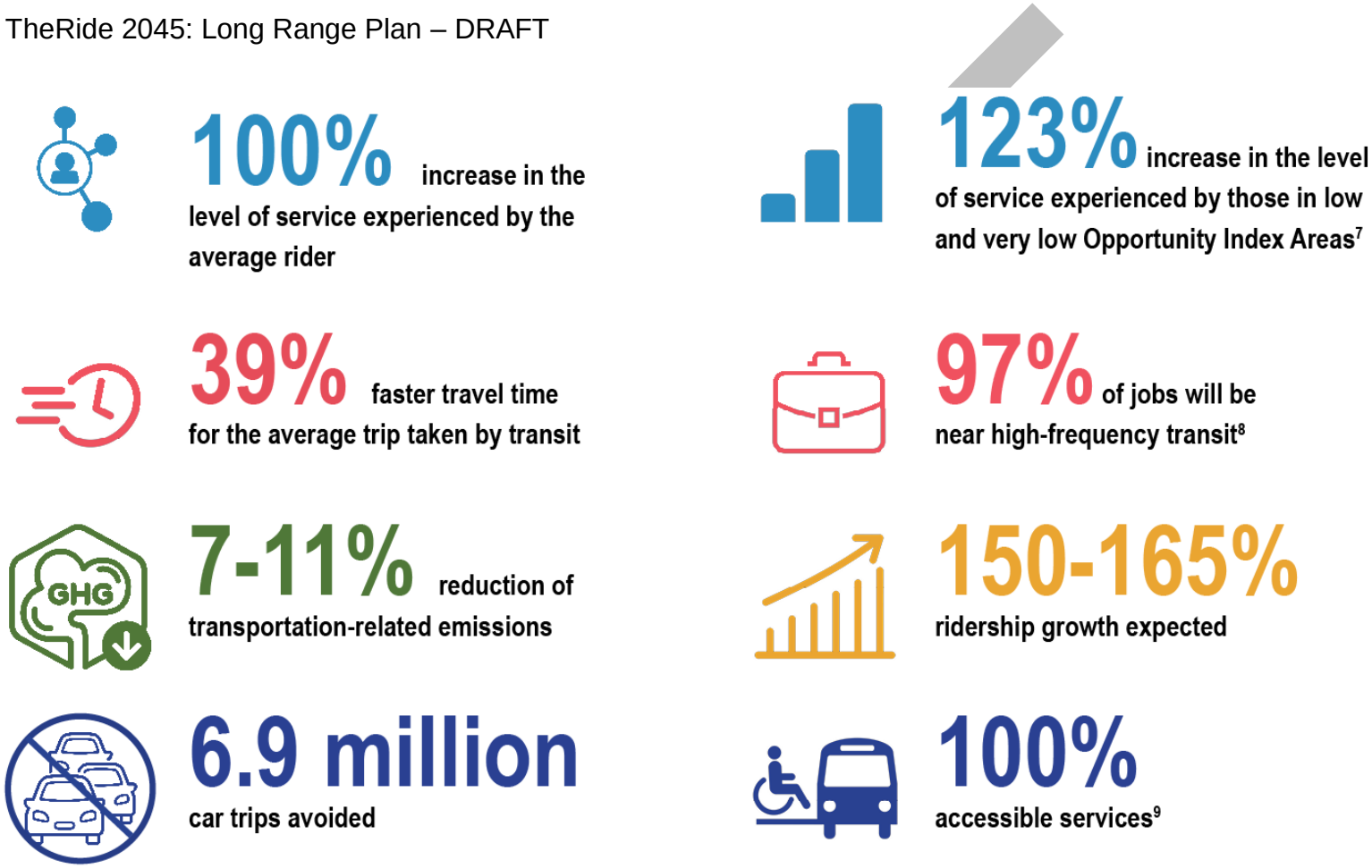


Figure 92 Expected outcomes

7 89

[7] Level of service measured as the average buses per hour passing through a .25 mile walk radius. Average rider reflects 2019 ridership data. Opportunity Index areas are defined by the Washtenaw Opportunity Index.
[8] High-frequency transit is defined as 15-minute or better service during peak times. Proximity is defined as within a .7 mile walk. All analysis is focused on the three member municipalities of TheRide (The City of Ann Arbor, The City of Ypsilanti and The Township of Ypsilanti).

[9] Bus stop accessibility is subject to municipal sidewalks and permitting

More "One-seat" Journeys

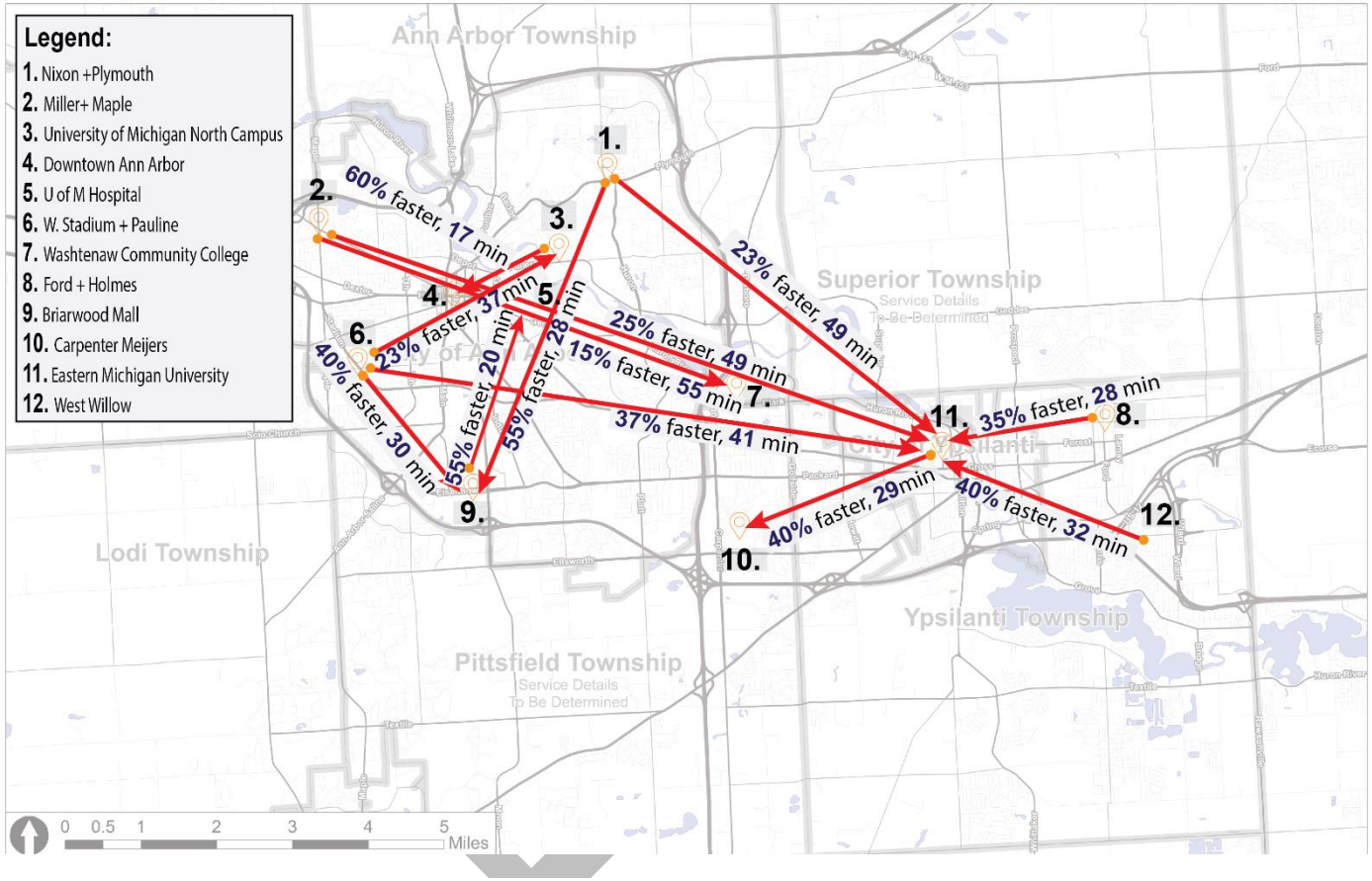
The revised structure of the network will significantly benefit passengers by unlocking more "one-seat" journeys; direct trips where passengers don't have to make any transfers and can sit in one seat on one bus. Direct one-seat journeys are increased by making routes longer, increasing travel options (direction) from any given location, and by reorganizing the network for routes to better capture high projected travel patterns. Longer routes are enabled by increasing transfer connectivity out of downtown areas through a grided network of high frequency routes and the establishment of peripheral transit hubs. An indication of the increased multi-directional travel options and access to transit is the increase in stops, which goes from approximately 1200 now to 1350. This increase is even more substantial when you consider then introduction of numerous limited stop routes.

Below are some proposed new direct connection highlights:

- Eastern Ypsilanti Twp – Downtown and south Ann Arbor
- City of Ypsilanti and Eastern Ypsilanti and Superior Twps – Northeast Ann Arbor
- City of Ypsilanti – West Ann Arbor
- South, southwest and west Ann Arbor – Northeast Ann Arbor
- State/Eisenhower – West Ann Arbor
- Northeast Ann Arbor – Carpenter/Ellsworth

Faster Trips

TheRide 2045's network will significantly reduce the travel times for the average trips taken by transit. The BRT, transit priority features, and a revised network structure that funnels trips into the BRT is a principal reason for this. Faster trips are also enabled by the introduction of limited stop services such as the Priority and Express services.



[10]

Figure 23- Map of travel time changes between various areas

[10] Travel times were estimated using Remix which accounts for average walk times to/from origin/destination/transfer points, wait time and in-bus time

Routing has generally been designed to create the shortest possible trips for the most amount of people. Part of the strategy has been to create:

More "One-seat" Journeys

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- South, southwest and west Ann Arbor – Northeast Ann Arbor
- State/Eisenhower – West Ann Arbor
- Northeast Ann Arbor – Carpenter/Ellsworth

More direct routes with fewer deviations

More linear and direct routes help to make routes move faster and tend to reduce overall passenger travel times, even though some passengers might be forced into longer first/last mile connections. They also help to reduce the complexity of a transit, making it easier to use. Routes have been streamlined in several ways including removing point-based

deviations and reducing looping and branching. Route looping can be particularly frustrating to riders as you can be travelling in the opposite direction that you wish to go.

The rationale for eliminating point-based deviations is supported by an expectation that over the 25-year period, land use and transportation development should be made in transit-supportive manner that reduces the need for deviations that are problematic for transit.

Service enhancement focused on low opportunity index areas

While the network improves overall efficiency, reliability, accessibility, speed and convenience, these improvements are even more focused on low Opportunity Index areas, as defined by the Washtenaw County Opportunity Index. While there is 100% increase in the level of service experienced by the average rider, the average rider in Low and Very Low Opportunity Index areas experience an 123% increase. Areas such as West Willow, MacArthur Blvd, Heritage Park, and Bryant would see the introduction high-frequency routes and an expansion of routes serving their areas. The former two neighborhoods would have new direct connections to downtown Ann Arbor.

Broad access to high quality transit

The extensive high-frequency network will bring nearly everyone in the member municipalities to within access to a high-frequency route and most to within access to two or more high frequency routes. The high-frequency network was purposely spread widely to increase access to high quality transit. 97% of jobs will be near high-frequency transit.[11]

Better focus service to demand

The proposed network increases service in areas of high current and projected demand. High frequencies and numerous connecting routes are provided along the high-demand and high growth potential BRT corridors. 10-minute frequencies are available along busy Priority service corridors on Main, Plymouth, Packard, Eisenhower, Cross and Ellsworth. Higher levels of service are provided for areas with large projected increases in population and employment such as Northeast Ann Arbor and the Carpenter/Ellsworth area.

Matching service to demand helps makes transit service more cost-efficient, improves the overall quality of transit experienced by the average rider and is usually an effective means of growing transit ridership. Due to improved matching

[11] Proximity defined as within 0.7 miles of a 15-minute or better frequency route during peak periods

of service to demand, ridership per service hour is projected to increase from 21 in 2019 to 30 in 2045. Ridership is projected to grow by 150-165% and result in an increase in transit mode share from 5% in 2019 to 11% in 2045.[12]

[12] 2019 mode share is drawn from the 2019 American Community Survey for the Ann Arbor Metro Area

6. Other Service Features

Beyond significant changes to the service network, TheRide 2045 includes substantial investment in other service features, including off-peak services, paratransit, and on-demand service delivery.

6.1 Off-Peak Services

Off-peak schedules that include more frequent service and broader spans of service help people who rely on transit and increase the attractiveness of transit as a choice. Increased off-peak services meet a broader range of travel needs, enhancing the flexibility of transit with more travel options.

Off-peak service increases not only affect trips that occur within the off-peak hours but can also support ridership increases in peak services. Potential passengers with one trip beginning or ending in peak periods are attracted to transit as the off-peak services grow. This can include essential and lower wage workers, women, students, and seniors. Figure 25 shows the planned improvements to service span (the start and end of service on any given day) and minimum off-peak frequency for fixed route services.

Currently, the majority of TheRide routes operate at infrequent services levels (60-minute intervals or more) during weekday evening hours, and almost all routes operate at similar levels on weekends. To support increased usefulness of off-peak services for all area residents, and to support peak ridership growth, **TheRide2045 includes recommendations for more consistent spans of later services on Weekdays and Saturdays, as well as later service on Sundays. Minimum service levels of 30 minutes *at all times* will also make the service more convenient and attractive.**

	Service Span	Minimum Frequency
Weekday	6 AM-12 AM	30
Saturday	7 AM-12 AM	30
Sunday	8 AM-9 PM	30

Figure 24 - Off-peak service enhancements

6.2 Paratransit Service (A-Ride)

Paratransit services continue to be a top priority for TheRide, designed to meet the needs of an aging community. Population projections indicate that continued growth in the seniors population will continue through about 2030, then slow to about one percent annually. During this same period, however, the average age of a senior will continue to increase, with significant growth on the over-85 age cohort, who typically have lower travel rates, but increased accessibility needs.

The 2018 paratransit report (which examined potential ridership to 2030 came to similar conclusions) developed recommendations to meet the growth projections to ensure effective, efficient service for the community of people with disabilities. These were updated as part of TheRide 2045 plan, to recommend service increases in each stage of the plan. At the same time, as accessibility needs grow, and A-Ride services increase to meet those needs, it will be critical to ensure that service remains available to those that need it most. This means expanding the family of services approach to provide a wide range of services to meet a variety of needs. A family of services approach is one that tailors specific service delivery models and vehicles to specific user needs including integration of paratransit service and accessible fixed route service for riders with accessibility needs. The result of a family of services approach could be that riders with disabilities who are comfortable and able to ride accessible fixed route service may take trips that include multiple services, e.g., they book an A-Ride trip to a transit hub and then transfer onto fixed route for the remainder of their trip. The specific configuration of a family of services approach would recognize and accommodate for individual riders' needs.

Currently, services such as GoldRide, FlexRide, Late Night & Holiday service and others provide a range of services to meet the needs of passengers with different functional needs and different travel patterns. An expansion of the family of service approach would involve expanding the service options available to those with accessible needs, developing a better understanding of those needs for each respective customer and better integrating services.

Three focus areas for expanding service options are in making fixed route transit more accessible, providing same day accessible On-Demand service and expanding the fleet mix to better meet individual needs. By better understanding accessibility needs, TheRide can work with riders to identify how a mix of paratransit, fixed route and other services can meet their specific mobility needs. Enhanced accessibility across all services and integration of those services along with needs identification can lead to a better overall experience for some riders including a greater sense of independence and greater travel flexibility. Faster trips are also possible, particularly with the introduction of BRT and other high-speed services. This integrated service approach also has the potential to improve the efficiency of the paratransit and lead to more accessible booking and enhanced service quality. As fixed route services grow and expand the geographical coverage, A-Ride services will also be expanded to ensure coverage to new areas and the comparability of paratransit service.

TheRide 2045 recommends the expansion of on-demand services (as described below) as well as continued focus on the accessibility of the fixed route system to allow A-Ride to focus on the higher accessibility needs of eligible customers. Not only will this help ensure the availability of service, but increase the flexibility of travel for other passengers, with increased periods of service and potential for more spontaneous travel.

Over the life of TheRide 2045 plan, there is the potential to merge key elements of the paratransit service and a broader range of on-demand services, particularly in the trip booking and service scheduling areas, with more integrated technology and customer service. The focus of the A-Ride paratransit service, however, will always be to prioritize the needs of people with disabilities that limit their choices of other services.

TheRide 2045 also recommends the implementation of outstanding recommendations from the 2018 Paratransit study which include:

- Enhance scheduling and dispatch technology to improve effectiveness and cost-efficiency
- Expand service monitoring and develop service standards to allow effective monitoring of service performance and needs

6.3 On-demand Service Delivery

Current on-demand services such as FlexRide or Late Night & Holiday service are designed to fill gaps in service areas and service span for those with travel patterns cannot be cost-effectively met with fixed route services. These services provide a basic level of service that often included long wait times that can discourage their use and limit customers' mobility.

Expansion of these services should be done in a systematic and rationale way, within an overall framework of consistent fare structures, clear service delivery guidelines and monitoring, and a focus on organizational goals. This means developing service standards and guidelines that address the overall role of on-demand services, including

- supporting A-Ride's ability to meet paratransit requirements
- introducing service in new areas ahead of planned fixed route service
- fulfilling service requirements in low demand areas and time periods
- providing a range of flexible services to meet a variety of passenger needs

Recent developments in technology have allowed much more effective on-demand scheduling, while smartphone-based booking has increased the convenience and accessibility of these services. This means that the various services can be

integrated into a single on-demand framework with flexible service in different periods and areas that meet unique needs but maintain a level of consistency that strengthens TheRide's overall offering.

TheRIde 2045 recommends a tripling of on-demand service including an expansion to cover all of the member municipalities and to provide shorter wait times.

TheRide 2045 also recommends initiatives to support the expansion of on-demand services including:

- Updating service standards and guidelines to better guide on-demand services expansion recognizing technological developments, the increased attractiveness of these services in particular demographics, and the role of on-demand in supporting A-Ride
- Conducting an on-demand service study to assess alternative service delivery models in various service areas, within the proposed service framework
- Improving efficiency through enhanced technology and performance monitoring
- Exploring new markets including non-emergency medical transportation

7. Infrastructure

Infrastructure plays a critical role in supporting the expansion and improved efficiency of transit operations. Customer-facing infrastructure, such as transit centres and bus shelters similarly have huge impact on the customer experience and accessibility. This section takes a broad interpretation of infrastructure, including transit facilities, stops, terminals, fleet, technology, and some of the organizational changes required to support these plans.

7.1 Facilities

TheRide's numerous facilities serve a lot of different purposes. Some are strictly for transit operations, but most are for both transit operations and for riders. Therefore, an important aspect of facilities is that they need to be efficient for transit operations while also being customer-friendly and accessible for riders.

Figure 25 Photo of the Blake Transit Center

Transit Centres

Presently, all of TheRide's facilities are over-capacity and/or in need of significant upgrades. This includes the Blake Transit Center and the Ypsilanti Transit Center, which both need upgrades and expansions.

Upgrades to the BTC and YTC have been identified as high priority, near-term projects, with the YTC being the highest priority. The 2018 YTC Needs Assessment selected the locally preferred alternative at the current site. While these projects are being developed in the near future, they should be designed with the long-range plan in mind. More specifically, considering a near doubling of service hours by 2045, the transit centers must be designed to efficiently accommodate the increased service.

Transit Hubs

Another key component of TheRide 2045 is the **construction of four new transit hubs** at:

- State & Eisenhower area

- Jackson & Maple area
- Carpenter & Ellsworth area
- Nixon & Plymouth area

The new transit hubs will be important transfer points for riders and will provide additional customer amenities. As TheRide facilities, they will be intentionally designed to enable efficient and safe transit operations as well. This differs from some current transfer points that are more limited because they are not owned by TheRide.

The locations of the new transit hubs are strategically selected where multiple routes meet and intersect. This will provide greater connectivity and will also be a more comfortable transfer and waiting location for passengers. Additionally, transit hubs will be designed to have good pedestrian access and have space allocated for active transportation modes and first and last mile solutions. That means that people will be able to ride their bike to a hub and park it there, or pick-up or drop-off an e-scooter in a designated space near the hub. In terms of the customer experience, the hub will provide comfortable waiting spaces that are sheltered from the elements as well as real-time information on screens, good wayfinding, vending machines, and access to technologies like Ticket Vending Machines (TVMs). Having staff on-hand to help riders could be another customer service aspect of these transit hubs.

Figure 26 Example of a transit hub

Bus Stops

An ongoing challenge related to facilities is that some facilities are not owned by TheRide and therefore TheRide has limited control over them. The biggest problem is related to bus stops and the surrounding areas. Feedback from riders

highlighted that some bus stops don't have a shelter, are sometimes not cleared in the winter, or are disconnected from the sidewalk network and therefore difficult to get to safely. All these concerns have a huge impact on customer experience, customer safety, and system accessibility. While TheRide does not have direct control over these spaces, TheRide can engage with the municipalities and work together to make these stops more accessible and rider-friendly. **As part of this long-range plan, it is recommended that TheRide develops a bus stop guideline that outlines the elements of adequate stops, such as sidewalk connectivity, lighting, clearing in winter, signage, shelters, and requirements under the Americans with Disabilities Act (ADA).** The public guideline can be used in discussions with municipalities and to engage residents on this issue.

Figure 27 Examples of bus stop guidelines

New Garage

To support the increased service and alleviate the current over-capacity garage, a new bus garage will be required. Similar to the BTC and YTC which are presently in need of upgrades, the design of a new garage is a near-term project but should consider the implications of the increased service proposed within the long-range plan.

The current garage was already identified as operating over-capacity in an Operational Facilities Needs Study completed in 2017. Particular limitations the study highlighted were an at capacity vehicle maintenance area, insufficient parking for both the fleet and employees, insufficient work and conference space for administration and operators, and lack of maintenance equipment storage space. These challenges not only limit what TheRide can achieve presently, it prohibits opportunities for growth and expansion that is included in this plan for the next 25 years.

Therefore, a new garage is critical for enabling the recommendations of this plan, especially as it relates to service expansion. The new garage is anticipated to increase capacity for the fleet by 100 buses. It will also be critical in supporting the transition to zero-emission vehicles with respect to different charging/refueling and maintenance requirements. The location of the new garage has not yet been decided but some options include locating it close to the

existing garage or at a further distance. There are potential benefits of both alternatives, such as efficiencies from having all resources under one roof or being able to cover a larger geographical area more efficiently.

Designing for Customer Experience and Accessibility

Figure 28 Wheelchair accessibility is critical for all the fleet and facilities

With an anticipated ridership increase of 150-165%, it is critical that the customer experience is a central design feature for the transit center upgrades and the new transit hubs. Centering the customer experience includes enhancing accessibility at every level and establishing excellent wayfinding. Accessibility should be considered in the physical infrastructure design on-board vehicles and within transit centers, as well as in information systems, technology, and wayfinding. New riders and riders with disabilities in particular may need clear and accessible ways to learn about the transit system, plan their trips, book and pay for their trip, and then take their trip, which may also include transferring safely.

Another element of improving TheRide's accessibility is better integration of all services, including paratransit A-Ride, fixed route, and other demand-responsive services (GoldRide, FlexRide, MyRide, etc.). Paratransit and fixed route services in particular will be moving towards a Family of Services approach wherein riders with disabilities and mobility needs may be using a combination of accessible services to meet their travel needs. The new transit hubs and the BTC and YTC will play a critical role as transfer points to enable better integration of services. To accomplish this integration, riders need to feel comfortable and confident transferring between different services. The transfer points, wayfinding, and information systems should all be designed with that goal in mind.

In addition to enabling more efficient transit operations, transit facilities can also have important impacts on the community they're situated in. This is especially true when transit hubs are designed to incorporate mixed-use real estate, such as housing and commercial spaces. Developing new transit hubs or upgrading existing transit centers to include housing and commercial spaces can attract investment into the space and may also result in additional sources of revenue for TheRide. Mixed-use development at terminals can change neighborhoods and can result in increased transit mode share by increasing both population density and the number of destinations at and near the terminal. People are more likely to take transit if it is convenient and in near proximity to their key destinations, including home, work, shopping, and other services. In this way, mixed-use real estate at terminals can better match demand to service and improve the first-last mile for people who live, work, and shop in the area. By contributing to a more vibrant community space and attracting retail and other destinations, this can greatly improve riders' waiting experience. A more livable, walkable, and transit-friendly neighborhood can also have significant environmental benefits, including avoided car trips and better air quality.

7.2 Fleet

By 2038, 100% of TheRide's vehicles are expected to be zero-emission vehicles. Achieving this target will have significant environmental benefits including reducing greenhouse gas emissions and improving local air quality. A concurrent study at TheRide is evaluating different propulsion alternatives to recommend a specific type of zero-emission vehicle. Once the propulsion study is completed, there will need to be a significant planning effort for achieving 100% zero-emission vehicles. Different types of vehicles will have different implications for service planning, particularly around range and charging schedules. The type of charging or refueling infrastructure required will also have implications for TheRide's facilities and workforce. A thorough training program and staff engagement process will ensure that operators and maintenance staff are equipped to work on the new vehicles.

Figure 29 A zero-emissions bus charging by pantograph (photo by Steve Morgan)

Another strategy for improving overall system efficiency is fleet diversification. Fleet diversification means purchasing and utilizing a more diverse fleet of vehicles to best match the vehicle to different services and different routes. For example, articulated buses can accommodate more passengers and are therefore well-suited to busy routes and for Bus Rapid Transit. On the other hand, cars and vans may be more suitable for on-demand services. TheRide can expect to realize cost savings as a result of efficiently using the right vehicle for the right service, while maintaining accessibility of all vehicles. An implementation challenge with diversifying the fleet is that TheRide must adjust its business processes accordingly. Planning and scheduling staff need to account for the diverse fleet in the service and schedule development, while operators and maintenance staff need to familiarize themselves with more vehicle types.

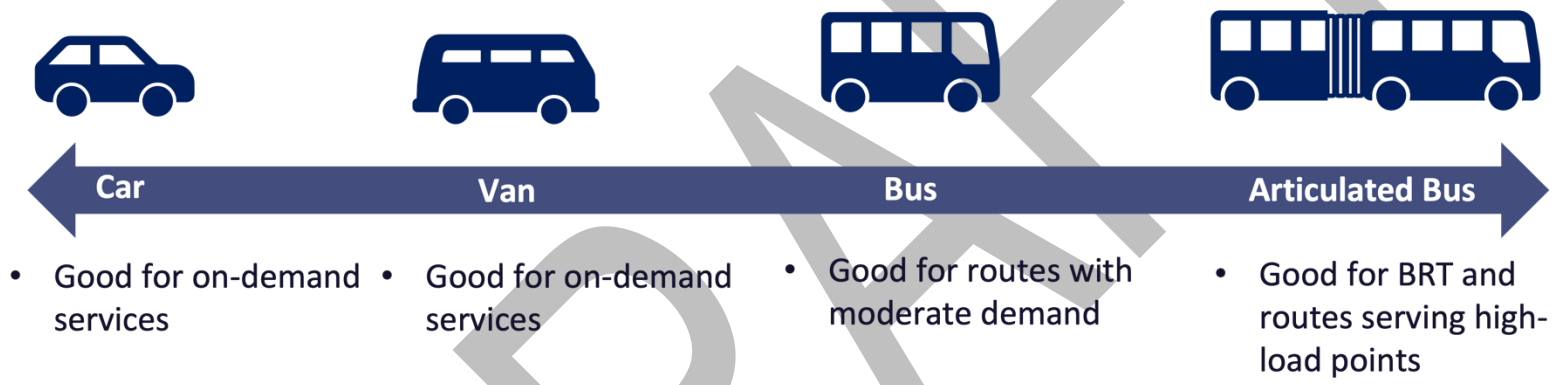

Figure 30 The spectrum of potential vehicles TheRide might use for different services

7.3 Technology

Improvements and innovation in technology are changing what transit looks like today and creating new opportunities for what it might look like in the future. While some current trends are anticipated to continue into the next 25 years, TheRide must also stay nimble and flexible to adjust to future technological improvements. Looking at a long-term horizon, it is difficult to predict the specific technologies that should be implemented. Therefore, dedicated funding has been allocated for three categories of technologies that will be important in the next 25 years:

- Operations and operational efficiency

- Customer experience
- First and last mile solutions and integrations

This plan recommends expanding investment in technology and leveraging the mass amounts of data to enhance performance monitoring. The anticipated technology, along with the transformational nature of this long-range plan overall, will require increased workforce capacity to successfully plan, integrate, and implement these projects. New technologies will only successfully realize benefits for riders and for TheRide if the right resources are allocated to their implementation.

Figure 31 An interactive trip planner kiosk (photo by Northwest)

Some areas that are anticipated to have a technological solution include:

- **Fare collection:** Riders have come to expect a modern and efficient fare collection system. This includes technological solutions like a smart card system and mobile ticketing. As TheRide looks to enable expansion of regional transit services and better integrate mobility services, fare payment integration will become increasingly important. This could include fare integration with the WAVE/People's Express or first and last mile solutions. Integration with the RTA will build off the 2019 regional fare integration study.
- **Trip planning:** Especially in the context of the long-range plan, which is introducing new services and changing other services, it is critical that all customers have access to modern trip planning tools. These tools should aim for seamless trip planning capabilities across services and other transportation modes. They must be intuitive for new riders as well as accessible for riders with disabilities.

- **First and last mile solutions:** Riders and potential riders whose home or destination is a little too far from transit are often unlikely to take transit. First and last mile solutions can encourage these riders and potential riders by making transit more accessible to them. While the specific solution may differ depending on the context of the neighborhood, potential solutions include technologies like e-scooters and trip booking integrations with Transportation Network Companies (TNCs). More detail on first and last mile solutions and strategy is found in section 8.2 on collaborations.
- **Customer experience and accessibility:** Another trend in transit technology is technologies aimed at improving customer comfort, experience, and accessibility. Examples include public wi-fi, infotainment, charging ports at terminals and on buses, interactive wayfinding, and accessibility beacons for riders with disabilities.

Related to implementing modern fare collection systems is to continue to implement the recommendation from the comprehensive 2018 fare study. Key recommendations from that fare study include:

- Establish a fare policy
- Establish indicator that initiates fare increase
- Implement fare capping
- Expand third-party business pass program and develop pricing methodology
- Establish consistent discounts on services using current discount rates

7.4 Workforce

To effectively achieve this plan, targeted enhancements to workforce capacity are needed. Most workforce enhancements are tied to service hour increases. This includes operators, dispatchers, supervisors, and mechanics. However, this plan recommends infrastructure enhancements, strategies, and actions that go beyond what is tied to current service hour levels. This will require additional capacity in all parts of the organization including Operations, Facility Services, Fleet

Services, Community Relations, Human Resources, Finance and Procurement, Information Technology, Planning and Innovation, and Administration.

8. Regional Transit Network

The Ann Arbor-Ypsilanti area is a growing job center that attracts talent from across the region. It also has limited parking and congestion challenges. To facilitate the areas role as a regional hub and to effectively address its transportation challenges, TheRide must operate and work effectively within a well-designed regional transportation network. The particulars of regional connections depend on partnerships and outside funding, particularly with the Regional Transit Authority of Southeast Michigan (RTA). Figure 33 displays regional transit elements recommended by TheRide:

The regional vision is characterized by five goals.

1. Provide a connection between the Ypsilanti area to Western Wayne County

This connection was a commonly expressed desire during public engagement, particularly amongst current transit users in the Ypsilanti area. TheRide will work towards connecting the Ypsilanti area with both the SMART system and to Canton Township.

2. Add a Ypsilanti connection to both the Airport and Detroit

This service could either be designed to integrate with the current D2A2 and AirRide services or be provided as a separate service.

3. Develop an Express / Park and Ride system

An Express / Park and Ride network is sought to effectively capture regional commuters into and out of the Ann-Arbor-Ypsilanti area and align with the City of Ann Arbor Comprehensive Transportation Plan. Park and Ride lots would be developed at locations adjacent to regional travel corridors and with higher local demand. Express bus service would be provided between the lots and major trip generators within the Ann Arbor-Ypsilanti Area.

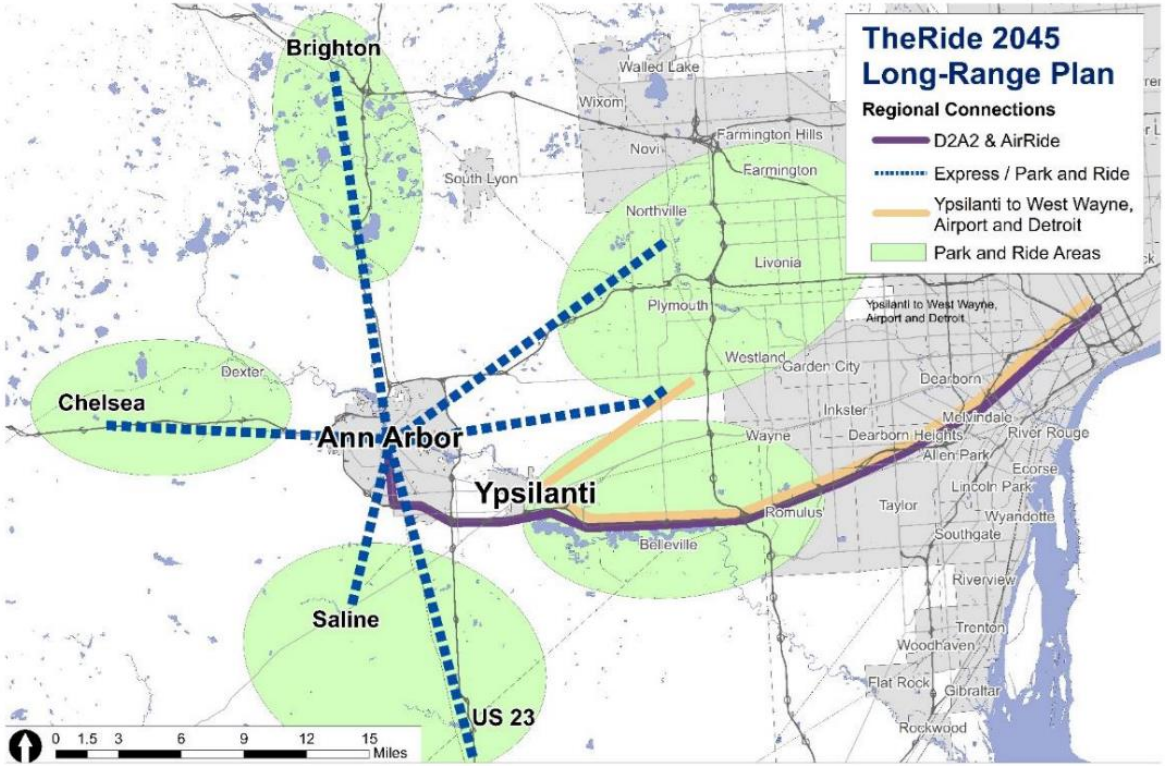

Figure 33 TheRide recommended regional connections in 2045

- Collaborate with the Michigan Department of Transportation, the RTA and other transit agencies in the State to allow bus operations on shoulder lanes and High-Occupancy Vehicle (HOV) lanes.

Shoulder lane operations on limited access highways would be an important element in enhancing the competitiveness of and the business case for a regional transit service. Transit use could be used in conjunction with a HOV lane. The I-94 between State St. and Huron St. is a priority implementation area that would benefit the existing D2A2 and AirRide services and the proposed I-94 Express.

4. Engage with Non-AAATA Member Municipalities in Washtenaw County on the future of contracted services

TheRide serves a broad service area, but only the cities of Ann Arbor, Ypsilanti, and Ypsilanti Township are current members of the AAATA. The other townships are serviced under a purchase of service agreement. Membership enables TheRide to plan more effectively. To enable sustainable growth of TheRide's services, discussions should be conducted with interested non-AAATA member municipalities in Washtenaw Country on the future of transit provision and contractual arrangements.

TheRide will work with these municipalities to identify local needs and by doing technical analysis and public engagement to make recommendations based on local needs and the financial commitment desired.

Several areas have been identified that would have good transit ridership potential and serve trips for people or jobs in the member municipalities. These include the Domino Farms / East Medical Campus area, the West Ann Arbor Health Center area, northeast of the Carpenter/W Michigan area, and north and east of the Harris and MacArthur area,.

9. Advocacy & Partnerships

TheRide's success depends on many factors outside the agency's direct control and on numerous entities and individuals. Various municipalities, the Michigan Department of Transportation and Washtenaw County control the roads that buses operate on and where stops are situated. Before boarding a bus or upon leaving a bus, a customer must travel to/from their ultimate origin or destination via pedestrian networks developed and maintained by municipalities. Municipal policy influences transit demand through elements such as land use planning and parking policy. Other mobility providers, such as the University of Michigan, influence the use of TheRide either as a complement for it or in competition with it. All of these elements will influence the quality of a customer's experience and TheRide's goals. This plan strives to expand and better focus partnerships and advocacy. The focus of expanded partnerships and advocacy is in four areas: transit

friendly municipal policy, first and last mile solutions, transit-supportive and transit adjacent groups and the University of Michigan. In addition to the recommendations outlined below, TheRide will conduct a comprehensive review of advocacy and partnership opportunities to guide future work.

Transit friendly municipal policy

Municipal policy has a significant influence on transit success in the Ann Arbor-Ypsilanti area. While not directly under the control of TheRide, dedicating resources to advocate and educate on transit-friendly municipal policy is an effective means to achieving organizational goals. TheRide should be advocating for municipal policies that encourage more transit use and improve the customer experience.

An important area for improvement is in the first and last mile experience, particularly for pedestrians. New development in the Ann Arbor- Ypsilanti area is often characterized by transportation networks and land use planning that provide limited active transportation connectivity to transit efficient arterial roadways. TheRide should advocate for supportive transportation network connectivity including ensuring new development is easily accessible by foot to an efficient transit corridor and that safe infrastructure and crossing are in place. To aid in advocacy and to improve general knowledge, TheRide will identify pedestrian connection enhancement priorities, develop guidelines for transit-friendly land use and street design and identify existing and transit-supportive roadways for future potential services areas.

To improve first and last mile comfort and safety, TheRide should encourage municipalities to pursue transit friendly traffic calming. At bus stops, TheRide will aim to work with municipalities to ensure high levels of accessibility, comfort, and safety. This includes ensuring that all stops are 100% accessible. To maximize the stop experience and generally improve the public realm, TheRide will advocate to direct urban development spending towards bus stops and adjacent infrastructure.

Transit-supportive and transit adjacent groups

Collaborating with transit advocates is often an effective means to help advance transit-supportive policy and projects. Within the broader public, there are individuals and organizations who are passionate about transit. TheRide recognizes that their passion can be harnessed to make transit better and transit projects more successful. TheRide will continue in their public engagement and expand it to ensure that there are regular and meaningful opportunities for transit advocates to get involved, learn more and provide insight. Positive and vocal support from the public can positively impact transit implementation.

TheRide shares goals with many community organizations. This can include those working for healthier and more equitable and economically and environmentally sustainable communities. Organizations with shared goals will be assessed as well as potential synergies with them. Collaborations with these groups will be pursued.

First and last mile solutions

In addition, to walking and biking, an increasing array of first and last mile solutions harnessing new technologies are being developed that can help to improve transit access. Certain types of services (e.g., on-demand service or bike/scooter share) can also be designed to feed into high-frequency and high-capacity routes to provide transit access to low demand or hard to reach areas.

These services can be operated by an array of organizations, including increasingly, private companies. At times, these new services can compete with transit to the detriment of the overall transportation network. TheRide should look to partner on first and last mile solutions to ensure an efficient and high-quality public transportation system that enhances the first and last mile experience. To effectively direct these partnerships, TheRide will study appropriate first and last mile solutions relative to the local transit context throughout the service area.

University of Michigan

The University of Michigan Campus Transit is a tremendous benefit to the Ann Arbor-Ypsilanti community and to TheRide itself. The service is extensive, high quality and serves the general community for free. There is, however, opportunity to mutually benefit both services through increase service collaboration as there is significant system overlap and potential redundancies. Large increases in population and employment are projected on or near University of Michigan campuses and the University will continue to act as dominant travel node in the area. Ensuring efficient planning to accommodate changing and growing demand will be important. TheRide will pursue further service collaboration with the University of Michigan to provide the best possible transit system for the Ann Arbor-Ypsilanti area and University of Michigan students and staff.

10. Implementation

2023-2028

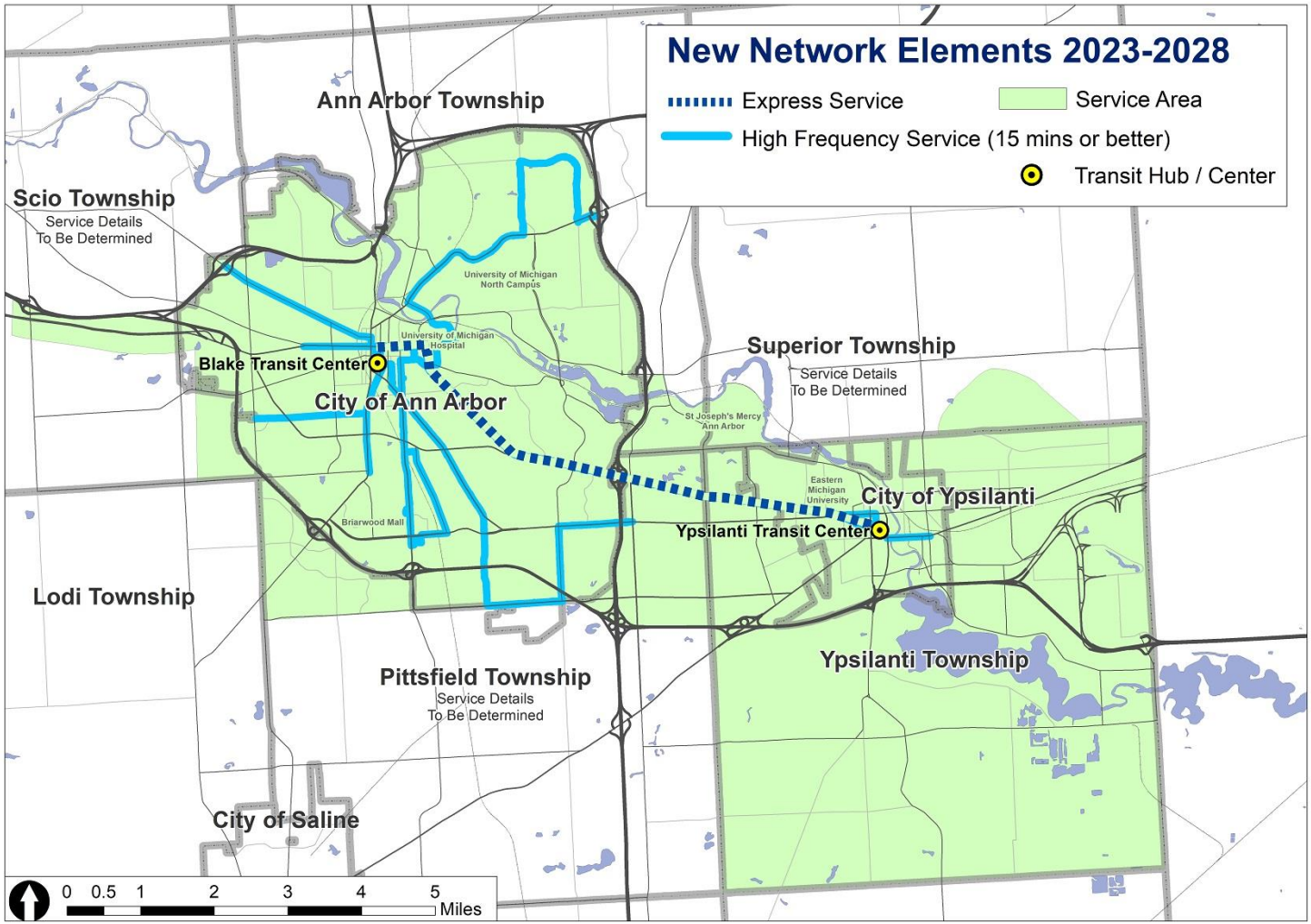

Figure 34 New Network Elements 2023-2028

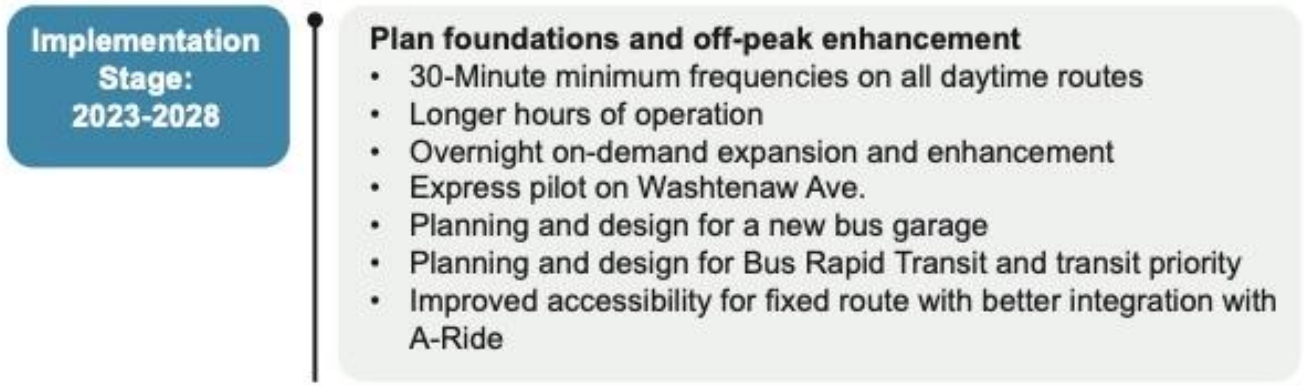

Figure 35 Implementation stage elements - 2023-2028

Between the years 2023 to 2028, our focus will be to lay the groundwork for future states while investing in service improvements that require less infrastructure to increase equity and grow ridership. This includes extending our hours of service, introducing a minimum 30-minute frequency on all routes during the daytime including weekends, and a pilot express route on Washtenaw Ave. This express pilot service will provide enhanced service along the corridor to build ridership in preparation for the BRT for the following stage. We will upgrade the Ypsilanti Transit Center and expand the Blake Transit Center and start the design work for the new garage which will let us grow the bus fleet in later stages to support increased services. The BRT and transit priority planning studies which will be conducted during this phase are crucial to grant applications needed to support the funding of such construction.

Overall, this stage of the plan focuses on confirming alignment, looking at land requirements, community integration and implementing quick wins. These quick wins include incremental infrastructure enhancements that will be done of the Washtenaw BRT corridor based on ease of implementation. This includes super stops, Transit Signal Priority and potentially a pilot on dedicated bus lanes on small stretches of the network, such as 4th and 5th Ave. connecting to the terminal or Huron St.

Other projects that will take place include enhancing the family of services for those with accessibility issues. This will involve enhancing fixed route accessibility including at stops and through improved travel training. Work will be conducted to better integrate A-ride with fixed route service. Integration might also take place through the development of a single On-Demand services app. A service review will be conducted for all On-Demand service with an aim to match services most effectively with differing needs of customer areas.

2029- 2033

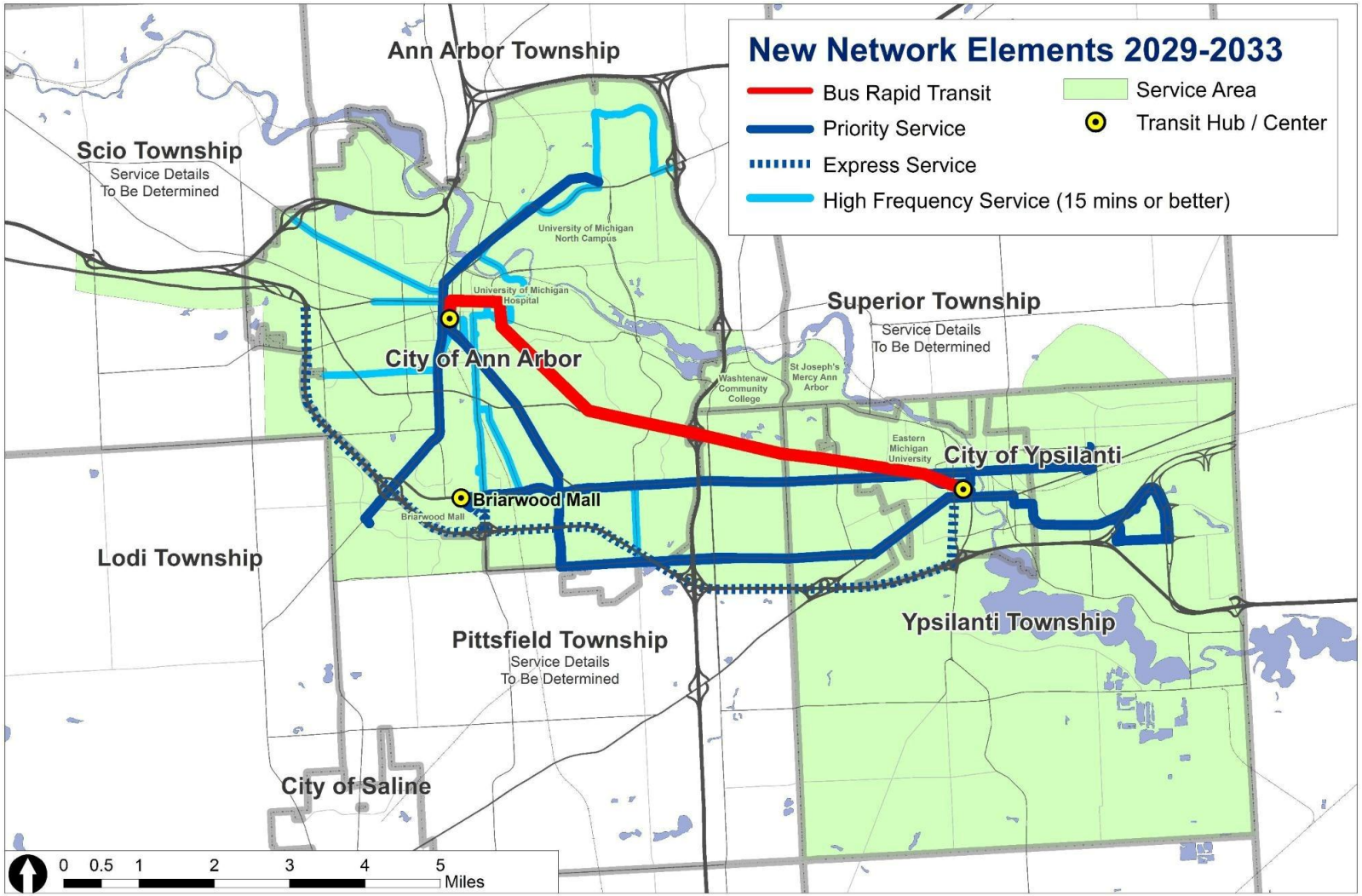

Figure 36 New Network Elements 2029-2033

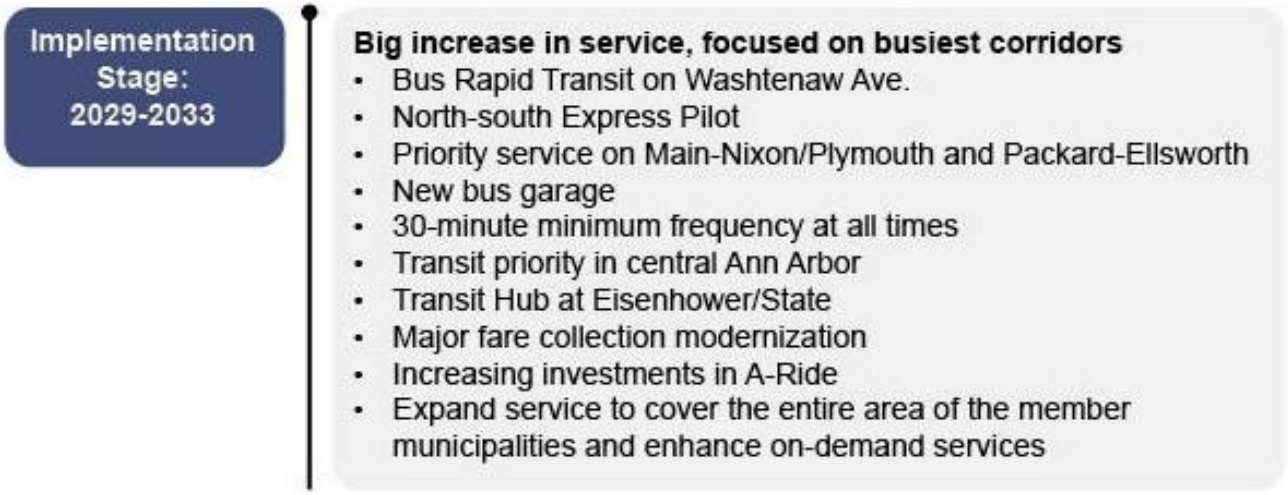

Figure 37 Implementation stage elements - 2029-2033

The second phase of implementation takes place from 2029 to 2033. Starting in 2029, the second phase of the plan includes significant increases in service with an expanded bus fleet. This includes increased service in both peak and off-peak service. The express service launched in stage 1 on Washtenaw Avenue will be upgraded to a Bus Rapid Transit service with better stops, queue jump lanes and transit priority features along the route. BRT implementation is important at this stage to capture unique time sensitive funding opportunities from the Federal government and to enable preceding network changes. The efficiencies BRT creates enables network restructuring and significantly improves efficiencies, which eases proceeding enhancements. The Washtenaw BRT was identified as the priority corridor during public engagement and in modelling, providing widespread benefits. An express route on the North-south corridor from Eisenhower/State to the Plymouth Road Park and Ride will also be introduced with the intent to start building momentum for the North-south BRT. Additionally, priority services will be introduced on the Main/Plymouth, and Packard/Ellsworth corridors. At this stage 30-minute minimum frequencies will be set at all times of the day and 7 days a week. During this phase, we will continue to invest in A-Ride to improve service delivery for people with disabilities. Finally, this phase includes construction of the first transit hub, the modernization of the fare collection system and both expands and improves FlexRide.

2034-2038

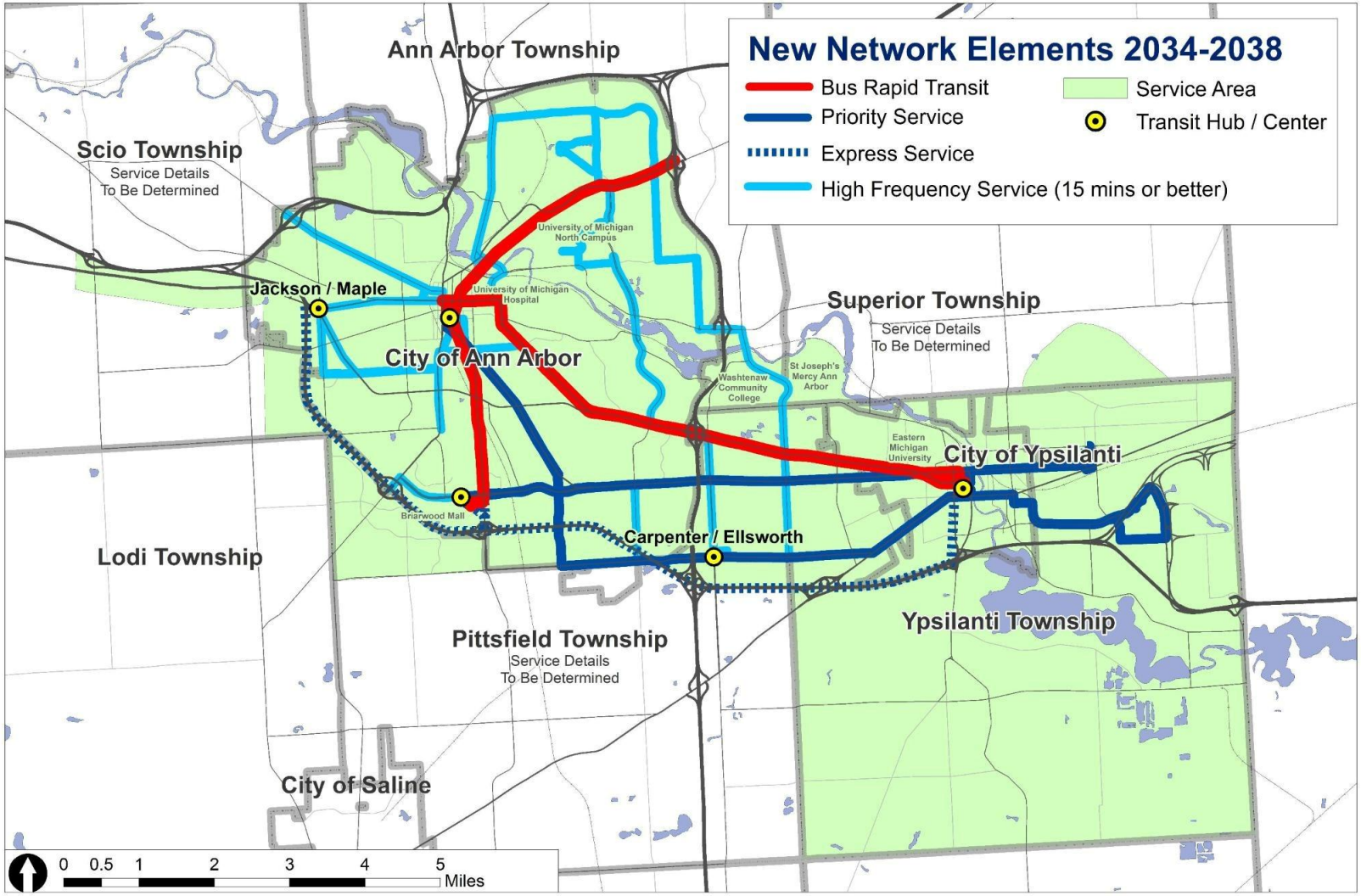

Figure 38 New Network Elements 2034-2038

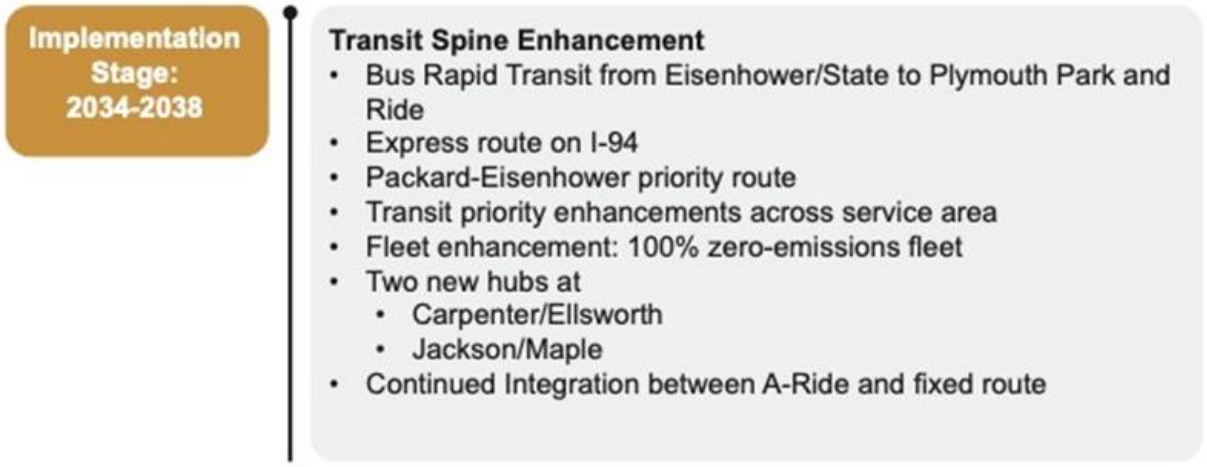

Figure 39 Implementation stage elements - 2034-2038

In the third phase of implementation, improvements will be made to the backbone of the network. This includes upgrading the north-south express route from Eisenhower/State to Plymouth Park and Ride to a Bus Rapid Transit service. The plan also includes the launch of a new express route on I-94 and a priority route on Packard-Eisenhower. These upgrades will be coupled with transit priority enhancements across the service area. In this stage, two new transit hubs are planned for Carpenter/Ellsworth and Jackson/Maple. To help feed these higher order services and the plan adds high-frequency routes. Finally, the plan for this phase includes investments in integrating A-Ride and the fixed route network, to provide seamless, accessible options for everyone and a non-emergency medical transportation study.

2039-2045

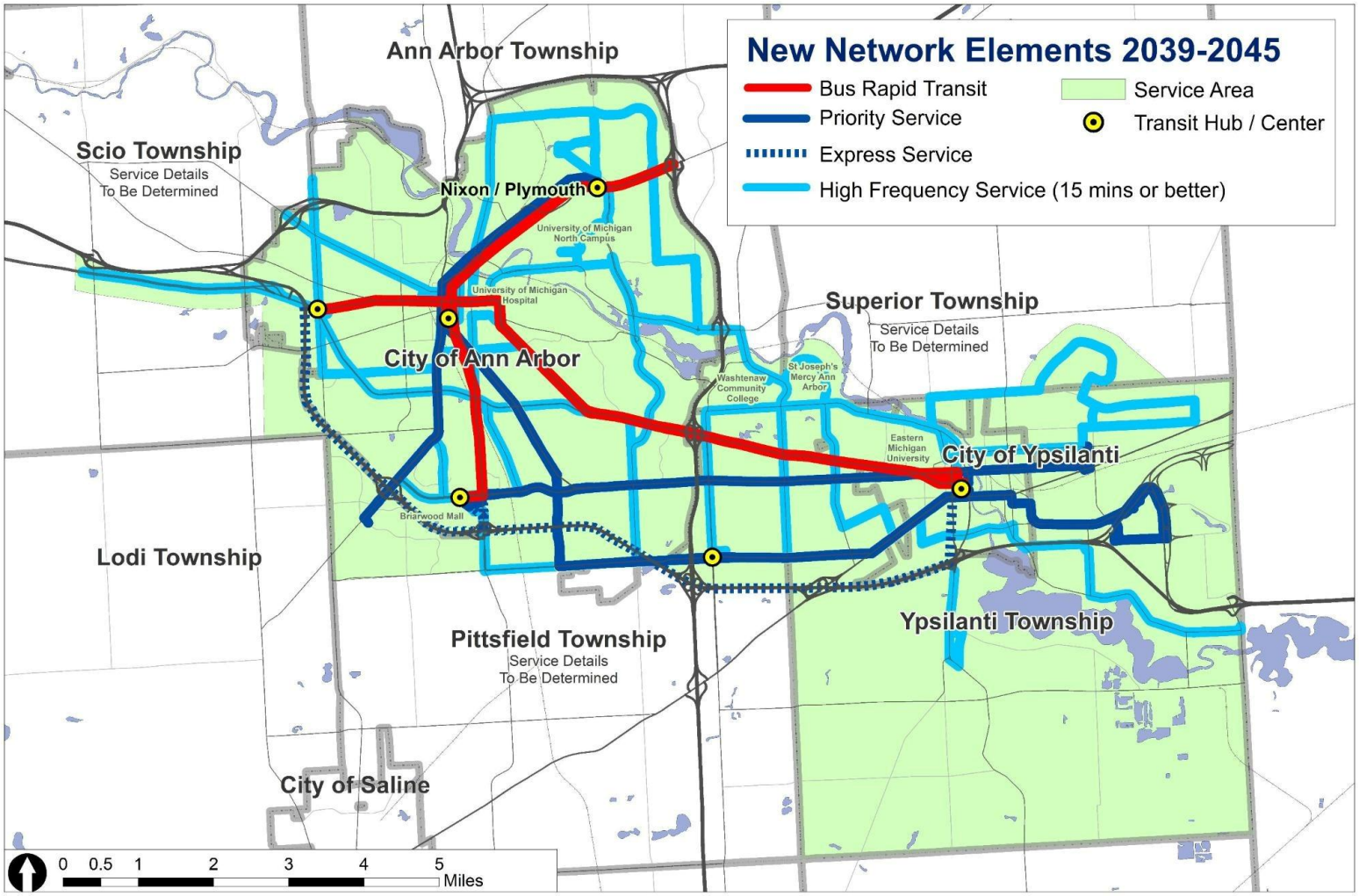

Figure 40 New Network Elements 2039-2045

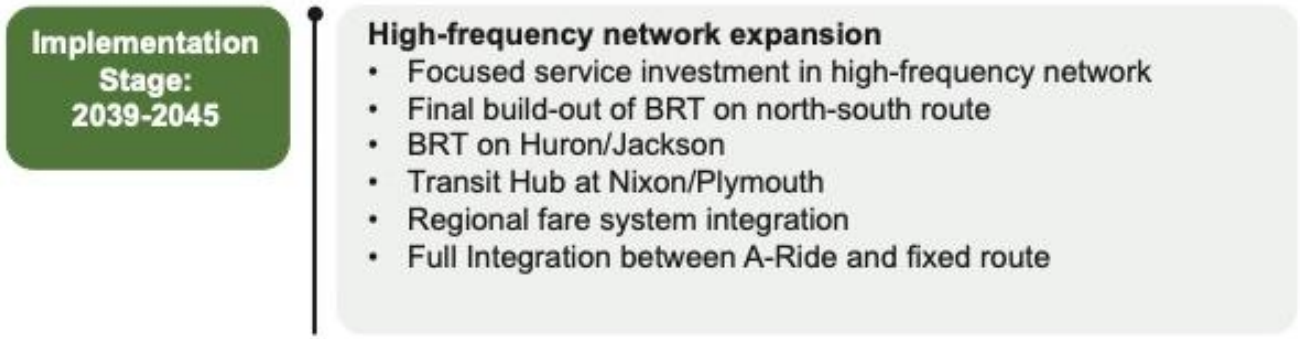

Figure 41 Implementation stage elements - 2039-2045

In the last phase of implementation, the backbone of the network will be upgraded and expanded. Here, the full Bus Rapid Transit network will be completed, as will be the high-frequency network. During this phase new transit hubs will be built at Nixon/Plymouth. Additionally, we expect to have regional fare payment system integration in place to facilitate regional travel.

Beyond 2045

TheRide will continue build and enhance the area's transit system beyond 2045. Numerous aspirational transit features were not included as part of this plan due their lower likelihood of implementation in the next 25 years and the importance of focusing attention in this plan to maximize its efficacy.

For implementation beyond 2045, TheRide will keep monitoring for consideration several elements that are of interest to the Ann Arbor-Ypsilanti community and have the potential to further improve the area's transit. These include elements like automated vehicles, which could prove particularly beneficial on BRT corridors. Rail corridors will continue to be potential long-term options. Municipalities have in the past, built out BRT, developed significant corridor ridership before transition to rail. Alternative funding sources, congestion pricing and regional structure are three other potential transformational items that might have improved likelihood of implementation and transition in the time beyond this plan scope.

10.1 Implementation and Performance monitoring

TheRide already has a formal process for monitoring its progress against the approved Ends Policy, including access equity, environmental impact, economic development, customer satisfaction and public perception. A number of detailed measures contribute to this evaluation, explained in more detail in Section 3.

In addition to this existing monitoring and reporting framework, it will be important for TheRide to monitor the progress in achieving elements of TheRide2045 plan. This process should be closely linked to the key considerations outlined in the plan guidance report, including

- Being an attractive transportation option
- Being a fully integrated mobility provider
- Organizational stability
- Transit infrastructure integration
- Regional connections
- Contributing to affordable and equitable communities
- Efficient service provision.

Each of these considerations was incorporated into the design of service and program alternatives and their evaluation. As the agency proceeds with TheRide 2045 plan, it will be important to monitor both the implementation progress as well as to evaluate the performance of the various service recommendations against their planned performance.

Implementation Monitoring

TheRide2045 includes recommendations for several service initiatives which will change or add to the existing service delivery. These include expanded span of service, increased frequency on existing and re-aligned routes, new route alignments and service delivery plans.

Annually, TheRide should review the progress made in implementing specific elements of the plan to evaluate the status of progress and understand the reasons for and implications of significant deviations from the plan. This review process

should inform not only mid-course adjustments as required but also contribute to the comprehensive review of the long-range plan every five years.

Performance Monitoring

Performance of new service initiatives should be monitored to ensure their cost-effectiveness and the ability to contribute to the broader service objectives within TheRide's Ends Policy. This includes ensuring that the current data collection and reporting procedures provide a consistent framework for evaluation performance of TheRide 2045's service initiatives.

Frequent

Key operational data should be (and currently is) collected on a regular basis to ensure the effective operation of the service, including ridership counts and vehicle location data. These data can be used to evaluate the performance change of new service initiatives on existing routes resulting from route re-alignments, service increases, changes in span of service and new services. New service standards will be developed to guide this evaluation including the development of standards around diverse services such as On-Demand, BRT and Priority routes. These data can also contribute to the longer-term performance measures. Regular data collection and reporting should include:

- Ridership (by route and period)
- Boardings per Rev Vehicle Hour (by route and period)
- Vehicle location and on-time performance

These data are already collected as part of the regular operational procedures and used to monitor transit operations to ensure cost-effective operation and customer satisfaction.

Annual

Annual review and assessments of performance are important for keeping each of the stages of the long-range plan on track and informing five-year reviews of the plan. Annual service adjustments based on these assessments can ensure cost-effective operation, adherence to End Policy and consistent progress in each stage of the plan. Deviations from planned progress for new service initiatives should be evaluated to assess root causes (operational, demographic, economic etc) and to adjust the Plan within each stage. Changes to initiatives because of this process are brought forward to the five-year review process.

- Ridership per Capita

- Trip Duration (vs private automobile)
- Cost per rider

Periodic

Land use and demographic factors will change slowly over time once a service change is implemented. These measures should be monitored less frequently and provide input to reviews of the plan. Several of these factors were used to evaluate the selection of service options and should be monitored periodically to check performance and re-evaluate priorities. These include:

- Transit mode share
- percent of residences and jobs within .25 miles of bus stop
- percent of low income and minority racial groups within .7 miles of high-frequency transit (vs total population)
- percent of residents and jobs within .7 miles of high-frequency transit

For services in new areas, or in areas and time periods with new service delivery formants (such as on-demand), it will be important to provide sufficient time for the service to develop, attract ridership and reach maturity. A minimum of one year, and in some cases two years should be allowed to establish the performance of new services. During this time performance targets should be adopted on a sliding scale leading towards the final target. This will provide the agency with information to evaluate the service against reasonable expectations and provide an opportunity to adjust services to correct significant performance issues.

- First quarter: 25% of the minimum performance target
- Second quarter: 50% of the minimum performance target
- Third quarter: 75% of the minimum performance target

In each quarter of the implementation period, services should reach at least 75 percent of the minimum target and be showing evidence of improvement. Without this performance, the service should be re-evaluated and adjusted to improve performance.

11. Financial plan

Central to the success of TheRide 2045 is financial management. TheRide must purse new funding opportunities, carefully maximize local, state and federal funds, and be careful not to overcommit or under-invest. Having a long-term plan that helps sequence and contextualize individual decisions is crucial. Figure 42 outlines planned operating and capital costs at each implementation stage and categorizes expenses are either Operating or Capital costs. Operating costs are expenditures incurred daily, like employee wages, fuel, and bus maintenance. These costs are presently funded through local property taxes with some support from passenger fares, state and federal grants, and advertising revenue. Capital costs are durable assets such as vehicles, buildings, and infrastructure.

	2023-2028	2029-2033	2034-2038	2039-2045
Annual Operating Cost*	$63 M	$73 M	$82 M	$90 M
Increase in operating cost (from previous)	13%	16%	12%	10%
Capital Cost	$123 M	$233 M	$129 M	$174 M

Figure 42. Operating and capital budget. Note all figures are in 2021 dollars

11.1 Operating Budget

The operating budget is divided into four-line items. All current operating costs are tied to service hours provided by either fixed route or other services. This includes operator wages, vehicle and facility maintenance, fuel and administration. These costs are assumed to rise in line with a rise in service hours for the respective service. Additional other operating expenses capture operating costs that are expected to increase beyond the rise in service hours. This includes costs associated with expanding facility and technology infrastructure and additional staffing capacity required to implement elements of this plan more efficiently. Operating costs are shown in Figure 43.

Figures are listed in (000,000s)	2023-2028	2029-2033	2034-2038	2039-2045
Fixed-route service	$45 M	$52 M	$59 M	$66 M
Demand response service	$11 M	$12 M	$13 M	$13 M
Other services	$6 M	$6 M	$6 M	$6 M
Additional operating expenses	$1 M	$3 M	$4 M	$5 M

Figure 43. Operating budget. Note all figures are in 2021 dollars

Funding

Funding for operating costs is mostly sourced through local property taxes with some support from passenger fares, state and federal grants, and advertising revenue. In 2022, local property taxes are expected to make up 35% percent of total operating costs. Without expanded revenue streams, this is expected to increase to 45-55%. This is mostly due to federal funding being redirected towards capital projects of the plan. Due to projected increases to ridership and efficiency, fares are expected to cover a greater proportion of costs, rising from 9% currently, to 16% in 2045. Under this funding structure, the millage rate (local property tax rate) would rise by 1.7 for the first phase of implementation before seeing more gradual increases of between 0.3-0.5 for the final subsequent three phases.

The significant millage rate rise in the first phase is partially attributable to addressing a structural deficit and to account for rising inflation for costs that is significantly outpacing funding sources.

Figures are listed in (000,000s)	2023-2028	2029-2033	2034-2038	2039-2045
Fares	$5 M	$8 M	$11 M	$13 M
State and Federal	$23 M	$26 M	$29 M	$31 M
Other revenue (Purchase of service agreements and advertising)	$2 M	$2 M	$2 M	$3 M
Local Property Tax	$33 M	$37 M	$40 M	$43 M

Figure 44. Operating funding. Note all figures are in 2021 dollars

While this plan makes contingencies for the continuation of this funding structure, it is recommended that other funding sources be pursued to reduce the proportion of funding derived from local property tax. Most states have more diverse and sustainable means of raising funds for public services as compared to Michigan. Section 10.3 provides additional information on potential alternative funding sources.

11.2 Capital Budget

The total capital expenditures over the duration of this plan (2023 to 2045) are estimated at $658 million. These expenses include the following:

- Purchase of additional 40′ buses
- New articulated buses
- Cutaways and accessible vans
- Support vehicles
- Construction of a new garage
- Bus rapid transit (BRT) lines
- Transit priority measures

- New technologies for fare collection, customer experience, first and last solutions, and operations
- State of good repair including vehicle replacement, facility maintenance, and technology replacement

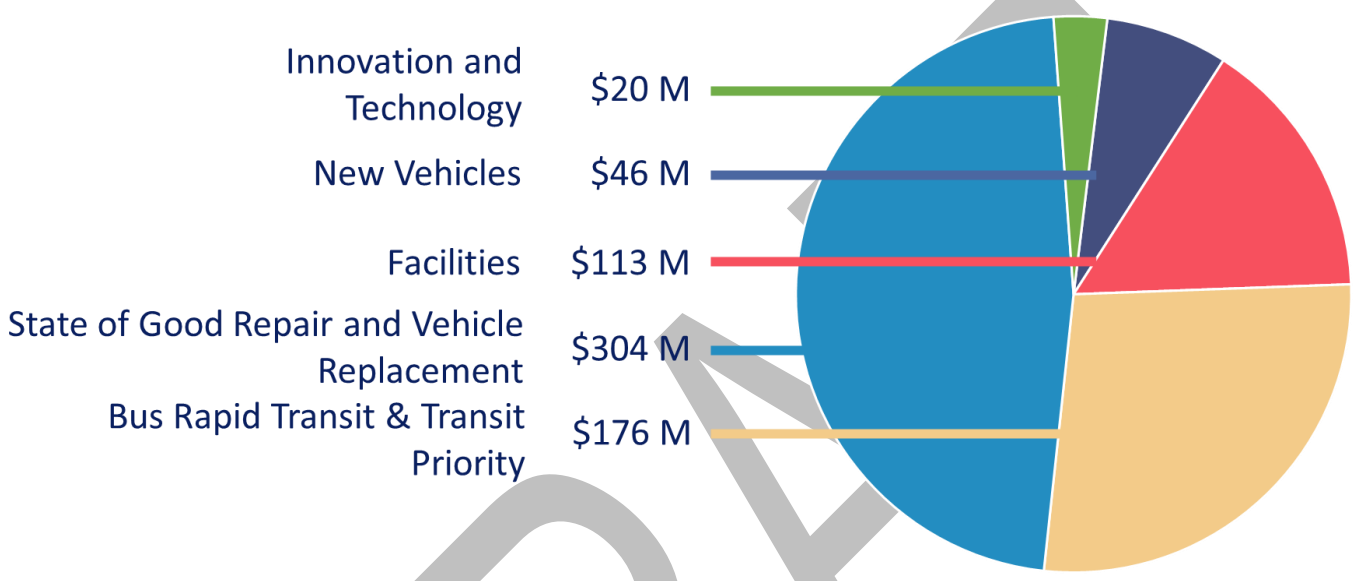

Figure 45. Estimated capital costs by category

Figures are listed in (000,000s)	2023-2028	2029-2033	2034-2038	2039-2045	Total
New Vehicles	$0 M	$15 M	$15 M	$15 M	$46 M
Facilities	$35 M	$69 M	$6 M	$3 M	$113 M
Bus Rapid Transit and Transit Priority	$15 M	$80 M	$37 M	$44 M	$176 M
Innovation and Technology	$4 M	$6 M	$5 M	$6 M	$20 M
State of Good Repair and Vehicle Replacement	$69 M	$62 M	$67 M	$106 M	$304 M
Total	$123 M	$233 M	$129 M	$174 M	$658 M

Figure 46. Estimated cost for each category of expenditure according implementation stage. Note all figures are in 2021 dollars

Revenue to pay for these capital costs will come from a variety of local, state, and federal sources. About $306.6 million, or 46 percent of the total program, will be available from formula funds and matching dollars. The remainder is expected to come from federal Small Starts and state match, new grant programs under the federal Bipartisan Infrastructure Investment and Jobs Act, other grant opportunities, and the local capital reserve account. About $28.8 million in local funds are required beginning in 2034 to meet a funding shortfall. Figure 52 shows the anticipated funding by source and plan period.

The capital program has been designed to maximize the benefit of the once-in-a-generation investment from the federal Infrastructure Investment and Jobs Act. This Act significantly increases the funding to FTA to support the capital and planning needs of transit agencies across the country. The Act increases formula funding by about 30 percent each year over the next five years, increases funding for competitive capital grant programs such as Small Starts, and introduces several new funding programs to improve equity and encourage the shift to lower emissions vehicles.

A significant portion of the capital expenditures will be spent locally on construction projects. Through programs such as the federal Disadvantaged Business program and the Small Business Administration certification program it is expected that minority and disadvantaged businesses will benefit from the capital program. The AAATA will ensure that minority

and disadvantaged business are aware of opportunities and benefit from the significant capital construction programs anticipated during the planning horizon.

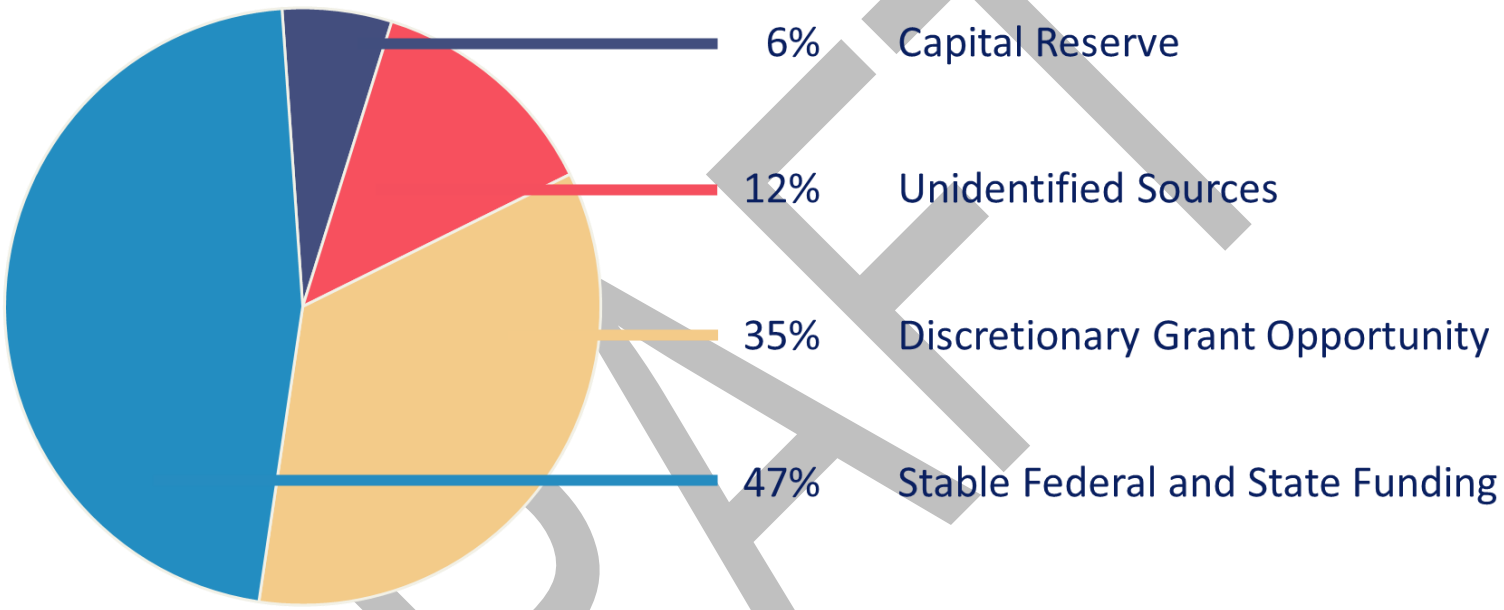

Figure 47. Funding sources

Figures are listed in (000,000s)	**2023-2028**	**2029-2033**	**2034-2038**	**2039-2045**	**Total**
Years in each period	6	5	5	7	
Stable Federal/State Funds	**$91 M**	**$64 M**	**$64 M**	**$89 M**	**$308 M**
5307 Formula Funds & State Match	$71 M	$49 M	$49 M	$69 M	$239 M
5339 Formula Funds & State Match	$9 M	$6 M	$6 M	$8 M	$29 M
CMAQ Federal Funds & State Match	$10 M	$9 M	$9 M	$12 M	$39 M
Earmark and MDOT	$1 M	$0 M	$0 M	$0 M	$1 M
Discretionary Grant Opportunity	**$17 M**	**$131 M**	**$38 M**	**$45 M**	**$231 M**
Federal Small Starts BRT Competitive & State Match	$9 M	$73 M	$38 M	$45 M	$164 M
Federal Infrastructure Bill	$9 M	$59 M	$0 M	$0 M	$67 M
Local Capital Reserve	**$10 M**	**$24 M**	**$3 M**	**$0 M**	**$37 M**
Unidentified Sources	**$5 M**	**$14 M**	**$24 M**	**$40 M**	**$82 M**
Other Grant (Federal + State)	$5 M	$14 M	$14 M	$21 M	$53 M
Additional Local Funds Required	$0 M	$0 M	$10 M	$19 M	$29 M
Total	**$123 M**	**$233 M**	**$129 M**	**$174 M**	**$658 M**

Figure 48. Total Capital Revenues by Sources and Plan Period

Major Capital Programs

Vehicles

The first articulated buses will enter the fleet in 2029 to coincide with Washtenaw corridor BRT project opening. It is anticipated the fleet of articulated buses will grow to 35 vehicles by 2045. The fleet of 40′ buses will increase to 127 by 2045. It will also be necessary to purchase 209 40’ buses to replace those that have reached the end of their useful life from 2023 to 2045. Cutaway-style buses are used for A-Ride service. This fleet will grow to 55 buses in 2045.

Facilities

The capital budget includes funds to expand and improve the Ypsilanti (YTC) and Blake Transit Centers (BTC), build new transit hubs, acquire a site to build a new maintenance and storage facility, and improve bus stops. Grant funding is available through the Infrastructure Investment and Jobs Act.

Bus Rapid Transit and Transit Priority

The plan calls for construction of two BRT lines and various transit priority measures. The first BRT line will be located on the Washtenaw Corridor. Development of this line will require coordination with MDOT as well as the cities, townships, and businesses along the proposed route. We anticipate that up to 80 percent of the funding for this project will come from the FTA Small Starts program.

Technologies

Capital investment in technologies will include for fare collection, customer experience, first and last mile solutions and operational innovations. Grants may be available from the state or federal government, especially for systems that can be shown to improve equity.

State of Good Repair

A state of good repair program is included to ensure that facilities and vehicles remain in good condition. This includes purchasing replacements or rehabilitating existing vehicles and facilities. $54 million of the total $304 million state of good repair budget is dedicated to the replacement of new vehicles and maintenance of new facilities.

Capital Program Funding Sources

The following table highlights the capital funding sources that will be used to develop this plan.

Funding Source	Description
FTA 5307	The FTA 5307 award amounts are set in each transportation reauthorization bill, and the apportionment is determined by a formula based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway route miles as well as population and population density.
FTA 5339	FTA 5339 is a formula grant designed to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities.
CMAQ	The CMAQ program funds transportation projects or programs that will contribute to the attainment or maintenance of the national ambient air quality standards. CMAQ works like a formula fund; grants are apportioned annually to each state according to the air quality in the state.
Earmarks	Earmarks are congressional provisions that direct funds to be spent on specific projects.
FTA Small Starts	The FTA Small Starts program is one of several competitive capital investment grant programs offered to transit agencies. The law requires Small Starts projects to complete project development before the grant award. Project development includes design and environmental clearances.
Bipartisan Infrastructure Investment and Jobs Act FTA	The Bipartisan Infrastructure Law has increased formula funding and the funds available for capital investment grants. The Bipartisan Infrastructure Law creates increased support for bus facilities, stations and stops. It also provides planning activity support for low-density and low-income portions of cities and adjoining rural areas.
FTA 5337	The State of Good Repair program provides capital funds for the maintenance, replacement, and rehabilitation of bus systems to allow transit agencies to keep their systems in good repair. Funds can be used for buses, facilities, passenger stations and terminals, and security systems as well as to develop Transit Asset Management plans.
Other Grants (Federal and State)	Transit projects are eligible for the RAISE program, which is designed to support infrastructure investment. The RAISE program has been used to fund transit priority measures, including bus lanes. RAISE grants are for capital investments in surface transportation that will have a significant local or regional impact.

Figure 49. Capital program funding sources

11.3 Additional Funding Sources

Additional funding sources are required to fill the remaining capital funding shortfall. Additional sources of funding will also be pursued to reduce the local property tax contribution for operating costs to make funding more sustainable. The following are potential funding sources that TheRide will pursue and/or advocate for to provide transit in the most cost-efficient way possible for the residents of the Ann Arbor-Ypsilanti area.

Funding Source	Description
Michigan State Infrastructure Bank	The Michigan State Infrastructure Bank loan program was created to provide loans to public agencies for transportation improvements. The program is designed to attract new public and private investment in transportation infrastructure in Michigan. A loan amount of up to $2 million will be considered.
Public Private Partnerships (P3)	P3s are an innovative method of financing the construction and operation of major public infrastructure. In Michigan. P3s are complex and take significant work to organize and implement.
Regional Transit Authority of Southeast Michigan (RTA)	If the RTA is successful in the future with a transit millage or other form of taxation, it may produce enough revenue to support improvements in Washtenaw County.
Municipal Governments Grants	Municipal governments control most of the roadways that buses use and the sidewalks that passengers use to access transit. At various time local governments may provide grant opportunities to jointly enhance the infrastructure for the benefit of the community as well as passengers.
More Diverse Taxation	***Parking Tax and Fines*** A region-wide parking tax could generate significant revenue if it was levied on both paid and unpaid parking. A parking tax is related to transportation, and if it caused parking rates to increase, it could result in an increase in transit ridership. The State of Michigan does not have a legal basis for allowing special districts to tax parking, and a new legislation would be required.
	Sales Tax A sales tax is not directly relatable to transportation costs, and its cost of implementation would be minor because the state already has a mechanism in place for sales tax collection. Sales taxes are widely used to fund transit and nationwide fund about 38% of capital costs and 27% of operating expenses. The state law in Michigan currently does not permit special

Funding Source	Description
	districts such the TheRide to enact sales taxes. To have a local sales tax within TheRide service area, the State of Michigan would need to pass enabling legislation.
	Payroll Tax Payroll Tax could provide a stable funding source because the tax is somewhat related to transportation demand, and workers would likely need transportation to their jobsite. The tax would need to apply to the entire service area and not just the downtown cores to avoid employment shifting. Michigan State law does not have a provision to implement a payroll tax; therefore, a change to state law would be required.
	Fuel Tax Fuel tax is controlled by the state and would require a new legislation to dedicate a portion to transit. The tax has the potential to encourage transit use because higher fuel costs could cause motorists to look for less cost alternatives.
	VMT Tax VMT taxes could incent small vehicles or penalize higher polluting engines. A VMT tax would likely encourage transit use as well as raise money to fund transit. Strategically, a VMT tax would discourage sprawling. State legislation would be required.
Business Improvement Associations	Local business improvement associations or similar organizations may be willing to contribute to improvements that benefit transit and their district.

Figure 50. Potential sources of additional funding

12. Conclusion

TheRide 2045 is a Long-Range Plan that will transform transit in the Ann Arbor-Ypsilanti area. Development of the plan began in the fall of 2019. Planning efforts were stalled due to the onset of the COVID-19 pandemic and resumed in early 2021. Community and stakeholders were actively engaged throughout the process, with significant input and guidance provided by TheRide's Board of Directors and a Public Advisory Group that was created for this project.

The plan calls for a vastly expanded suite of public transit services and infrastructure to be implemented over 25 years. The following table highlights the key investments called for in TheRide 2045, with supporting details provided throughout this final report. By committing to this plan, the Ann Arbor-Ypsilanti area will see the build out of a transformed public transportation system that improves the lives of all residents in the community. Many of the ideas and investments called for this in this plan extend beyond the typical 5-year horizon of most transit planning processes. As TheRide moves forward, it will use the long-term strategy laid out in this plan to guide the short-term planning efforts that drive transit.

Highlights of the plan

- Two high-speed Bus Rapid Transit lines that will form the backbone of the network
- 10 minute or better service with priority features on high-use corridors such as Main, Plymouth, Packard, Ellsworth and in West Willow
- High-frequency network of 15-minute or better services across the service area
- Better off-peak services, including a minimum of 30-minute frequency service throughout the service area, 7-days per week
- Later weekend and weeknight service hours
- Enhanced On-Demand service including overnight with expanded coverage areas and shorter wait times
- Four new transit hubs and improvements to our two Transit Centers to better connect services across our community
- A zero-emission bus fleet

- Partnerships and collaborations to enhance regional transit, first and last mile solutions and general transit outcomes
- Infrastructure plans to enable service growth and enhance the customer experience
- Technology plans to enhance customer experience and operational efficiency
- An achievable financial plan that effectively harnesses important funding opportunities from State and Federal governments while also highlighting how TheRide can work towards developing alternative funding sources.

Benefits of the Plan

TheRide 2045 focuses on key goals defined by our Board and echoed by the broader community. It is a transformational plan that will make transit **faster** and **more attractive**, and fundamentally change how transit is provided in the Ann Arbor-Ypsilanti area. It will significantly improve transit's attractiveness, efficiency, reliability, accessibility, speed, and convenience. Transit riders will experience service that is more frequent, comfortable, and reliable while also being provided with more travel options and shorter trips all day, every day. Coupled with new policies from outside partners, these enhancements will make transit even more attractive, increase ridership and access to destinations, and reduce private automobile dependency.

Each community will benefit from the resulting structural change to travel. In particular, seniors, people with disabilities, minorities, low-income groups, and anyone else with more limited access to private automobiles will have better access to jobs, education, social services, housing, and shopping. Fewer cars on the road improves the environment by reducing greenhouse gas emissions. This broader shift to transit will incentivize more walkable, vibrant, and healthy communities leading to improved health outcomes overall. Transit investments also reduce overall community costs for transportation – as it results in long-term reductions in municipal spending on roads and parking and individual spending on fuel and cars.

Figure 55. Community benefits

In closing, TheRide 2045 responds to the growing needs of our communities with a blueprint for preserving and expanding transit services and access to local and regional destinations. It is an ambitious vision that will require partnerships, additional investment, and leadership. Through this vision, TheRide can help lead our communities towards a future with greater social equity, environmental benefits, and access to jobs.

List of Appendices

1. Plan Guidance Report
2. Round 1 What we Heard Report
3. Round 2 What we Heard Report
4. Round 3 What we Heard Report