COMMUNITY ASSISTANCE
PLANNING REPORT NO. 336

# WAUKESHA AREA TRANSIT DEVELOPMENT PLAN: 2023-2027

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

## SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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**RESOLUTION NO. 2023-08**

**RESOLUTION OF THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION AMENDING THE ADOPTED DESIGN YEAR 2050 REGIONAL LAND USE AND TRANSPORTATION PLAN ("VISION 2050") FOR SOUTHEASTERN WISCONSIN (WAUKESHA AREA TRANSIT DEVELOPMENT PLAN: 2023-2027)**

WHEREAS, pursuant to Section 66.0309(10) of the Wisconsin Statutes, by Resolution 2016-07, the Southeastern Wisconsin Regional Planning Commission, adopted the design year 2050 regional land use and transportation plan documented in SEWRPC Planning Report No. 55, *VISION 2050: A Regional Land Use and Transportation Plan for Southeastern Wisconsin*, and reaffirmed and updated by Resolution 2020-06, which proposes a substantial improvement and expansion of transit service in Southeastern Wisconsin over the next 30 years; and

WHEREAS, in 2018 the City of Waukesha and Waukesha County requested that the Southeastern Wisconsin Regional Planning Commission assist in preparing a public transit development plan for the City and County transit systems, which would identify operating and service improvements and serve as a guide for the continued operation of the transit system, such plan being similar to those completed by the Commission for the City in 2012 and the County in 2001; and

WHEREAS, under the guidance of the Advisory Committee, all research, outreach, and analyses undertaken for the preparation of the Waukesha area transit plan have been concluded, including the preparation of SEWRPC Community Assistance Planning Report No. 336, *Waukesha Area Transit Development Plan: 2023-2027*, which contains specific recommendations as to the operation and funding of public transit services provided by the City of Waukesha and Waukesha County, together with descriptive, explanatory, and other matter prepared within the framework of VISION 2050.

WHEREAS, the *Waukesha Area Transit Development Plan: 2023-2027,* was approved by the Waukesha Area Transit Development Plan Advisory Committee at its meeting held on November 29, 2022, adopted by the City of Waukesha Common Council on December 20, 2022, and presented to the Waukesha County Public Works Committee at their meeting held January 12, 2023; and

WHEREAS, Section 66.0309(9) of the Wisconsin Statutes authorizes and empowers the Regional Planning Commission, as the work of making the whole master plan progresses, to amend, extend, or add to the master plan or carry any part or subject matter thereof into greater detail.

NOW, THEREFORE, BE IT HEREBY RESOLVED:

FIRST: That in accordance with 23 CFR 450.336(a), the Southeastern Wisconsin Regional Planning Commission hereby certifies that the regional land use-transportation planning process is addressing the issues of the metropolitan planning area, and is being conducted in accordance with all applicable Federal laws, regulations, and requirements, including:

1. 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;

2. In nonattainment and maintenance areas, Sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93;

3. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) and 49 CFR part 21;

4. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex,

or age in employment or business opportunity;

5. Sections 1101(b) of the FAST Act (Pub. L. 114-357) and 49 CFR Part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects;

6. 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts;

7. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) and 49 CFR Parts 27, 37, and 38;

8. The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;

9. Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender; and

10. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities.

SECOND: That the year 2050 regional land use and transportation plan, being a part of the master plan for the physical development of the Region and set forth in SEWRPC Planning Report No. 55, *VISION 2050: A Regional Land Use and Transportation Plan for Southeastern Wisconsin*, published in July 2016, and amended on the 20th day of June 2018, the 5th day of December 2018, and reaffirmed and updated on the 17th day of June 2020, be hereby amended to incorporate the recommendations set forth in SEWRPC Community Assistance Planning Report No. 336, *Waukesha Area Transit Development Plan: 2023-2027.*

THIRD: That a true, correct, and exact copy of this resolution and the aforereferenced report shall be forthwith distributed to each of the local legislative bodies of the government units within the Region entitled thereto and to such other bodies, agencies, or individuals as the law may require or as the Commission or its Executive Committee in their discretion shall determine and direct.

The foregoing resolution, upon motion duly made and seconded, was regularly adopted at the meeting of the Southeastern Wisconsin Regional Planning Commission held on the 14th day of June 2023, the vote being: Ayes 18; Nays 0.

Charles L. Colman, Chairman

ATTEST:

Benjamin R. McKay, Deputy Secretary

COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 336

# WAUKESHA AREA TRANSIT DEVELOPMENT PLAN: 2023-2027

Prepared by the
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U.S. Department of Transportation
**Federal Highway Administration**

June 2023

# WAUKESHA AREA TRANSIT DEVELOPMENT PLAN

## Executive Summary

### INTRODUCTION

At the request of the City and County of Waukesha, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) prepared this short-range transit development plan (TDP). The TDP includes both Waukesha Metro Transit and Waukesha County Transit and evaluated the current systems and analyzed potential transit service recommendations to meet the needs of the community. The plan also includes a set of recommended service changes for the transit system. The study of transit services in the City and County of Waukesha was conducted within the framework of VISION 2050, the long-range regional land use and transportation plan adopted by the Commission in 2016, and updated in 2020. VISION 2050 proposes a substantial improvement and expansion of transit service in Southeastern Wisconsin over the next 30 years.

Commission staff prepared the plan in a joint effort with the staffs of the City of Waukesha and Waukesha County. The plan was guided by an Advisory Committee including representatives from the City and County, local municipalities, and interested educational and business groups and non-profit organizations. After careful study and evaluation, on November 29, 2022, the Advisory Committee approved the transit service recommendations for the City and County of Waukesha that are included in this plan. Subsequently, the City of Waukesha adopted the Transit Development Plan on December 20, 2022, and the Waukesha County Public Works Committee received a report on the final plan on January 12, 2023.

*Credit: Waukesha Metro Transit*

*Credit: Waukesha County Transit*

## EXISTING TRANSIT SERVICES AND TRAVEL PATTERNS

### Waukesha Metro Transit

Waukesha Metro operates ten routes in a radial network, which originate from the Downtown Transit Center. The bus routes serve key destinations such as the Waukesha Memorial Hospital, Waukesha County Technical College, the University of Wisconsin-Milwaukee at Waukesha, shopping centers, and public and private K-12 schools. The current schedules are designed so that they meet at the Downtown Transit Center approximately every 30 to 35 minutes during the weekday peak periods and approximately every 60 to 70 minutes during other weekday times and weekends. This cycle, or "pulse" scheduling allows passengers the opportunity to transfer conveniently between bus routes and complete a trip with minimal delay. The adult cash fare is $2.00, with 31-day passes and 10-ride cards available for $50.00 and $18.00, respectively. There are reduced fares offered for students, seniors, and people with disabilities.

The City of Waukesha offers paratransit service for persons whose disability is of such a nature that they are unable to use fixed-route transit services. Waukesha Metro Transit Metrolift is a curb-to-curb, demand-responsive service that operates within the municipal boundaries of the City of Waukesha and within 0.75 miles of the fixed route outside the City. The one-way fare for a Waukesha Metrolift ride is $4.00 and Ride Cards for two rides can be purchased for $8.00 at Metro fare outlets. Ridership for Waukesha Metro's fixed-route bus service carried 578,000 boarding passenger trips in 2019. Due to the impact of the COVID-19 pandemic on travel behavior, transit ridership is slowly returning but has not fully recovered with Waukesha Metro transit ridership at about 60 percent of pre-pandemic levels.

### Waukesha County Transit

Waukesha County provides commuter transit services between Waukesha County communities, downtown Milwaukee, and the University of Wisconsin – Milwaukee Main campus. The commuter routes currently operating under a contract with Wisconsin Coach Lines include 901, 904, and 905. As of this writing, Route 79, the Menomonee Falls Flyer, which is operated under contract with the County by MCTS, has been suspended since January 2022 and was eliminated as part of the 2023 budget. Waukesha County provides curb-to-curb, demand responsive paratransit service for people with disabilities within 0.75 miles of Route 901 and extended paratransit service is provided for an additional fee. Reservations are required by noon the day prior to the requested trip. Service hours are 5:30 a.m. to 7:20 p.m., Monday through Friday.

Waukesha County funds portions of local transit services that provide connections between Waukesha County and Milwaukee County including the approximately three-mile portion of the route that extends outside the City of Waukesha serving numerous retails outlets and restaurants along Bluemound Road between the Goerke's Corners Park & Ride Lot and Brookfield Square mall. Waukesha County also contributes a portion of the operating expenses for the Gold Line between Brookfield Square Mall and 124th Street. Beginning in June 2023 Route 1 will extend to the Milwaukee Regional Medical Center (MRMC) to connect with MCTS CONNECT (Milwaukee County's new bus rapid transit system), with buses coming every 20 minutes.

One-way adult cash fares for the 900 series routes are $3.75 for Route 901 and eastern fare zones on Route 904/905 and $4.50 for western fares zones on Routes 904/905. Similar to regional and national commuter bus ridership trends, Waukesha County Transit has experienced declining ridership over the past ten years which was exacerbated by the COVID-19 pandemic. However, local transit services funded by Waukesha County along the Bluemound Road Corridor generally perform well, as they serve as a major connection between Waukesha County and Milwaukee County.

## EVALUATION OF EXISTING TRANSIT SERVICES

As part of the Waukesha Area Transit Development Plan, the existing Waukesha Metro and Waukesha County Transit services were evaluated by comparing their performance to a series of standards developed by the Advisory Committee. These standards were developed to evaluate how effectively existing transit services fulfilled the three objectives the Advisory Committee identified for the transit systems. A number of these standards required comparing the transit services to peer systems from across the country, which were identified based on similar service types, routes, ridership, budgets, and served areas of similar density to the Waukesha Metro and Waukesha County Transit systems. The results of this performance evaluation are summarized below:

**Waukesha Metro Transit**

- Overall Waukesha Metro performs very well
- Provides relatively good coverage of activity centers, population, and employment in the City of Waukesha
- Some routes have alignments with numerous turns to accommodate the street grid and hills
- The best performing route segments serve major commercial areas or pass through the Transit Center
- Fulfills the service effectiveness and cost effectiveness performance standards
- Routes that have poor performance were studied and changes are included in the draft recommendations

**Waukesha County Transit**

- Waukesha County transit services provide fairly good coverage for residents commuting to jobs and activity centers in Milwaukee County
- Waukesha County Transit's local bus services (Route 1 extension and Gold Line connection) perform better than the commuter bus services (900-series, Route 79)
- Waukesha County transit services do not meet the operating expenses per revenue vehicle hour standard or the operating expenses per passenger mile standard
- Potential changes to routes, runs, service areas, and service periods are considered for routes that do not meet performance standards

## PUBLIC INVOLVEMENT PROCESS

Following the performance evaluation of the City and County's existing transit services, focused outreach was conducted between February and April 2020, to gather feedback from business groups, educational institutions, and organizations serving individuals who use public transit to understand transit use, challenges and barriers, and ideas for improvement. General themes from this outreach effort included an interest in on-demand transportation options for businesses, requests to consider cross-county travel options, and suggestions to expand marketing of transit services. Based on this input, a set of potential transit recommendations were developed.

To gather feedback on the draft transit recommendations, a formal public involvement process was held in October 2022 through November 2022. The public involvement process included three public meetings, an online survey, and opportunities to submit comments via email, fax, phone, online comment form, or mail. In addition, a business-focused meeting was held to discuss draft fixed-route route bus changes, potential transit enhancements along the Bluemound Road corridor, and on-demand transportation options. Major themes from the public involvement process included overall support for restructured Waukesha Metro routes, request for longer service hours and greater frequency (particularly on Route 1), general understanding about service reductions on Waukesha County Transit commuter bus routes, interest in on-demand transportation to improve access, and support for paratransit services.

## RECOMMENDED TRANSIT SERVICE PLAN

The Recommended Transit Service plan seeks to improve the performance of each transit system and was developed in careful consideration of the comments and ideas received from the Advisory Committee, Waukesha County businesses, transit riders, non-profit organizations that serve clients that use transit, students and parents/guardians in the Waukesha Public School District, and the public related to this effort. The Recommended Transit Service Plan is presented in three elements. The first element discusses potential recommendations for the fixed-route transit services operated by the City of Waukesha and Waukesha County. The second element provides recommendations related to potential on-demand or flexible transportation services that could replace or extend existing fixed-route bus services. The third element describes potential recommendations to paratransit services in the City of Waukesha or Waukesha County intended to increase efficiencies or expand the individuals served. The following table summarizes each recommendation and the implementing agency to assist the City of Waukesha and Waukesha County as they consider their potential roles under each potential option.

### Fixed-Route Transit Service Recommendations

The COVID-19 pandemic impacted all elements of daily life, including the commute to work, with Waukesha Metro ridership at about 60 percent of pre-pandemic levels and commuter bus service on routes 901, 904, and 905 at about 20 percent of pre-pandemic levels. Nationally, the pandemic has shifted the long-term outlook for in-person work as many employers consider permanent remote work and hybrid work options, further impacting demand for traditional commuter bus services. Given this context, the system included in the following recommendations focus on smaller-scale route changes in response to the performance evaluation conducted as part of this planning process, with some slightly-larger changes associated with the already-planned improvements to Route 1.

#### *Implement Transit Enhancements on Metro Route 1*

During this planning process, the City of Waukesha and the City of Brookfield requested that Commission staff develop a more in-depth analysis of potential transit enhancements from downtown Waukesha to the MRMC. The purpose of the analysis was to generate discussion and provide details that help the communities determine if and how to move forward with transit enhancements or bus rapid transit (BRT) along the corridor, including the extent of improvements, the potential benefits of such improvements, potential funding sources, and next steps. Based on recent discussions with local governments along the corridor, a feasibility study is being conducted to consider potential station locations, pedestrian amenities, the extent of additional dedicated lanes, ridership, costs, benefits, funding sources, and timing of possible enhancements. Public involvement will occur as part of the feasibility study process.

#### *Restructure Waukesha Metro Routes*

This recommendation envisions that the route updates would occur in two phases, with the first round of potential updates occurring in coordination with revisions to the Route 1 to serve the MRMC beginning in 2023, to match the anticipated start of revenue service for MCTS CONNECT. Based on the proposed changes to Route 1, nearby routes (Route 2, Route 3, and Route 15) are proposed to be updated to provide coverage to these neighborhoods, businesses, and important destinations. The remaining Waukesha Metro routes (4, 5, 6, 7, 8, and 9) will be updated in subsequent years, potentially as soon as 2023, pending public input. Operating expenses are expected to decrease due to reductions in service hours with shorter trip lengths.

The recommendations also include options for future Waukesha Metro route changes based on ridership levels, which may include straightening or removing segments if ridership does not return to 2019 levels. It is recommended that any future change consider how it might impact areas with high transit needs, access to major activity centers, pedestrian access, and steep terrain that can reduce access.

| | City of Waukesha | Waukesha County | Both |
|---|---|---|---|
| **Fixed-Route Transit Service Element** | | | |
| Implement Transit Enhancements on Metro Route 1 | | | ✓ |
| Restructure Waukesha Metro Routes | ✓ | | |
| Service Options for Route 9 and Route 15 | ✓ | | |
| Combine Routes 904 and 905, with Runs Terminating at Goerke's Corners and the City of Delafield | | ✓ | |
| Option to Eliminate Stops on the 904/905 West of Goerke's Corners Park-Ride Lot | | ✓ | |
| Reduce Frequency on Route 901 | | ✓ | |
| Implement an Enhanced Fare Payment System | | | ✓ |
| Consider Fare Policy Changes | | | ✓ |
| Implement Prioritized Improvements to Waukesha Metro Bus Stops | ✓ | | |
| Continue Exploring Alternative Bus Propulsion Systems and Sizes for Future Purchases | ✓ | | |
| Pursue Coordinated Transportation Solutions with Regional Transit Operators | | | ✓ |
| Develop an Enhanced Marketing and Travel Training Program | | | ✓ |
| **On-Demand Transportation Service Element** | | | |
| Implement Employment-Related On-Demand Transportation Solutions | | | ✓ |
| Replace Poorly Performing Waukesha Metro Segments or Times of Day with On-Demand Transportation Services | ✓ | | |
| Develop Supplemental On-Demand Paratransit and Non-Emergency Medical Transportation Options | | | ✓ |
| Develop Mobility Hubs | | | ✓ |
| **Paratransit and Specialized Transportation Service Element** | | | |
| Continue Collaboration Between the Aging and Disability Resource Center of Waukesha County, Waukesha Metro, and Waukesha County Transit on Paratransit Services | | | ✓ |
| Long-Term Option to Consider Providing County-Wide Shared-Ride Taxi Service | | ✓ | |

Service Options for Route 9 and Route 15

The recommendation for Route 9 considers removing service to Ingleside Hotel, due to low ridership, and includes routing options that would serve the Department of Motor Vehicles (DMV), GE Healthcare, and WCTC. Based on public input, which requested that participants rank their preference for these destination options, service to the DMV and WCTC was identified as most preferred, with GE Healthcare also receiving some preference.

The recommendation for Route 15 will serve destinations along Roberta Avenue and Tenny Avenue, north of Sunset Drive and locations south of Sunset Avenue. Based on public input, where participants were asked to identify which locations should have regular transit service, there was preference indicated for locations north of Sunset Drive (Roberta Avenue and Tenny Avenue), with additional interest in serving locations south of Sunset Drive (Big Bend Road, E. Rivera Drive, and S. East Avenue). Therefore, Route 15 is recommended to serve locations both north and south of Sunset Drive.

***Combine Route 904 and 905, with Runs Terminating at Goerke's Corners and the City of Delafield***

Given the declining ridership trends on Waukesha County Transit's commuter routes, which were trending downward even prior to the COVID-19 pandemic, this recommendation includes a lower level of service by combining Routes 904 and 905 and ending runs at either Goerke's Corners Park-Ride Lot or Nagawaukee Park-Ride Lot. It is estimated that these changes would reduce annual operating expenses by approximately $160,000 and reduce annual operating assistance by about $150,000.

Service Option: Eliminate Stops on Routes 904 and 905 West of Goerke's Corners Park-Ride Lot

If ridership remains at current levels, Waukesha County could consider eliminating stops west of the Goerke's Corners Park-Ride Lot for all runs of Route 904 and 905. It is estimated that this service option would reduce annual operating expenses by approximately $218,000 and reduce annual operating assistance by approximately $203,000.

***Reduce Frequency on Route 901***

The recommendation would reduce service on the Route 901 by eliminating two eastbound and two westbound runs. These changes to westbound service may result in only one remaining run that serves as a "reverse commute" for travel from Milwaukee County to Waukesha County and no mid-afternoon service between UW-Milwaukee and Waukesha. However, the East-West BRT and the Waukesha Metro Route 1 will provide frequent, all-day service that will assist passengers requiring this trip. It is estimated that this recommendation would reduce annual operating expenses by approximately $162,000 and reduce annual operating assistance by approximately $151,000. Waukesha County could consider an option to continue the number of runs on Route 901 but end the trips at Goerke's Corners Park-Ride Lot. It should be noted that while service reductions are considered for the 900-series services in Waukesha County, portions of this plan consider enhancements to Waukesha County services provided along the Bluemound Corridor (Route 1 Extension, GoldLine Extension) to provide greater service frequency in a corridor that is the best performing route and serves as the main connector to Milwaukee County.

***Implement an Enhanced Fare Payment***

An enhanced fare payment could offer the opportunity to support seamless regional connectivity for commuters traveling between Waukesha County and Milwaukee County. As these fare payment and transportation service innovations continue to evolve, they provide options that enhance the passenger experience and encourage ridership. As these technologies continue to be implemented in the region, it is recommended that Waukesha Metro continue to discuss options with the Milwaukee County Transit System (MCTS) to provide seamless transfers and mobile payment options, starting with the Route 1 extension between the MRMC and the downtown Waukesha Transit Center.

***Consider Fare Policy Changes***

Waukesha Metro may consider establishing a fare threshold, called fare capping, for frequent transit riders by upgrading their transit pass to a higher-level, such as a daily, weekly, monthly, or annual pass when the threshold is met. Fare capping would be implemented concurrently with the adoption of advanced fare payment technologies that can count how frequently a passenger uses the system. More information on how to implement fare capping will be available as MCTS pursues it in 2023. In addition, some transit agencies in the U.S. implemented fare free programs to boost ridership, improve operations, and enhance social equity. Within this context, the Advisory Committee indicated that this effort should include an analysis of eliminating fares on Waukesha Metro. Should the transit system move towards a no-fare system, a pilot program targeting small groups or service zones is recommended to analyze the stability of the program and ensure its success. For example, a fare free program could be piloted with certain rider groups such as seniors or youth to study how the change impacts ridership, customer satisfaction, and system performance. In addition, certain areas, such as the core downtown area, could be fare free to promote mobility between downtown businesses and services.

***Implement Prioritized Improvements to Waukesha Metro Bus Stops***

At the request of the Advisory Committee, Commission staff collected and analyzed bus stop data for 589 stop locations served by Waukesha Metro and Waukesha County Transit, during June through September 2020. Data collected included the presence of pedestrian accommodations, bus pads, curb ramps, bus shelters, and amenities. The information gathered identified locations in need of bus stop improvements, indicating that some Waukesha Metro Transit bus stops are missing amenities or are not located near accessible paths. This recommendation includes a list of stops needing improvement, with the first tier representing the highest priority. Prioritizing the first two tiers will assist Waukesha Metro in meeting a recommendation from the Wisconsin Department of Transportation to ensure that all bus stops are accessible to people with disabilities.

***Continue Exploring Alternative Bus Propulsion Systems and Sizes for Future Purchases***

This recommendation compares several bus fuel types for potential use by Waukesha Metro Transit including diesel, diesel-electric hybrid, battery electric, and hydrogen fuel cell. It also includes different-sized vehicles that could be used for fixed-route, paratransit, and potential on-demand services. Some public comments suggested that smaller buses be considered as a cost savings measures. However, the 35-foot transit buses utilized by Waukesha Metro are the shortest buses that meet Metro's needs for longevity, capacity, and cost. Therefore, it is recommended that Waukesha Metro continue to use buses similar to the existing size for fixed-route services. Waukesha Metro Transit has completed needed fleet replacements in 2022 and no new replacements are planned until 2027. As transit vehicles are replaced, Waukesha Metro could consider a range of vehicles that may have greater fuel efficiency and are smaller to accommodate potential on-demand transportation services while continuing to provide paratransit services.

***Pursue Coordinated Transportation Solutions with Regional Transit Operators***

As part of the anticipated reconfiguration of commuter bus services, Waukesha County has an opportunity to collaborate with transit operators in Washington County and Milwaukee County to provide coverage for Waukesha County residents to major destinations and employers while leveraging each operators' services. This coordination may also include stops at the Watertown Plank Park-Ride Lot or on the campus of the Milwaukee Regional Medical Center, which would allow passengers to access locations in Waukesha County along the Route 1, connect to the East-West BRT to access downtown Milwaukee, and to access destinations served by the Washington County Commuter Express.

***Develop an Enhanced Marketing and Travel Training Program***

This recommendation envisions leveraging and expanding outreach about transportation options, building on the current efforts of travel trainers and staff at Waukesha Metro Transit, Eras, and the Aging and Disability Resource Center of Waukesha County. Local and national examples are provided in the recommended plan that aim to renew ridership, address safety concerns, and strengthen community partnerships.

**On-Demand Transportation Recommendations**

***Implement Employment-Related On-Demand Transportation Solutions***

This recommendation proposes that on-demand transportation services be focused on job clusters within eastern Waukesha County, such as the Villages of Butler, Menomonee Falls, and Pewaukee and the Cities of New Berlin and Pewaukee. Within the Region, the FlexRide Milwaukee service provides one example of the utilization of on-demand service to expand access to employment opportunities. FlexRide is a research pilot funded with a $1 million grant from the National Science Foundation and led by the University of Wisconsin-Milwaukee. On-demand rides are provided on weekdays between 4:30 a.m. and 11:30 p.m. and the vehicle operators are independent contractors largely utilizing their own vehicles. In June 2022, MobiliSE and partners including the Waukesha-Ozaukee-Washington Workforce Development Board, received a $4.2 million Workforce Innovation Grant to sustain and expand FlexRide Milwaukee. At the time of writing, specific locations to be served with future on-demand services are being determined. Waukesha County and the City of Waukesha will continue to be involved in project planning and updates.

***Replace Poorly Performing Waukesha Metro Segments or Times of Day with On-Demand Transportation Services***

This recommendation considers how microtransit services could provide an extension of fixed-route segments that are determined to be unproductive or an extension of the span of service to serve late night or weekend trips. If ridership does not rebound to pre-pandemic levels, it is expected that existing transit service could be reduced or eliminated along certain segments or during times of the day or week that experience lower ridership such as evenings and weekends. An example of this type of service is in operation in the City of Green Bay where Green Bay Metro launched GBM On Demand in August 2020 and expanded the service area in August 2021, to complement and extend the City's existing transit service.

***Develop Supplemental On-Demand Paratransit and Non-Emergency Medical Transportation Options***

Waukesha Metro could consider partnering with ride-sourcing companies such as Uber and Lyft to provide on-demand paratransit and non-emergency health care transportation rides as a supplement to existing paratransit and specialized transportation services. One option would allow health care providers to schedule rides on behalf of patients. Another option would include health insurance companies expanding benefits to include transportation to and from medical appointments. Lastly, another type of emerging service includes paratransit providers partnering with ride-sourcing companies to supplement existing paratransit services. These three models could be considered within the timeframe of this plan to supplement the traditional paratransit services.

***Develop Mobility Hubs***

Mobility hubs are places of multimodal connectivity that provide a range of transportation options and amenities for safe, convenient, and efficient travel. The most common elements include bus infrastructure, vehicle connections, bicycle connections, signage and travel information, active use space, and safety features. Two potential locations in Waukesha County were identified by the Advisory Committee for locating a mobility hub, including the Goerke's Corners Park-Ride Lot in the Town of Brookfield and potential locations near Brookfield Square Mall in the City of Brookfield. Future coordination to discuss potential amenities, maintenance, and funding will be needed with the communities, the Wisconsin Department of Transportation, and property owners.

**Paratransit and Specialized Transportation Service Draft Recommendations**

***Continue Collaboration Between the Aging and Disability Resource Center of Waukesha County, Waukesha Metro, and Waukesha County Transit on Paratransit and Specialized Transportation Services***

The Waukesha County Aging and Disability Resource Center (ADRC) finalized the Waukesha County Specialized Transportation Program Review Study on August 2, 2022, which included program alternatives to improve the efficiency, effectiveness, and awareness of the services. This recommendation incorporates several strategies identified in the program review, which focused on changing processes within the control of Waukesha County to improve the delivery of service and prepare for any future service changes. In the short-term, strategies may include resuming quarterly transportation coordination meetings with taxi providers, the RideLine contractor, Waukesha Metro, Waukesha County Transit, and the Milwaukee County Transit System to identify opportunities for training and joint procurement. In the medium-term, this on-going collaboration may identify strategies, such as options to pursue a technology pilot program and establish service standards.

Service Option to Provide County-wide Shared-Ride Taxi Service

The Waukesha County Specialized Transportation Program Review Study noted that a single contractor to operate a curb-to-curb or corner-to-corner public transit service could be considered in the long term. While out of scope for the Waukesha County Specialized Transportation Program Review Study, this service option would address an unmet need in Waukesha County for transportation for those who cannot or would prefer to not drive outside of existing transit service areas by providing a county-wide public shared-ride taxi program. However, any service enhancements would require a reprioritization of local funding. Given that this service option would require extensive coordination with Waukesha County Transit, Waukesha Metro, the ADRC, and current senior taxi providers, this option is likely outside the planning horizon for this plan.

## CONCLUSIONS

The short-range transit service plan presents recommendations and service options for the City of Waukesha and Waukesha County to make informed decisions in the face of future uncertainties. The plan represents the culmination of the study of existing transit services, the evaluation of existing and potential transit service recommendations, and the consideration of input from businesses, transit riders, educational institutions, and non-profit organizations about the future of transit in the City and County of Waukesha. As the City and County consider the recommended transit service plan, they will need to balance all service objectives outlined in Chapter 3, Public Transit Service Objectives and Standards, while minimizing costs.

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# 1 INTRODUCTION

*Credit: Waukesha Metro Transit*

At the request of the City and County of Waukesha, the Southeastern Wisconsin Regional Planning Commission is preparing a transit system operations analysis and short-range service plan. The transit development plan includes both Waukesha Metro Transit and Waukesha County Transit to effectively evaluate the current systems and potential alternatives to meet current needs, including studying the potential for different bus sizes to meet demand, exploring additional partnerships between the two transit systems to gain efficiencies, and evaluating the feasibility of implementing demand responsive service in areas of lower transit demand.

The last short-range transit development plans prepared by the Commission in Waukesha County include a plan for the City that covered the period from 2013 through 2017[1] and a plan for the County that covered the period from 2002 through 2006.[2] A new plan is needed in order for Waukesha Metro Transit and Waukesha County Transit to effectively respond to changes in demographics, land use, and mobility options occurring within the City, County, and Southeastern Wisconsin.

This operations analysis and short-range service plan for Waukesha Metro Transit and Waukesha County Transit is being conducted within the context of the continuing regional transportation planning program. In 2016, the Commission adopted VISION 2050, a regional land use and transportation plan with a design year of 2050. The plan was reaffirmed and updated in 2020.[3] The plan includes a public transit element that recommends significant improvement in and expansion of transit service in the Region over the next 30 years. Map 1.1 shows the public transit element from VISION 2050, including changes made as part of recent amendments.

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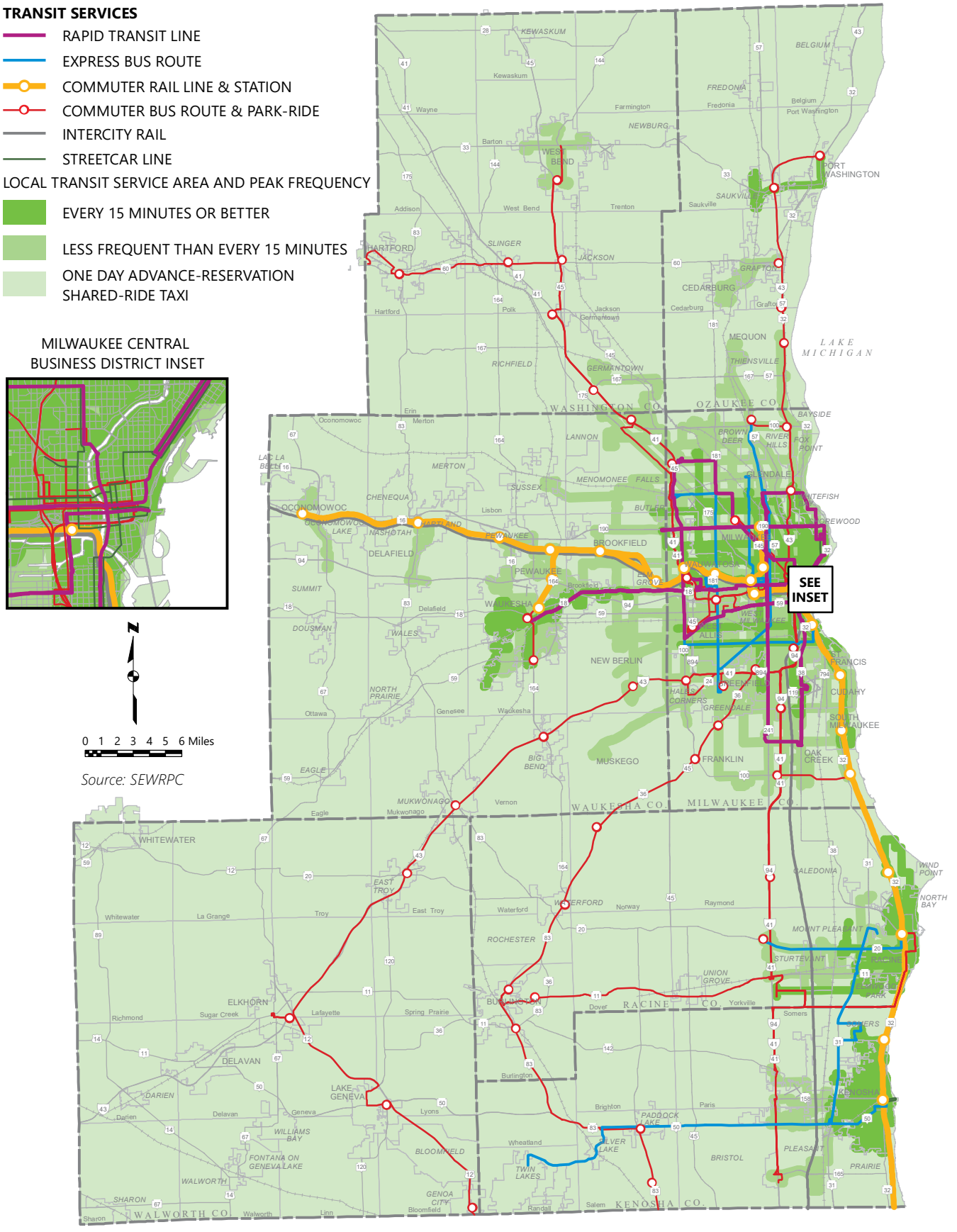
[1] *See SEWRPC Community Assistance Planning Report No. 311,* Waukesha Metro Transit Development Plan: 2013-2017, *December 2012*.

[2] *See SEWRPC Community Assistance Planning Report No. 245,* Waukesha County Transit System Development Plan: 2002-2006, *November 2001*.

[3] *See SEWRPC Planning Report No. 55,* VISION 2050: A Regional Land Use and Transportation Plan for Southeastern Wisconsin, *July 2016, and updated in SEWRPC Memorandum Report No. 243,* 2020 Review and Update of VISION 2050, *June 2020*.

## Map 1.1
## Public Transit Element: VISION 2050



Specific transit recommendations in VISION 2050, which are described in more detail below, include developing rapid transit, improving and developing commuter rail corridors, and expanding local bus service to suburban job centers. VISION 2050 further recommends implementing programs to improve access to suburban employment centers; enhancing stops, stations, and park-ride facilities with state-of-the-art amenities; implementing "transit first" designs on urban streets; permitting buses to travel on highway shoulders; and implementing a universal fare system and free transfers across all transit operators. Although not detailed below, these additional VISION 2050 recommendations can be considered within the context of the transit development planning process to provide service that is time-competitive with a car and provide those without a car access to jobs, education, and other daily needs.

The specific recommendations in the regional plan that pertain to transit services provided by Waukesha Metro Transit and Waukesha County Transit include the following:

- Develop rapid transit corridors (either bus rapid transit or streetcar extensions operating as light rail) from downtown Waukesha to downtown Milwaukee via the Milwaukee Regional Medical Center, predominately on E. Main Street, W. Blue Mound Road, and Wisconsin Avenue. A second rapid transit corridor would travel from Shoppers World of Brookfield at N. 124th Street and W. Capitol Drive to the University of Wisconsin-Milwaukee, predominately on Capitol Drive. The rapid transit corridors would include dedicated transit lanes and transit signal priority or preemption. Stations would be spaced every one-half to one mile and would include off-board fare payment, real-time information screens, and raised platforms. Service would be provided nearly the entire day with frequency of service every 8 to 15 minutes or better during weekdays, and every 10 to 15 minutes or better during the weekends, with service operating up to 24 hours a day.

- Develop commuter rail corridors and significantly improve and expand existing commuter bus services. Both commuter rail and bus services would provide frequent service, with service every 15 minutes in the peak in both directions and every 30 to 60 minutes in both directions at other times. The recommended commuter rail line would connect Milwaukee, Wauwatosa, Brookfield, Waukesha, Oconomowoc, and communities in between by making upgrades to existing freight rail corridors to allow passenger rail at speeds up to 79 miles per hour, providing a fast service connecting many of the larger population centers in the Region. Stops would be located in Oconomowoc, Hartland, Pewaukee, Waukesha, Brookfield, and Elm Grove. Commuter bus services would be extended south to jobs and housing near the intersection of State Highway 164 and Les Paul Parkway (State Highway 59), connecting to the recommended rapid transit lines and commuter rail in downtown Waukesha.

- Improve the frequency of local transit service in corridors and areas not served by rapid and express service. This improved service would provide extended weekday and weekend service from 5:00 a.m. to 12:00 a.m.

- Expand local transit service to suburban employment centers, by providing new services to connect businesses and residents to nearby commuter and rapid services. This service can take the form of local fixed-or flexible bus routes, demand-responsive shuttles or vans, or partnerships with private transportation providers.

This operations analysis and short-range service planning study is considered an initial stage of implementation of the adopted regional plan, as it will refine and detail VISION 2050's transit recommendations. These recommendations provide the basis for potential options to consider during the planning process such as initiating new transit services, modifying existing services, and programming transit projects in future budgets.

The transit development plan is short-range in nature, covering the period of 2023 through 2027, and is based on a performance review of the existing Waukesha Metro Transit and Waukesha County Transit systems and analyses of the travel habits, patterns, and needs of system users based on travel data and surveys collected in 2012, 2018, and 2019. The plan proposes a set of recommended service changes for the transit systems and identify the forecast ridership, service levels, and operating expenses that would be expected from implementing the changes.

This operations analysis and service plan for Waukesha Metro Transit and Waukesha County Transit will be documented in the following chapters of this report:

- Chapter 2, "Existing Transit Services and Travel Patterns," which describes the existing public transit systems, the travel patterns of existing ridership, a summary of other major transit services presently available in the City and County, and a recent history of changes to the systems since previous transit development plans were completed

- Chapter 3, "Public Transit Service Objectives and Standards," which provides a set of transit service objectives, supporting performance standards, and design criteria that will be used to evaluate the performance of the existing bus services, design of any changes to the existing transit services, and evaluate the service alternatives

- Chapter 4, "Evaluation of the Existing Transit System," which describes how well the existing services provided by Waukesha Metro Transit and Waukesha County Transit meet the performance standards, thereby identifying service-related problems, successes, and deficiencies

- Chapter 5, "Recommended Transit Services," which sets forth a description of the transit service improvements that have been considered and recommended by the Waukesha Area Transit Development Plan Advisory Committee, and indicates if the transit service improvement would be implemented by Waukesha Metro Transit, Waukesha County Transit, or both transit providers


# EXISTING TRANSIT SERVICES AND TRAVEL PATTERNS 2

*Credit: Waukesha Metro Transit*

## 2.1 INTRODUCTION

The following chapter provides an inventory of current transit services in the City of Waukesha and Waukesha County as of 2019. The topics described include a description of services; the history and progress implementing principal recommendations from previous Transit Development Plans; transit service operations, ridership, operating costs, and vehicle fleet; and travel patterns and characteristics of riders. A description of other major public transit service providers in Waukesha County, including intercity bus services, taxicab services, and human services transportation programs, is also provided.

## 2.2 HISTORY AND ADMINISTRATIVE STRUCTURE

### Waukesha Metro Transit

Local bus service was first started in the City of Waukesha in 1941 by Waukesha Transit Lines, now known as Wisconsin Coach Lines, Inc. Continuous declines in ridership and profits during the postwar period, and failure to obtain Federal and State transit assistance through the City in the mid 1970's, resulted in extreme financial difficulty for the private operator, who ultimately ceased operation of regular local service in 1976, and the school tripper service in 1977. After a referendum to provide publicly-funded demand-responsive transit service in the City failed in 1977, a second referendum concerning a publicly-owned, privately managed fixed-route bus system was successful in 1980. On August 31, 1981, Waukesha Metro Transit began operation.

### Waukesha County Transit

Waukesha County began providing public transit service in 1975. Declining ridership and increasing operating costs in the early 1970's on commuter bus services provided between the Cities of Milwaukee, Waukesha, Oconomowoc, and Watertown by Wisconsin Coach Lines, Inc., a private for-profit transit company, had prompted the operator to request financial assistance from the County. In 1975, an 18-month demonstration project, jointly sponsored by the Wisconsin Department of Transportation, Waukesha County, and the private operator, provided an improved level of transit service between Waukesha County and the City of Milwaukee. In 1977, Waukesha County agreed to be the public sponsor for Wisconsin Coach Lines service. Over the past decades, service levels have increased and decreased in response to ridership fluctuations. For

example, in the early 1980's, transit service expanded to include seven new bus routes operating between Waukesha and Milwaukee County, including four "freeway flyer" routes and three local bus service routes from Milwaukee County to major employment or commercial centers in the Village of Butler, the New Berlin Industrial Park, and the area around the Brookfield Square shopping area. Additional service was initiated on a trial basis with Milwaukee County serving as a contract provider. However, by the mid-1980's, transit service was reduced due to low ridership and concerns over Waukesha County's operating assistance levels. In the 1990's, Waukesha County transit service levels increased from six routes to 16 routes, including local bus and shuttle services that provided access from Milwaukee County or the City of Waukesha to areas with significant employment concentrations in Waukesha County. Two local shuttles were provided by Wisconsin Coach Lines serving the New Berlin Industrial Park and Pewaukee Business Parks. Milwaukee County also provided two local shuttles, one to Menomonee Falls' north side industrial area and one to industrial parks near the Village of Butler between W. Silver Spring Road and Capitol Drive. Since the early 2000's, transit service in Waukesha County has declined, including the service to business parks.

As service to significant employment clusters in Waukesha County expanded, a policy was established by Waukesha County in 1996 to govern private funding requirements for local shuttle bus routes and bus service expansions requested by, or designed to provide service to, specific businesses.[4] The policy calls for all County-sponsored shuttle bus services and bus service expansions for businesses to be financed through partnership agreements between the County and the businesses benefiting from the service. Under the agreements, Waukesha County provided up to 21 percent of the total operating costs of the service. In return, the businesses agreed to cover all other financial assistance, not including the farebox revenue. If ridership levels generated sufficient farebox revenues, then no funds would be required from the businesses. Otherwise, the businesses were required to provide the difference between the passenger revenues and the assistance not covered by Waukesha County.

**Administrative Structure**

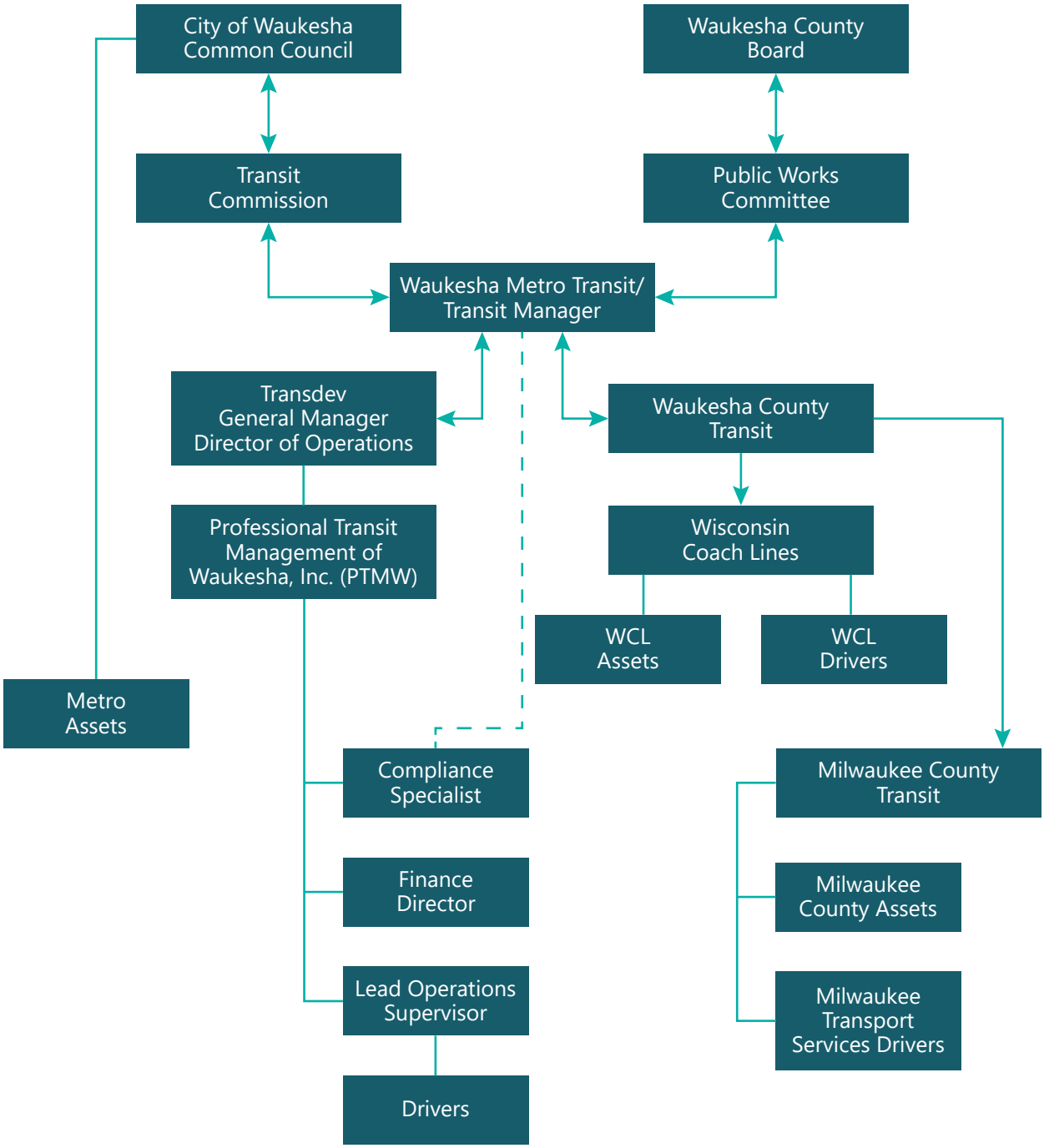
Waukesha Metro Transit and Waukesha County Transit have been jointly administered since 2003. Waukesha Metro's Transit Manager functions as the day-to-day administrator of the transit system and is employed by the City of Waukesha. Specifically, the City of Waukesha staff administers the grants received from the Federal Transit Administration (FTA) and the Wisconsin Department of Transportation (WisDOT). In addition, the City of Waukesha staff administers Waukesha County's service contracts with the Milwaukee County Transit System and Wisconsin Coach Lines, Inc. for bus routes serving Waukesha County. Each transit system is governed by its own decision-making body, with the Transit Manager providing regular updates to each relevant governing body, including financial summaries and operating statistics. This combined administrative structure is shown in Figure 2.1 and is described in more detail below.

The City of Waukesha owns Waukesha Metro Transit and operates it using a private management firm, Transdev, under the direct supervision of the Transit Manager, a City of Waukesha employee who reports to the Director of Public Works. The General Manager/Director of Transit Operations manages the daily operations of the system, and is an employee of Transdev, working under contract for Professional Transit Management of Waukesha, Inc. (PTMW), which is subsidiary of Transdev formed to provide transit service to the City of Waukesha. All Metro Transit staff, including the drivers, are employees of PTMW, except for the Transit Manager, who is a City employee, and the General Manager, a Transdev employee.

Although the two transit systems are administered by the City of Waukesha, each system reports to its respective policy making body. The Waukesha Common Council has the ultimate responsibility for review and approval of certain important matters, including the annual budget for the public transit program. Waukesha Metro Transit also reports to the City's Transit Commission, which is comprised of five members who are appointed by the Mayor and confirmed by the Waukesha Common Council. The Transit Commission sets the policy for the transit system and has all the powers necessary to make acquisitions, operate, and manage the transit system. In addition, given the collaborative management of the City and County transit systems, the City of Waukesha Transit Commission considers Waukesha County Transit Business on their agenda, including awarding contracts for Waukesha County Transit Service.

[4] *The County defined shuttle bus routes and service as those that are intended to transport employees of a specific business or area to and from their workplace during peak travel periods only. A bus service expansion was defined as the addition of a substantial amount of revenue vehicle-miles or hours of service to an existing bus route.*

**Figure 2.1**
**Waukesha Metro Transit and Waukesha County Transit Organizational Chart**




The policy-making body of the County transit system is the Waukesha County Public Works Committee, consisting of seven members of the Waukesha County Board of Supervisors. The approval of the Public Works Committee is required for legislative matters relating to County facilities, public works, and transportation, including mass transit systems. The Waukesha County Board of Supervisors approve the annual budget for the transit system, as well as all budget related matters.

## 2.3 PROGRESS IMPLEMENTING THE PREVIOUS TRANSIT DEVELOPMENT PLANS

**Waukesha Metro Transit**

The previous Waukesha Metro Transit Development Plan: 2013 – 2017, identified three potential alternative transit service changes and reviewed the feasibility of providing Dial-A-Ride service in the Waukesha Metro service area. The three potential alternatives included: (1) operating the existing 2012 transit system without any changes over the planning period; (2) a modest expansion of the transit system to address unmet service needs while eliminating unproductive service to increase service efficiency; and (3) significant service reductions in the event of decreases in Federal and State operating funds and limits on the growth of local funding over the planning period. The Waukesha Transit Commission, at the recommendation of transit system staff, chose Alternative 1, the existing 2012 transit system, and directed transit system staff to make minor adjustments to the system as needed to meet annual transit system budgets for 2013 and subsequent years of the planning period. Commission staff forecasted that the recommended transit system would require an increase to the City of Waukesha's annual share of the total public funding from about $1.3 million in 2012 to $1.7 million in 2017, or an increase of about 33 percent. Recent financial statements provided by the City of Waukesha indicate that in 2017, the local share was less than forecasted, at $1.2 million, while amount of State and Federal operating assistance forecasted was similar to the actual amounts, at $2.9 million. As a result of the reduction in local assistance as compared to the forecasted amount, Waukesha Metro has implemented service changes and reductions to meet transit budgets, by eliminating unproductive segments to improve service efficiency. The majority of changes in the last two years included reroutes or minor scheduling changes in response to low ridership, customer needs, and opportunities to reduce delays. Recent notable service changes include the following:

- In January 2019, Route 1 service to the Brookfield Highlands Apartments in the Town of Brookfield was eliminated as Brookfield Highlands no longer pays for the service, which included three weekday trips to the apartment complex.

- In April 2019, the outbound trips on Route 9 to the Easter Seals facility on Airport Road were eliminated due to its closure a month earlier.

**Waukesha County Transit**

The previous Waukesha County Transit Development Plan was completed in 2001 and proposed eliminating service over the most unproductive routes so that funds could be redirected toward new or improved services with the most potential for attracting higher levels of ridership. The plan recommended that the private sector have more responsibility in establishing transit services for employment centers in low density areas to address their needs by demonstrating their worth prior to the County becoming the public sponsor for such services. The recommended transit service changes for 2006 were forecasted to result in an increase in local operating assistance to a total of $1.15 million. By comparison, the actual amount of local assistance in 2006 was $625,400. After the previous Transit Development Plan was completed in 2001, Waukesha County Transit routes were eliminated and routes operated by the Milwaukee County Transit System (MCTS) were updated to remove service from Waukesha County. More recently, the following notable changes have occurred to Waukesha County Transit routes and routes serving Waukesha County:

In 2015, the following service changes occurred:

- MCTS Route 10 became the Gold Line, increasing service hours

- Eight trips, including five extensions to the University of Wisconsin-Milwaukee were added to Route 901 utilizing WisDOT funds provided as part of traffic mitigation during construction along the IH 94 corridor

In 2016, the following service changes occurred:

- Two reverse commuter trips were eliminated from MCTS Route 79 to Menomonee Falls

In 2017, the following service changes occurred:

- One morning trip was eliminated from MCTS Route 79
- Two Saturday trips were eliminated from the MCTS Gold Line

In 2018, the following service changes occurred:

- Waukesha County Transit's fare increased by $0.25
- Three eastbound and three westbound trips were eliminated on the segment of Route 901 between Waukesha and Goerke's Corners Park & Ride Lot

In 2019, the following service changes occurred:

- Two eastbound and three westbound trips were eliminated from Route 901
- One morning reverse commute trip was eliminated and one trip extension to UW-Milwaukee was added on Route 905

Two routes between the City of Milwaukee and employment centers in Waukesha County were implemented in 2014 as part of a settlement between WisDOT and a coalition of social justice advocates. The two routes, marketed as the "JobLines" routes, included Route 6 to the New Berlin Industrial Park and Route 61 to Menomonee Falls and Germantown. In 2018, ridership on Route 6 was approximately 145 passengers per day, and Route 61 had approximately 825 passengers per day. The temporary funding for the "JobLines" routes ended in December 2018 and Route 6 to the New Berlin Industrial Park ceased service in December 2018.

Although Route 61 ended service in January 2019, Milwaukee County appropriated funds and adjusted existing Route 57 to continue to serve Menomonee Falls through the summer of 2019, allowing additional time to potentially secure non-tax levy funding to continue the service into Waukesha County after August 2019. Milwaukee County and Waukesha County explored opportunities to enter into a cost-sharing agreement to continue Route 57. However, the ridership (162 rides per day) and route productivity (4.2 passengers per revenue hour) of the portion of Route 57 in Waukesha County was less than half the 10 passengers per revenue hour that Waukesha County considers enough to recommend that a transit service be funded. As a result of the end of the temporary funding, Route 57 ceased service into Waukesha County in August 2019.

## 2.4 EXISTING TRANSIT SERVICES

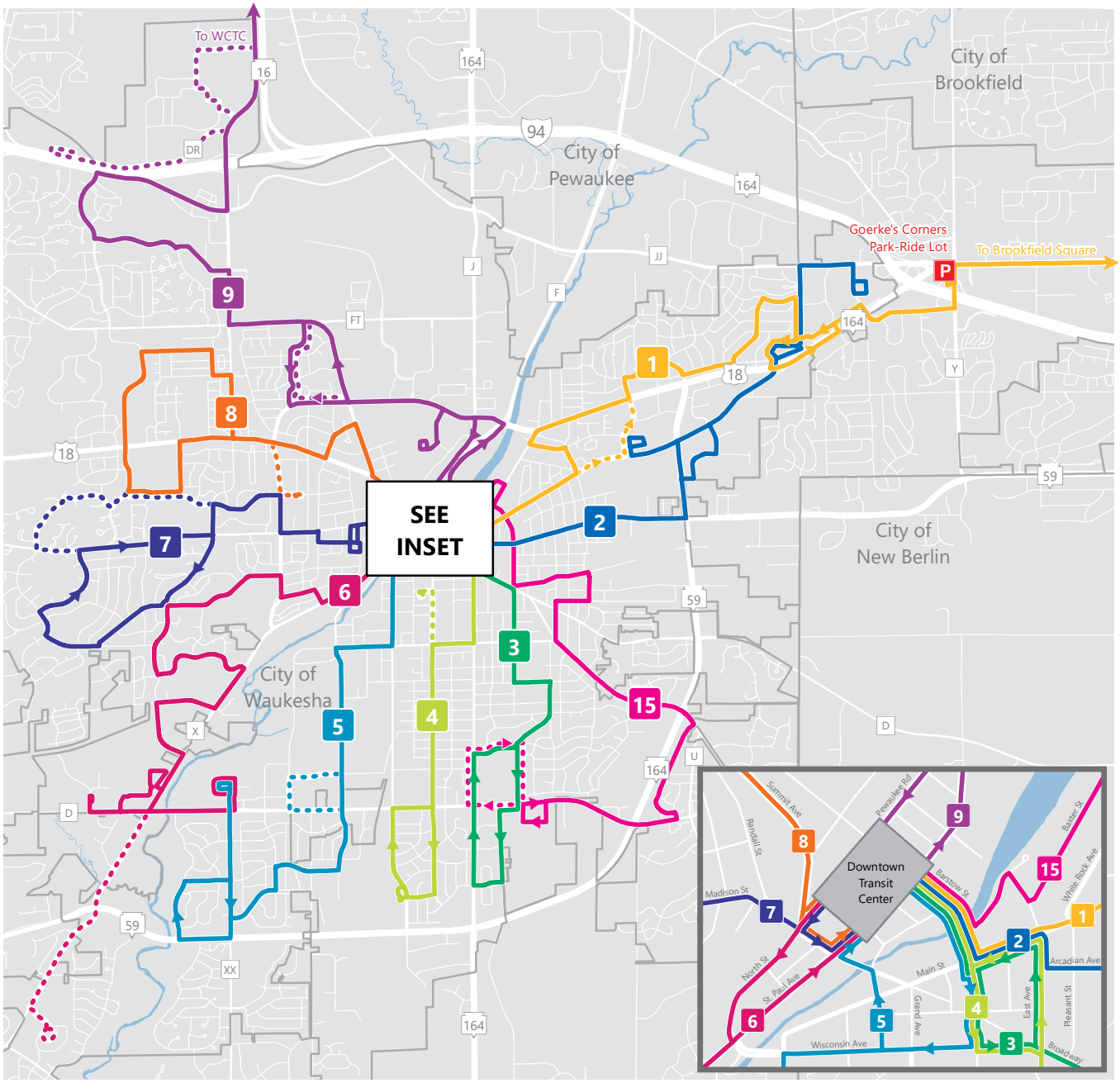
### Local Bus Routes

#### *Waukesha Metro Local Transit Services*

Maps 2.1 through 2.5 show the existing fixed-route transit service provided by Waukesha Metro as of June 2019. Waukesha Metro operates ten routes in a radial network, which originate at the Downtown Transit Center located at 212 E. St. Paul Avenue. The bus routes serve key destinations throughout the City of Waukesha, including Waukesha Memorial Hospital (Route 7), GE Healthcare and Waukesha County Technical College (Route 9), the University of Wisconsin-Milwaukee at Waukesha (Route 8), Westbrook Shopping Center (Routes 1 and 2), the Shoppes at Fox River (Route 6), the Walmart Supercenter (Route 4), and public and private K-12 schools. Most of the routes operate within the City of Waukesha. However, certain routes extend beyond the City of Waukesha or pass through adjacent communities to provide service to key destinations. With the exception of the Route 1 extension, the City of Waukesha funds the segments that operate beyond its borders, as described below:

- Route 1 extends to Brookfield Square Mall, providing service primarily along Bluemound Road in the City and Town of Brookfield. Waukesha County pays the local share to operate the extension of Route 1 between Goerke's Corners and Brookfield Square Mall.
- Route 2 serves a portion of the Town of Brookfield near the intersection of Les Paul Parkway and Arcadian Avenue.

## Map 2.1
## Waukesha Metro Transit Weekday Daytime Routes (6:00 a.m. - 8:00 p.m.)




**WEEKDAY DAYTIME ROUTES**

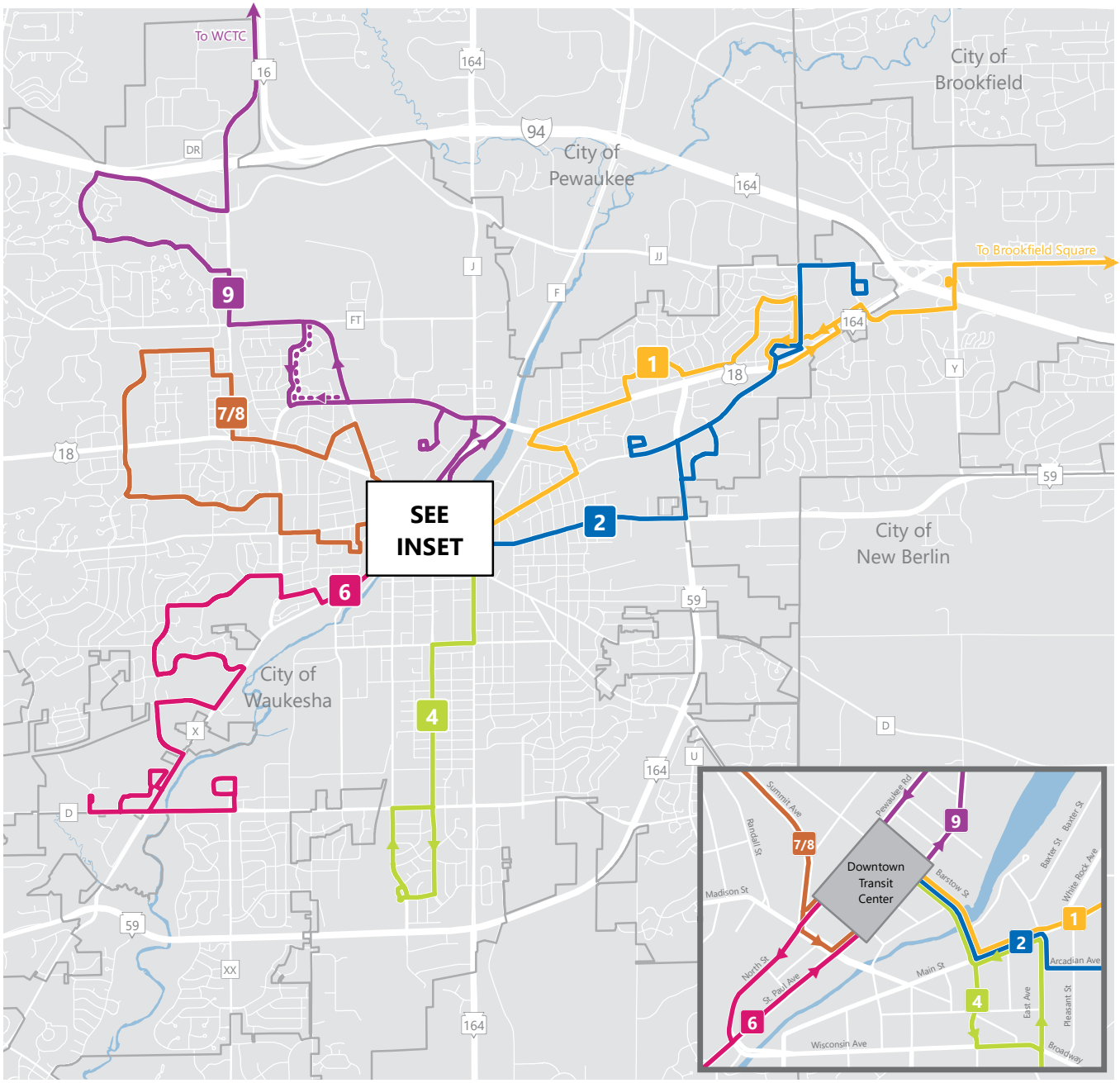
- REGULAR SERVICE
- LIMITED SERVICE
- 1 WAUKESHA/BROOKFIELD
- 2 ARCADIAN
- 3 HARTWELL
- 4 GRAND
- 5 PRAIRIE
- 6 ST. PAUL
- 7 MADISON
- 8 SUMMIT
- 9 NORTHVIEW
- 15 RACINE AVENUE

N

0 0.25 0.5 0.75 1 Miles

*Source: Waukesha Metro Transit and SEWRPC*

## Map 2.2
## Waukesha Metro Transit Weekday Evening Routes (8:00 p.m. - 10:00 p.m.)




**WEEKDAY EVENING ROUTES**

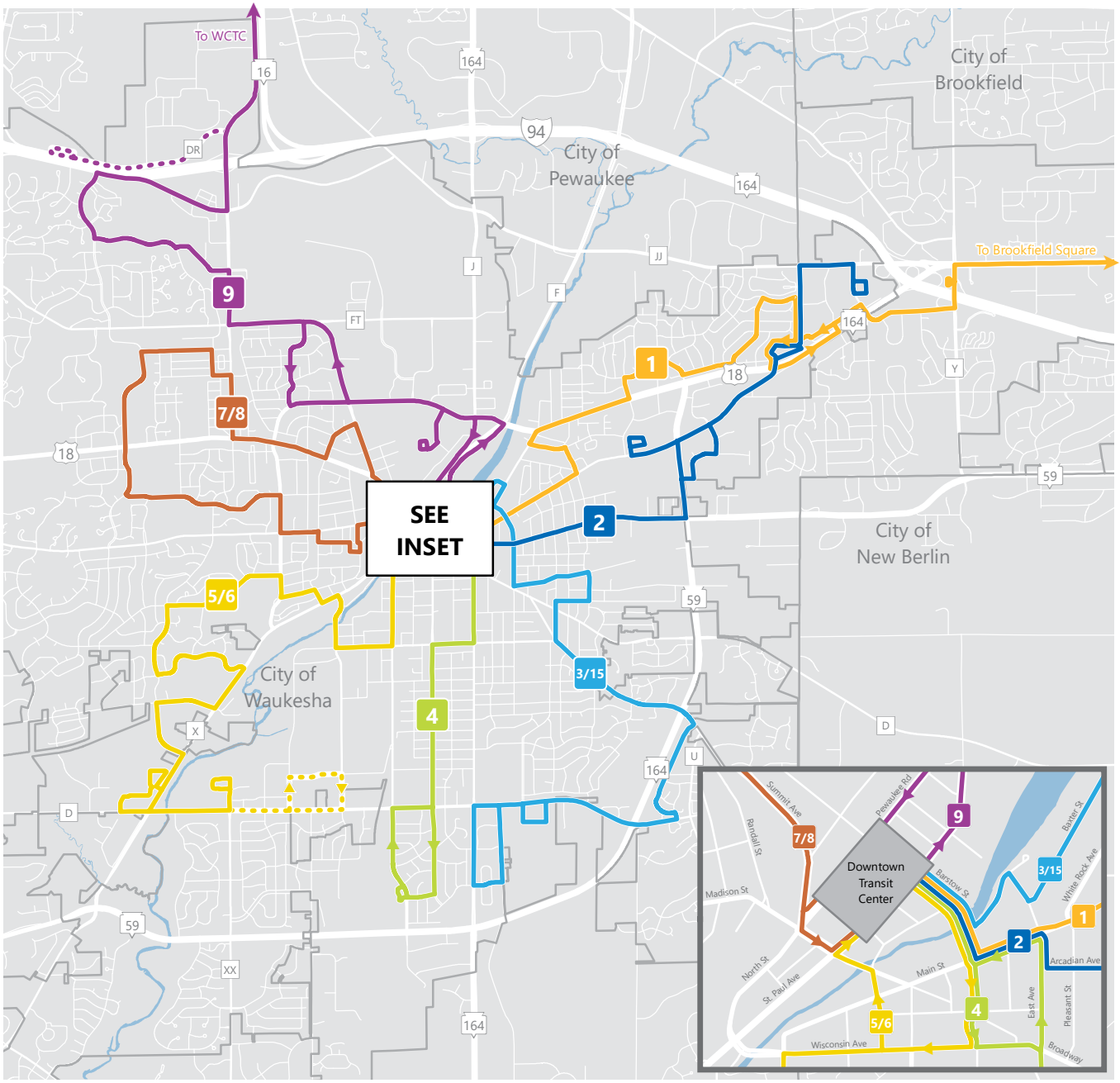
- REGULAR SERVICE
- LIMITED SERVICE
- 1 WAUKESHA/BROOKFIELD
- 2 ARCADIAN
- 4 GRAND
- 6 ST. PAUL
- 7/8 MADISON/SUMMIT
- 9 NORTHVIEW

N

0 0.25 0.5 0.75 1 Miles

*Source: Waukesha Metro Transit and SEWRPC*

## Map 2.3
## Waukesha Metro Transit Saturday Daytime Routes (6:00 a.m. - 8:00 p.m.)




**SATURDAY DAYTIME ROUTES**

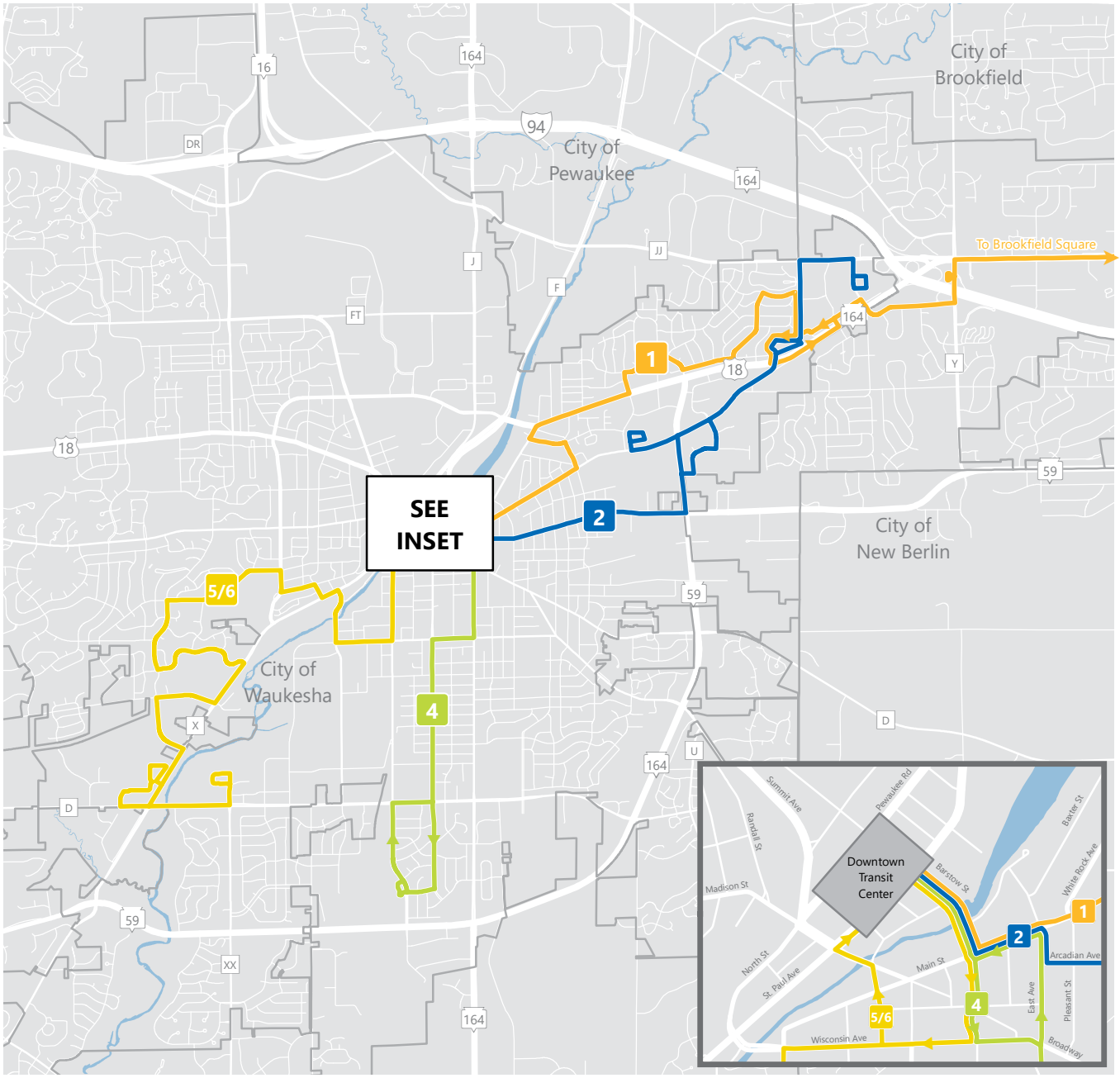
- REGULAR SERVICE
- LIMITED SERVICE
- 1 WAUKESHA/BROOKFIELD
- 2 ARCADIAN
- 3/15 HARTWELL/RACINE AVENUE
- 4 GRAND
- 5/6 PRAIRIE/ST. PAUL
- 7/8 MADISON/SUMMIT
- 9 NORTHVIEW

N

0 0.25 0.5 0.75 1 Miles

*Source: Waukesha Metro Transit and SEWRPC*

## Map 2.4
## Waukesha Metro Transit Saturday Evening Routes (8:00 p.m. - 10:00 p.m.)




**SATURDAY EVENING ROUTES**

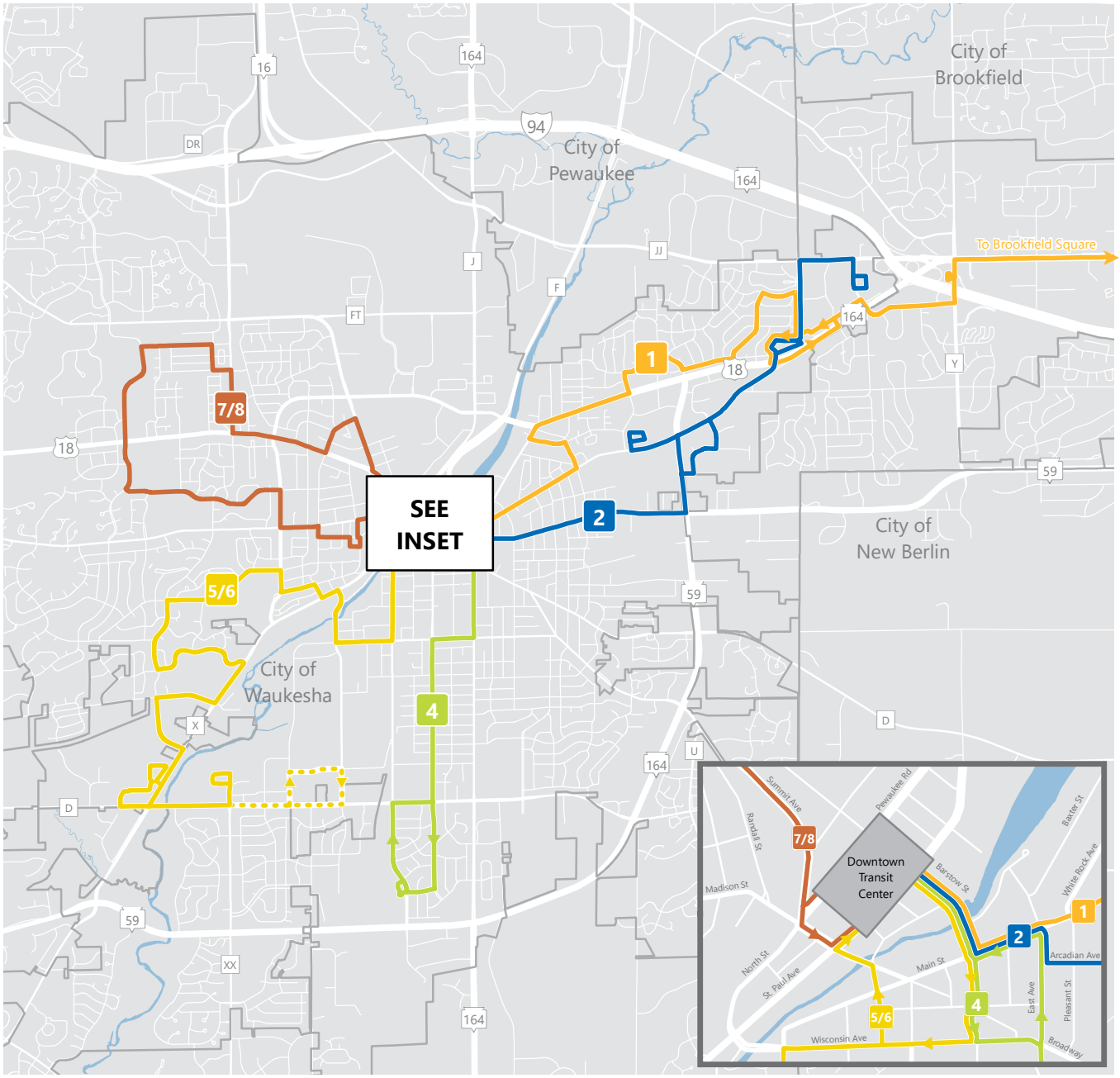
- REGULAR SERVICE
- LIMITED SERVICE (NONE)
- 1 WAUKESHA/BROOKFIELD
- 2 ARCADIAN
- 4 GRAND
- 5/6 PRAIRIE/ST. PAUL

N

0 0.25 0.5 0.75 1 Miles

*Source: Waukesha Metro Transit and SEWRPC*

## Map 2.5
## Waukesha Metro Transit Sunday Daytime Routes (6:00 a.m. - 8:00 p.m.)




**SUNDAY DAYTIME ROUTES**

- REGULAR SERVICE
- LIMITED SERVICE
- 1 WAUKESHA/BROOKFIELD
- 2 ARCADIAN
- 4 GRAND
- 5/6 PRAIRIE/ST. PAUL
- 7/8 MADISON/SUMMIT

N

0 0.25 0.5 0.75 1 Miles

*Source: Waukesha Metro Transit and SEWRPC*

- Route 5 extends along West Sunset Drive, of which a portion is located in the Town of Waukesha, to serve the Food Pantry of Waukesha County twice during weekday afternoons.

- Route 6 provides limited service to West High School twice daily while school is in session, passing though the Town of Waukesha.

- Route 9 extends north along North Grandview Boulevard to the Waukesha County Technical College, located in the City of Pewaukee.

- Route 15 extends west along East Sunset Drive from STH 59, passing through the Town of Waukesha, to serve the Meijer and provide limited service to Waukesha South High School and Whittier School.

The schedules of most routes are designed so that they meet at the Downtown Transit Center approximately every 30 to 35 minutes during the weekday peak periods and approximately every 60 to 70 minutes during other weekday times and weekends. This cycle, or "pulse," scheduling allows passengers the opportunity to transfer conveniently between bus routes and complete a trip with a minimum of delay.

Service Characteristics

The 2019 operating characteristics and service levels for the ten routes operated by Waukesha Metro are presented in Table 2.1. All ten routes operate on weekdays and seven routes operate on Saturday, covering the majority of the weekday routes through combining routes. Five routes operate on Sunday covering the service area of seven weekday routes by combining routes. Specifically, Routes 5 and 6 combine service on Saturdays and Sundays; Routes 3 and 15 combine their Saturday service; and Routes 7 and 8 combine service on weekday evenings after 6:45 p.m. and Sundays.

In addition, seven of the routes have variants that provide limited service to accommodate school and employment trips, including Routes 1, 4, 5, 6, 7, 8, 9, and 15. The majority of the limited service route variants operate at times that accommodate the beginning or end of the day at local schools while they are in session, including Routes 4, 6, 7, 8, and 15. Transit service is also provided via trips to employment areas such as the Ingleside Hotel and GE Healthcare by Route 9, the Food Pantry of Waukesha County by Route 5 and 6, and early morning service along Main Street and Manhattan Drive by Route 1.

In general, all routes leave the Transit Center on weekdays by 6:30 a.m., with Routes 1, 2, 4, 8, and 9 beginning service at the Transit Center at 5:55 a.m., and Route 3 beginning service at 7:05 a.m. Route 1 provides the longest hours of service and the most frequent service between buses, with service every 30 minutes on weekdays, Saturday, and Sunday. The Routes with the most frequent service of 30 to 35 minutes between buses during weekday peak commute hours include Routes 1, 3, 4, 8, and 9. The remaining routes generally operate with 60 to 70 minute frequencies throughout the weekday and on weekends.

Fares

Table 2.2 displays the fares charged in 2019 for fixed-route bus service. The base adult cash fare is $2.00, which has remained unchanged since 2009. However, in 2013, Waukesha Metro began offering a 10-ride fare card, a 31-day pass, and a day pass, replacing the monthly passes and paper tickets, increasing the cost of these fare media by three to five percent. There are reduced fares offered for students, seniors, and people with disabilities. Passengers can also purchase 31 day passes, books of ten tickets, and summer youth passes for students aged five to 18 with a valid identification of enrollment in an elementary or secondary school. Free 90-minute transfers are issued upon request at the time the fare is paid, and may be used to transfer to all routes operated by Waukesha Metro.

Interline transfers, or transfers to or from Waukesha County Transit routes, operated by Wisconsin Coach Lines, are also available. To transfer to Routes 901, 904, or 905, riders can request an interline transfer for $2.00 off the applicable Wisconsin Coach Lines fare. Waukesha Metro accepts transfers from Routes 901, 904, and 905 at any bus stop for no additional fare. Subsequent transfers on Waukesha Metro can be purchased by passengers boarding with a Wisconsin Coach Lines transfer for $0.50.

## Table 2.1
## Waukesha Metro Transit Operating and Service Characteristics by Route: 2019

| Service Availability | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Weekdays | | Saturdays | | Sundays | |
| Bus Route Number | Bus Route | Round Trip Route Length (miles) | Start Time First Trip | Start Time Last Trip | Start Time First Trip | Start Time Last Trip | Start Time First Trip | Start Time Last Trip |
| 1 | Waukesha/Brookfield | 18.6 (Limited service adds 0.7 miles) | 5:35 a.m. (Main Street and Manhattan Drive) | 9:15 p.m. | 8:20 a.m. | 8:50 p.m. | 9:20 a.m. | 5:50 p.m. |
| 2 | Arcadian | 13.0 | 5:55 a.m. | 8:15 p.m. | 8:50 a.m. | 7:50 p.m. | 9:50 a.m. | 5:50 p.m. |
| 3 | Hartwell | 7.0 | 6:09 a.m. (Big Bend and Sunset Drive) also extends as Route 7 | 6:45 p.m. | 8:50 a.m. (Route 15 combined) | 6:50 p.m. | No service | No service |
| 4 | Grand | 6.6 (Limited service adds 0.3 miles) | 5:55 a.m. (extends as Route 8) | 9:15 p.m. | 8:50 a.m. (Trips after 7 p.m. extend as Route 7/8) | 8:50 p.m. | 9:50 a.m. (Trip extends as Route 7/8) | 6:50 p.m. |
| 5 | Prairie | 11.8 (Limited service adds 0.5 miles) | 6:30 a.m. | 6:15 p.m. | 8:50 a.m. (Runs as Route 5/6) | 7:50 p.m. | 9:50 a.m. (Runs as Route 5/6) | 4:50 p.m. |
| 6 | St. Paul | 17.4 (Limited service adds 2.2 miles) | 6:30 a.m. | 9:15 p.m. | 8:50 a.m. (Runs as Route 5/6) | 7:50 p.m. | 9:50 a.m. (Runs as Route 5/6) | 4:50 p.m. |
| 7 | Madison | 6.5 (Limited service adds 1.8 miles) | 6:30 a.m. (Waukesha Memorial Main Entrance until 12:50 p.m.) | 8:45 p.m. (Runs as Route 7/8 after 6:45 p.m.) | 8:20 a.m. (Runs as Route 7/8 and extends on Route 4) | 6:20 p.m. | 9:20 a.m. (Runs as Route 7/8 and extends on Route 4) | 6:20 p.m. |
| 8 | Summit | 7.5 (Limited service adds 0.5 miles) | 5:55 a.m. (Route extends as Route 4) | 6:15 p.m. (Runs as Route 7/8 after 6:45 p.m.) | 8:20 a.m. (Runs as Route 7/8 and extends on Route 4) | 6:20 p.m. | 9:20 a.m. (Runs as Route 7/8 and extends on Route 4) | 6:20 p.m. |
| 9 | Northview | 21.1 (Limited service adds 3.2 miles) | 5:55 a.m. | 8:15 p.m. | 8:50 a.m. | 5:50 p.m. | No Service | No Service |
| 15 | Racine Avenue | 12.7 (Limited service adds 1.3 miles) | 6:30 a.m. | 6:15 p.m. | 8:50 a.m. (Route 3 combined) | 6:50 p.m. | No Service | No Service |

**Table continued on next page.**

## Table 2.1 (Continued)

**Service Frequency (Minutes)**

| Bus Route Number | Bus Route | Weekdays | | | | Saturday | | Sunday |
|---|---|---|---|---|---|---|---|---|
| | | A.M. Peak (6:00 a.m. - 9:00 a.m.) | Midday (9:00 a.m. - 3:00 p.m.) | P.M. Peak (3:00 p.m. - 6:00 p.m.) | Evening | Daytime (8:00 a.m. - 6:00 p.m.) | Evening (6:00 p.m. - 11:00 p.m.) | All Day |
| 1 | Waukesha/Brookfield | 30-35 | 30 | 30-35 | 30 | 30 | 30 | 30 |
| 2 | Arcadian | 60-70 | 60 | 60-70 | 60 | 60 | 60 | 60 |
| 3 | Hartwell | 35-70 | 60 | 35-70 | | 60 | (Runs as 3/15) 60 | |
| 4 | Grand | 30-35 | 30-35 | 30-35 | 60 | 60 | 60 | 60 |
| 5 | Prairie | 60-70 | 60 | 60-70 | | (Runs as 5/6) 60 | (Runs as 5/6) 60 | (Runs as 5/6) 60 |
| 6 | St. Paul | 60-70 | 60 | 60-70 | | (Runs as 5/6) 60 | (Runs as 5/6) 60 | (Runs as 5/6) 60 |
| 7 | Madison | 60-70 | 60 | 60-70 | 60 | 60 | (Runs as 7/8) 60 | (Runs as 7/8) 60 |
| 8 | Summit | 30-35 | 30-35 | 30-35 | 60 | 60 | (Runs as 7/8) 60 | (Runs as 7/8) 60 |
| 9 | Northview | 35-60 | 30-60 | 35-60 | 60 | 60 | 60 | |
| 15 | Racine Avenue | 60-70 | 60 | 60-70 | | 60 | (Runs as 3/15) 60 | |

**Buses Required**

| Bus Route Number | Bus Route | Weekdays | | | | Saturday | | Sunday |
|---|---|---|---|---|---|---|---|---|
| | | A.M. Peak (6:00 a.m. - 9:00 a.m.) | Midday (9:00 a.m. - 3:00 p.m.) | P.M. Peak (3:00 p.m. - 6:00 p.m.) | Evening | Daytime (8:00 a.m. - 6:00 p.m.) | Evening (6:00 p.m. - 11:00 p.m.) | All Day |
| 1 | Waukesha/Brookfield | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 2 | Arcadian | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | Hartwell | 1 | 1 | 1 | 1 | (Runs as 3/15) 1 Bus | (Runs as 3/15) 1 Bus | |
| 4 | Grand | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | Prairie | 1 | 1 | 1 | 1 | (Runs as 5/6) 1 Bus | (Runs as 5/6) 1 Bus | (Runs as 5/6) 1 Bus |
| 6 | St. Paul | 1 | 1 | 1 | 1 | (Runs as 5/6) 1 Bus | (Runs as 5/6) 1 Bus | (Runs as 5/6) 1 Bus |
| 7 | Madison | 1 | 1 | 1 | 1 | (Runs as 7/8) 1 Bus | (Runs as 7/8) 1 Bus | (Runs as 7/8) 1 Bus |
| 8 | Summit | 1 | 1 | 1 | 1 | (Runs as 7/8) 1 Bus | (Runs as 7/8) 1 Bus | (Runs as 7/8) 1 Bus |
| 9 | Northview | 2 | 1 | 2 | 1 | 1 | 1 | |
| 15 | Racine Avenue | 1 | 1 | 1 | 1 | (Runs as 3/15) 1 Bus | (Runs as 3/15) 1 Bus | |

*Source: Waukesha Metro Transit and SEWRPC*

**Table 2.2**
**Fares for Fixed-Route Bus Service Provided by Waukesha Metro Transit**

| Fare Category | Adults (Ages 18 to 64) | Students (Ages 5 to 18) | Seniors (ages 65 and up) and People with Disabilities |
|---|---|---|---|
| Cash | $2.00 | $1.25 | $1.00 |
| Day pass | $5.00 | $5.00 | $5.00 |
| 31 Day Passes | $46.00 | $30.00 | $35.00 |
| 10 Ride Cards | $18.00 | $12.00 | $10.00 |
| Summer Youth Pass | N/A | $35.00 | N/A |

Note: Students (ages 5-18) must show valid identification of enrollment in an elementary or secondary school. Children Age 4 and under are free (Up to 3 free with paid fare). A free 90-minute transfer is available with each cash fare or Ride Card fare. Interline transfers to/from the Milwaukee County Transit System and Wisconsin Coach Lines are also available.

*Source: Waukesha Metro Transit and SEWRPC*

Passengers on Waukesha Metro can transfer at no cost to the Gold Line, operated by the Milwaukee County Transit System (MCTS), when boarding at the Brookfield Square or Executive Drive stops. Waukesha Metro allows riders with a valid MCTS M-Card to board Waukesha Metro and continue on Route 1 for no additional fare. Subsequent transfers on Waukesha Metro can be purchased for a $0.50 cash fare.

Waukesha Metro passes and ride cards must be purchased at one of the eight fare outlets. These locations include the Downtown Transit Center, Waukesha State Bank, three Pick 'n Save locations, Sentry Foods at the Fox Run Shopping Center, Associated Bank, and the Waukesha County Technical College Campus Bookstore.

### *Waukesha County Local Transit Services*

The current focus of Waukesha County Transit services are commuter services between various Waukesha County communities, downtown Milwaukee, and the University of Wisconsin – Milwaukee campus. However, Waukesha County also funds portions of local transit services that provide connections between Waukesha County and Milwaukee County.

#### Route 1 Extension

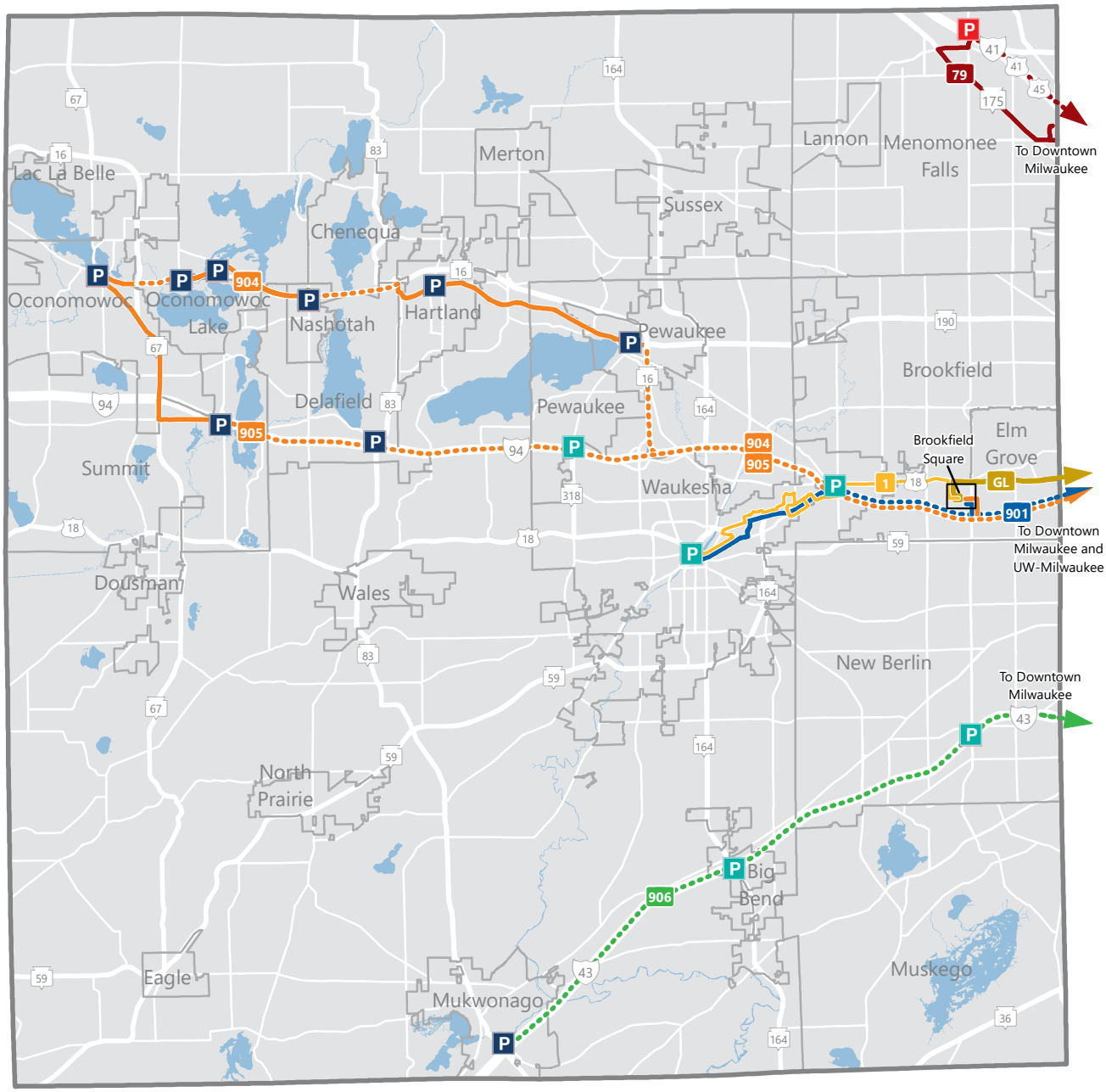
The Route 1 is operated by Waukesha Metro Transit between the Downtown Transit Center and Brookfield Square, where passengers can transfer to the MCTS Gold Line, as shown on Map 2.6. The Route 1 extension includes the segment between the Goerke's Corners Park & Ride Lot and the Brookfield Square Mall. Waukesha County pays the local share of the approximately three mile portion of the route that extends outside of the City of Waukesha, which serves numerous retail outlets and restaurants along Bluemound Road. In 2018, this portion of Route 1 served 111,291 passengers, which was a 3.6 percent increase over 2017, and had local operating expenses totaling $102,874, paid by Waukesha County.

#### Gold Line Connection

As shown on Map 2.6, a portion of the Gold Line, which is operated by MCTS, operates in Waukesha County. This segment runs along Bluemound Road, between Brookfield Square Mall and 124th Street. This service operates seven days a week, with 15 minute frequencies during peak commute times, and connects to Waukesha Metro Route 1 at Brookfield Square. This segment of the Gold Line provided 220,155 rides in 2018, a 2.9 percent increase over ridership in 2017 (213,963). The operating expenses for this portion of the Gold Line totaled $804,914 in 2018, compared with $754,168 in 2017, a 6.6 percent increase. Waukesha County's local investment for the Gold Line connection in 2018 was approximately $70,000, which was less than originally budgeted due to the high ridership, increasing revenue from passenger fares.

Milwaukee County is completing final engineering for a Bus Rapid Transit (BRT) route, known as the East-West BRT, which would connect downtown Milwaukee to the Milwaukee Regional Medical Center (MRMC). Milwaukee County anticipates replacing service on the Gold Line with the BRT service. However, there is interest in continuing service along the portion of the existing Gold Line between the MRMC and Brookfield Square Mall, and Milwaukee County and Waukesha County have initiated discussions to explore options to continue transit service along this segment.

## Map 2.6
## Waukesha County Bus Routes




**WAUKESHA COUNTY TRANSIT**

- LOCAL SERVICE
- EXPRESS SERVICE (NON-STOP)
- GL — MCTS GOLD LINE EXTENSION
- 79 — MCTS MENOMONEE FALLS FLYER
- 1 — WAUKESHA METRO ROUTE 1 EXTENSION
- 901 — WAUKESHA MILWAUKEE EXPRESS
- 904 — OCONOMOWOC MILWAUKEE EXPRESS
- 905 — OCONOMOWOC MILWAUKEE EXPRESS
- 906 — MUKWONAGO MILWAUKEE EXPRESS
- P — PARK-RIDE LOT
- P — PARK-RIDE LOT EASTERN FARE ZONE
- P — PARK-RIDE LOT WESTERN FARE ZONE

N

0 1 2 3 4 Miles

*Source: Waukesha County Transit and SEWRPC*

**Commuter Bus Routes**

In addition to the two extensions of local service described previously, as of 2019, Waukesha County funds five commuter bus routes (shown on Map 2.6). Four commuter routes (Routes 901, 904, 905, and 906) are operated under contract with the County by Wisconsin Coach Lines. Route 79, the Menomonee Falls Flyer, is operated under contract with the County by MCTS.

***Service Characteristics***

The operating characteristics of each commuter route provided by Waukesha County in 2019 are summarized in Table 2.3. The routes and services provided by the County may be characterized as follows:

- Due to the trip distances, there are up to five buses required during peak commute times.
- The five commuter routes primarily serve peak weekday commute times for the traditional commute patterns from Waukesha County to downtown Milwaukee. As a result, the round trip route lengths are longer, between approximately 15 miles and 73 miles.
- The frequency of service varies between 10 minutes to 95 minutes depending on the route, with more frequent service a peak commute times.

Table 2.4 further details the major destinations and number of trips by direction for Waukesha County commuter bus service. Route 901 provides weekday-only traditional (eastbound in the morning and westbound in the afternoon) and reverse commute service from the Downtown Transit Center in the City of Waukesha to downtown Milwaukee, with limited service to the UW-Milwaukee campus in the City of Milwaukee during fall and spring semesters. Route 901 provides six eastbound trips in the morning and five eastbound trips in the afternoon, with two of the morning trips and one afternoon trip serving the UW-Milwaukee campus.

Routes 904, 905, and 906 provide weekday-only, traditional commuter service to downtown Milwaukee, serving park-ride lots and municipal parking lots alongside STH 16 for passenger pick-ups and drop-offs boardings in the City of Oconomowoc, City of Delafield, and Village of Pewaukee. Route 904 provides one morning trip, departing from the Collins and Cross Parking Lot in downtown Oconomowoc, and one returning trip from downtown Milwaukee in the evening.

Route 905 provides five weekday morning trips to downtown Milwaukee and five afternoon weekday trips during peak commute times, with two morning trips and three afternoon trips serving the UW-Milwaukee campus in the City of Milwaukee during fall and spring semesters. All morning and afternoon runs serve the Nagawaukee Park & Ride Lot, with one morning and one afternoon trip serving the Collins and Cross Parking Lot.

Route 906 provides three morning peak commute trips and three afternoon peak commute trips between the Village of Mukwonago and downtown Milwaukee. Route 906 utilizes park-ride lots in the Village of Mukwonago, the Village of Big Bend and the City of New Berlin for pick-ups and drop-offs.

Route 79 provides four southbound trips and four northbound trips between Village of Menomonee Falls and downtown Milwaukee during peak weekday commute times, including service to the Pilgrim Road, Good Hope Road, and Watertown Plank Park & Ride Lots along IH 41.

***Fares***

Fares charged for the Waukesha County 900-series routes are shown in Table 2.5 and Map 2.6 also indicates the location of the fare zones. The latest fare increase occurred in 2018, bringing one-way adult cash fares on Route 901 and eastern fare zones on Routes 904/905 and 906 to $3.50. Fares also increased on the western fare zones on Routes 904/905 and 906, bringing one-way adult cash fares to $4.25. The one-way adult regular fares for Route 79 are $3.50 if paying with cash or $2.50 for those passengers utilizing the M-Card.

**Table 2.3**
**Waukesha County Transit Operating and Service Characteristics: 2019**

| Service Availability | | | | |
|---|---|---|---|---|
| Bus Route Number | Bus Route | Round Trip Route Length (miles) | Weekdays | |
| | | | Start Time First Trip | Start Time Last Trip |
| 901 | Waukesha/Milwaukee Express | 48.4 | 5:10 a.m. | 6:05 p.m. |
| 904 | Oconomowoc/Milwaukee Express | 71.6 | 6:05 a.m. | 4:40 p.m. |
| 905 | Oconomowoc/Milwaukee Express | 72.7 | 6:00 a.m. | 6:45 p.m. |
| 906 | Mukwonago/Milwaukee Express | 66.1 | 6:00 a.m. | 5:10 p.m. |
| 79 | Menomonee Falls Flyer | 15 (within Waukesha County) | 3:42 a.m. | 7:14 p.m. |

| Service Frequency (Minutes) | | | | |
|---|---|---|---|---|
| Bus Route Number | Bus Route | Weekdays | | |
| | | A.M. Peak (6:00 a.m. - 9:00 a.m.) | Midday (9:00 a.m. - 3:00 p.m.) | P.M. Peak (3:00 p.m. - 6:00 p.m.) |
| 901 | Waukesha/Milwaukee Express | 10 to 60 | 1 trip | 10 to 60 |
| 904 | Oconomowoc/Milwaukee Express | 2 trips | | 2 trips |
| 905 | Oconomowoc/Milwaukee Express | 10 to 95 | | 10 to 95 |
| 906 | Mukwonago/Milwaukee Express | 25 to 35 | | 25 to 35 |
| 79 | Menomonee Falls Flyer | 30 | | 30 |

| Buses Required | | | | |
|---|---|---|---|---|
| Bus Route Number | Bus Route | Weekdays | | |
| | | A.M. Peak (6:00 a.m. - 9:00 a.m.) | Midday (9:00 a.m. - 3:00 p.m.) | P.M. Peak (3:00 p.m. - 6:00 p.m.) |
| 901 | Waukesha/Milwaukee Express | 5 | 1 | 4 |
| 904 | Oconomowoc/Milwaukee Express | 1 | 0 | 1 |
| 905 | Oconomowoc/Milwaukee Express | 5 | 0 | 5 |
| 906 | Mukwonago/Milwaukee Express | 3 | 0 | 3 |
| 79 | Menomonee Falls Flyer | 2 | 0 | 2 |

*Source: Waukesha County Transit, Milwaukee County Transit System, and SEWRPC*

### Paratransit Services for People with Disabilities

The City of Waukesha and Waukesha County provides paratransit service for persons whose disability is of such a nature that they are unable to use fixed-route services. The paratransit services comply with Federal regulations implementing the public transit requirements of the Americans with Disabilities Act (ADA) of 1990. These regulations require each public entity providing fixed-route transit service to provide paratransit service to persons unable to use fixed-route bus service as a complement to their fixed-route service. As required by ADA, riders that use paratransit services must complete an application to be certified as having a condition that results in a transportation disability. This is generally defined as any incapacity or disability that results in the inability of a person to independently board, ride, or disembark from the buses used to provide the fixed route transit service; if such a person would be capable of using an accessible bus, but accessible fixed-route transit service is not available for the trip they desire to make; or if such persons have a disability that prevents them from traveling to or from a boarding or disembarking location on the fixed-route transit system.

#### *City of Waukesha Paratransit Service*

The paratransit service, Waukesha Metro Transit Metrolift, is a curb-to-curb, demand-responsive service that operates within 0.75 miles of the Waukesha Metro fixed bus routes. Waukesha Metrolift service is provided from 5:30 a.m. to 10:45 p.m., Monday through Friday; 8:00 a.m. to 10:20 p.m. on Saturday; and 9:00 a.m. to 7:20 p.m. on Sunday. Metrolift does not operate on major holidays. Reservations must be made by 4:00 p.m. the day prior to a requested ride and can be arranged up to two weeks in advance. The one-way fare for a Waukesha Metrolift ride is $4.00 and Ride Cards for two rides can be purchased at Metro fare outlets. Waukesha Metrolift also offers an agency fare for non-emergency medical trips at a rate negotiated between the healthcare provider and Waukesha Metrolift. In 2018, Metrolift provided 11,900 rides, which represents an approximately nine percent increase over 2017. Additional information on ridership trends is provided later in this chapter.

## Table 2.4
## Waukesha County Trips by Direction and Time of Day: 2019

| Bus Route Number | Major Destinations | Trips by Direction and Time of Day | | | | | |
|---|---|---|---|---|---|---|---|
| | | A.M. Peak (6:00 a.m. - 9:00 a.m.) | | Midday (9:00 a.m. - 3:00 p.m.) | | P.M. Peak (3:00 p.m. - 6:00 p.m.) | |
| | | Eastbound | Westbound | Eastbound | Westbound | Eastbound | Westbound |
| 901 | Downtown Waukesha, Brookfield Square, Downtown Milwaukee, and UW-Milwaukee | 6 total trips, 3 continue to UW-Milwaukee | 5 trips; 2 trips end at Goerke's Corners | 1 trip, which continues to UW-Milwaukee | 2 trips; both depart from UW-Milwaukee | 5 trips, all to downtown Milwaukee; 1 trip departs Goerke's Corners at 3:15 p.m. | 5 total trips; 3 trips depart UW-Milwaukee |
| 904 | Downtown Oconomowoc, Hartland, Downtown Milwaukee | 1 trip | none | none | none | none | 1 trip |
| 905 | Downtown Oconomowoc, Delafield, Downtown Milwaukee, UW-Milwaukee | 5 total trips; 2 continue to UW-Milwaukee | none | none | none | none | 5 total trips; 3 trips depart UW-Milwaukee |
| 906 | Mukwonago, Downtown Milwaukee | 3 trips | none | none | none | none | 3 trips |
| 79 | Menomonee Falls, Downtown Milwaukee, Marquette University | 4 trips | none | none | none | none | 4 trips |

*Source: Waukesha County Transit, Milwaukee County Transit System, and SEWRPC*

**Table 2.5**
**Fares for Waukesha County 900-Series Routes**

| Fare Category | Fare Zone | |
|---|---|---|
| | Eastern Fare Zone[a] | Western Fare Zone[b] |
| Adults (Ages 18 to 64) | $3.50 | $4.25 |
| Students (Ages 5 to 18) | $2.50 | $3.25 |
| Seniors (ages 65 and up) and People with Disabilities | $1.75 | $2.00 |
| Children (Ages 5 to 17) | $2.50 | $3.25 |
| Children (Ages 4 and under) | Free | Free |
| Commuter Book Fare | 10% discount | 10% discount |
| Transfers from Waukesha Metro | $2.00 discount | N/A |
| Transfers from MCTS | $0.50 discount | $0.50 discount |

[a] *Eastern fare zone applies to the entire Route 901, Route 904 east of and including Goerkes Corners, Route 905 east of and including Meadowbrook Transit Station, and Route 906 east of and including Big Bend Park and Ride Lot.*

[b] *Western fare zone applies to any on or off occurring west of Goerkes Corners on Route 904, any on or off west of Meadowbrook Transit Station, and any on or off west of the Big Bend Park and Ride Lot.*

*Source: Waukesha County Transit and SEWRPC*

### *Waukesha County Paratransit Service*

Waukesha County provides curb-to-curb, demand responsive paratransit service for people with disabilities that is operated by National Express Transit Corporation. The Waukesha County paratransit service is offered within 0.75 miles of Route 901 and the Waukesha Metrolift service area for an additional $3.00, as long as the trip begins or ends in the County's paratransit service area.

Fares for paratransit service are $7.00 for a one-way trip. An attendant certified to accompany a passenger may ride free. In 2018, fares increased $0.50 for the standard zone paratransit service and $1.00 for an extended zone trip. Reservations are required by noon the day prior to the requested trip. Service hours are 5:30 a.m. to 7:20 p.m., Monday through Friday.

## 2.5 RIDERSHIP AND SERVICE LEVELS

### Waukesha Metro

In 2018, Waukesha Metro's fixed-route bus service carried 619,488 boarding passenger trips.[5] Excluding 2015, ridership has decreased over the past decade, decreasing approximately four percent between 2014 and 2018 (from 706,447 to 619,488), as shown in Table 2.6. The decline in ridership may be attributed to the approximately 21 percent decline in gas prices between 2014 and 2018, and may also be related to the increase in availability of sub-prime automobile loans, which allow borrowers with poor credit scores to more easily acquire loans, thereby increasing auto ownership and reducing transit use. The amount of service provided remained relatively unchanged in recent years, with a 0.6 percent increase in annual revenue vehicle hours provided between 2014 and 2018, from 51,400 to 52,000, respectively. Table 2.6 also includes two measures of service effectiveness: passengers per vehicle hour and passengers per vehicle mile. In general, the service effectiveness of Waukesha Metro has generally decreased over the past five years, with the exception of a slight increase in 2015, as a result in the increase in ridership.

Figure 2.2 displays ridership, service levels, and fare increases for years 2007 through 2018. Ridership decreased over the past decade, particularly after 2012, with an approximately 37 percent decrease between 2007 and 2018 (from 803,000 to 619,000), while the amount of service offered has remained relatively constant between approximately 51,000 and 54,000 annual revenue vehicle hours.

### Metrolift

Table 2.6 also includes ridership and service effectiveness measures for Metrolift. In 2018, Metrolift provided rides to 10,800 passengers, with an average of 42 passengers per weekday between 2014 and 2018. After new

[5] *Boarding passengers include revenue passengers, free fare passengers, and transfers. This total includes ridership on the portion of Route 1 that extends between Goerke's Corners Park & Ride Lot and Brookfield Square Mall.*

## Table 2.6
## Waukesha Metro Service Ridership and Service Levels[a]

| Fixed-Route Bus Service | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Primary Service Area Population | 71,083 | 71,324 | 72,016 | 72,173 | 72,459 | 71,811 |
| Passenger Trips | | | | | | |
| Revenue Passengers | 591,833 | 585,594 | 546,744 | 535,801 | 522,068 | 556,408 |
| Boarding Passengers | 706,447 | 695,391 | 643,451 | 630,003 | 619,488 | 658,956 |
| Average Weekday Boarding Passengers | 2,770 | 2,727 | 2,523 | 2,471 | 2,429 | 2,584 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | 664,100 | 665,000 | 656,800 | 648,200 | 661,700 | 659,160 |
| Annual Revenue Vehicle Hours | 51,400 | 51,500 | 52,200 | 51,900 | 52,000 | 51,800 |
| Service Effectiveness | | | | | | |
| Boarding Passengers per Vehicle Mile | 1.06 | 1.05 | 0.98 | 0.97 | 0.94 | 1.00 |
| Boarding Passengers per Vehicle Hour | 13.74 | 13.50 | 12.33 | 12.14 | 11.91 | 12.73 |

| Annual Change from Previous Year by Percent | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Passenger Trips | | | | | | |
| Annual Boarding Passengers | -5.4 | -1.6 | -7.5 | -2.1 | -1.7 | -3.6 |
| Average Weekday Boarding Passengers | -5.4 | -1.6 | -7.5 | -2.1 | -1.7 | -3.6 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | -6.5 | 0.1 | -1.2 | -1.3 | 2.1 | -1.4 |
| Annual Revenue Vehicle Hours | -4.1 | 0.2 | 1.4 | -0.6 | 0.2 | -0.6 |
| Service Effectiveness | | | | | | |
| Boarding Passengers per Vehicle Mile | 1.2 | -1.7 | -6.3 | -0.8 | -3.7 | -2.3 |
| Boarding Passengers per Vehicle Hour | -1.4 | -1.8 | -8.7 | -1.5 | -1.9 | -3.0 |

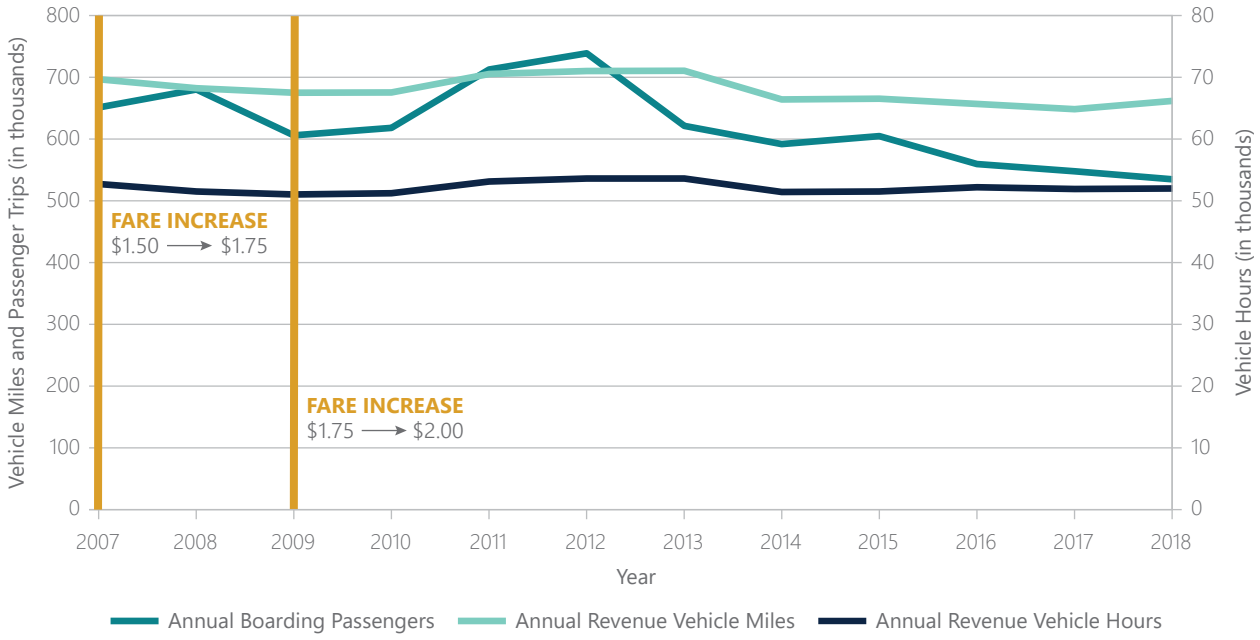
| Paratransit Service (Metrolift) | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Passenger Trips | | | | | | |
| Revenue Passengers | 10,931 | 9,904 | 9,483 | 7,502 | 8,583 | 9,281 |
| Boarding Passengers | 11,916 | 10,906 | 10,561 | 9,693 | 10,784 | 10,772 |
| Average Weekday Boarding Passengers | 47 | 43 | 41 | 38 | 42 | 42 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | 72,200 | 66,500 | 58,500 | 50,300 | 53,500 | 60,200 |
| Annual Revenue Vehicle Hours | 6,900 | 6,500 | 6,000 | 4,500 | 4,600 | 5,700 |
| Service Effectiveness | | | | | | |
| Boarding Passengers per Vehicle Mile | 0.17 | 0.16 | 0.18 | 0.19 | 0.20 | 0.18 |
| Boarding Passengers per Vehicle Hour | 1.73 | 1.68 | 1.76 | 2.15 | 2.34 | 1.93 |

| Annual Change from Previous Year by Percent | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Passenger Trips | | | | | | |
| Annual Boarding Passengers | 2.3 | -8.5 | -3.2 | -8.2 | 11.3 | -1.3 |
| Average Weekday Boarding Passengers | 2.3 | -8.5 | -3.2 | -8.2 | 11.3 | -1.3 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | 1.0 | -7.9 | -12.0 | -14.0 | 6.4 | -5.3 |
| Annual Revenue Vehicle Hours | -2.8 | -5.8 | -7.7 | -25.0 | 2.2 | -7.8 |
| Service Effectiveness | | | | | | |
| Boarding Passengers per Vehicle Mile | 1.3 | -0.6 | 10.1 | 6.7 | 4.6 | 4.4 |
| Boarding Passengers per Vehicle Hour | 5.3 | -2.8 | 4.9 | 22.4 | 8.8 | 7.7 |

[a] *Data shown for Waukesha Metro Transit include those associated with the Route 1 Extension, which are also accounted for in the Waukesha County Transit system information.*

*Source: U.S. Census, Waukesha Metro Transit, and SEWRPC*

**Figure 2.2**
**Waukesha Metro Transit Service Ridership, Service Levels, and Fare Changes**




*Source: Waukesha Metro Transit and SEWRPC*

dispatching software was implemented in 2017, which scheduled and grouped rides more efficiently, service effectiveness for Metrolift increased 22 percent. 2018 showed continued improvement in service effectiveness.

### Waukesha County Transit

In 2018, Waukesha County Transit's fixed route bus service carried 474,200 linked passenger trips, representing a decrease from 2014 ridership, as shown in Table 2.7. These totals include the transit service operated by Wisconsin Coach Lines, Inc., the Waukesha Metro Route 1 extension, and the portions of MCTS' Gold Line and Route 79 that operate in Waukesha County. The ridership trend is also shown in Figure 2.3, which indicates that ridership on transit services provided by Waukesha County has been steadily declining since 2013. National and regional trends are also showing continued declines in transit ridership, which have been attributed to a combination of factors, including lower fuel costs, changes in demographics of the workforce, and the increased availability of ride-hailing services, such as Lyft and Uber. In particular, the recent decline in ridership on Waukesha County Transit bus routes may be attributed to the approximately 21 percent decline in gas prices between 2014 and 2018 as these are primarily commuter routes. Changes in age composition attributed to the aging of the "Baby-Boomer" generation—as this generation continues to age, they are leaving the work force, with fewer potential commuters under 55 years old to replace current riders—may also be reducing demand for commuter services from Waukesha County to downtown Milwaukee, and would be expected to reduce ridership into the near future. Conversely, demand for specialized transit services may increase as residents continue to age and become eligible for these services at age 65. It should be noted that recent reports indicate that declining bus ridership can be reversed by incorporating technologies and services that make transit more time competitive and reliable compared to other mobility options, which will be explored as part of this planning effort.[6]

### Waukesha County Paratransit

Table 2.7 also shows fluctuations in County paratransit ridership, with a decrease of 900 riders between 2014 and 2018, from 3,700 annual passengers to 2,800 annual passengers, respectively. The reduction in overall paratransit ridership is also reflected in the number of passengers per vehicle hour, which decreased from 2.6 passengers to 1.9 passengers per vehicle hour between 2014 and 2018.

[6] *American Public Transportation Association. Understanding Recent Ridership Changes: Trends and Adaptations. April 2018.*

## Table 2.7
## Waukesha County Transit Ridership and Service Levels

| Fixed-Route Bus Service | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Primary Service Area Population | 395,431 | 396,261 | 398,561 | 401,070 | 403,072 | 398,879 |
| Passenger Trips | | | | | | |
| Annual Passengers (linked)[a] | 543,000 | 519,900 | 509,800 | 483,400 | 474,200 | 506,060 |
| Average Weekday Passengers | 2,129 | 2,039 | 1,999 | 1,896 | 1,860 | 1,985 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | 554,200 | 629,300 | 631,200 | 599,700 | 556,700 | 594,220 |
| Annual Revenue Vehicle Hours | 27,900 | 30,600 | 30,700 | 29,300 | 27,600 | 29,220 |
| Service Effectiveness | | | | | | |
| Passengers per Vehicle Mile | 0.98 | 0.83 | 0.81 | 0.81 | 0.85 | 0.85 |
| Passengers per Vehicle Hour | 19.46 | 16.99 | 16.61 | 16.50 | 17.18 | 17.35 |

| Annual Change from Previous Year by Percent | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Passenger Trips | | | | | | |
| Annual Passengers (linked) | -2.4 | -4.3 | -1.9 | -5.2 | -1.9 | -3.1 |
| Average Weekday Passengers | -2.4 | -4.3 | -1.9 | -5.2 | -1.9 | -3.1 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | 1.1 | 13.6 | 0.3 | -5.0 | -7.2 | 0.6 |
| Annual Revenue Vehicle Hours | -0.7 | 9.7 | 0.3 | -4.6 | -5.8 | -0.2 |
| Service Effectiveness | | | | | | |
| Passengers per Vehicle Mile | -3.4 | -15.7 | -2.2 | -0.2 | 5.7 | -3.2 |
| Passengers per Vehicle Hour | -1.7 | -12.7 | -2.3 | -0.6 | 4.1 | -2.6 |

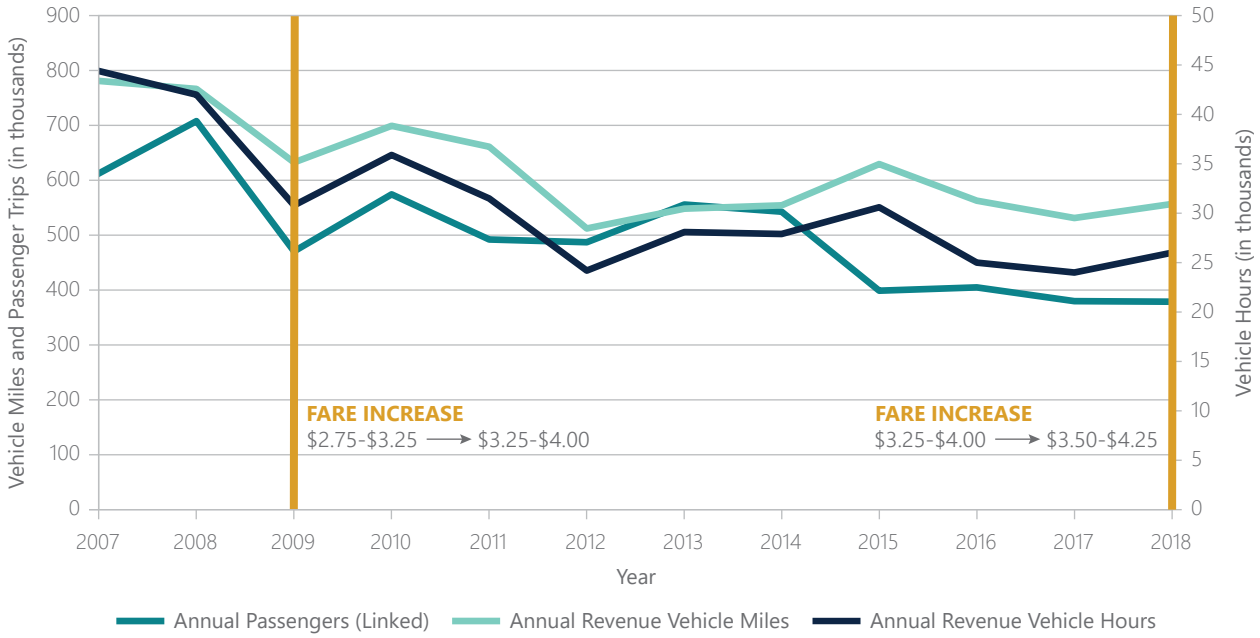
| Paratransit Service (County) | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Passenger Trips | | | | | | |
| Annual Passengers (linked) | 3,700 | 3,100 | 3,200 | 3,500 | 2,800 | 3,260 |
| Average Weekday Passengers | 15 | 12 | 13 | 14 | 11 | 13 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | 20,851 | 22,049 | 22,830 | 21,920 | 17,400 | 21,010 |
| Annual Revenue Vehicle Hours | 1,430 | 1,380 | 1,432 | 1,444 | 1,459 | 1,429 |
| Service Effectiveness | | | | | | |
| Passengers per Vehicle Mile | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| Passengers per Vehicle Hour | 2.6 | 2.2 | 2.2 | 2.4 | 1.9 | 2.3 |

| Annual Change from Previous Year by Percent | | | | | | |
|---|---|---|---|---|---|---|
| | Year | | | | | Average |
| Characteristic | 2014 | 2015 | 2016 | 2017 | 2018 | 2014-2018 |
| Passenger Trips | | | | | | |
| Annual Passengers (linked) | -37.3 | -16.2 | 3.2 | 9.4 | -20.0 | -12.2 |
| Average Weekday Passengers | -37.3 | -16.2 | 3.2 | 9.4 | -20.0 | -12.2 |
| Service Provided | | | | | | |
| Annual Revenue Vehicle Miles | -29.8 | 5.7 | 3.5 | -4.0 | -20.6 | -9.0 |
| Annual Revenue Vehicle Hours | -35.6 | -3.5 | 3.8 | 0.8 | 1.0 | -6.7 |
| Service Effectiveness | | | | | | |
| Passengers per Vehicle Mile | -10.7 | -20.8 | -0.3 | 13.9 | 0.8 | -3.4 |
| Passengers per Vehicle Hour | -2.6 | -13.2 | -0.5 | 8.5 | -20.8 | -5.7 |

[a] *Total revenue passengers do not include paratransit ridership provided by Waukesha County Transit.*

*Source: U.S. Census, Waukesha County Transit, and SEWRPC*

**Figure 2.3**
**Waukesha County Transit Service Ridership, Service Levels, and Fare Changes (2007-2018)**




*Source: Waukesha County Transit and SEWRPC*

## 2.6 EXPENDITURES AND REVENUE

### Waukesha Metro

Table 2.8 shows the operating expenses, revenues, and assistance for Waukesha Metro Service between 2014 and 2018. The number of boarding passengers declined 12.3 percent between 2014 and 2018, resulting in an approximately six percent decline in farebox revenue. During the same time, Federal and State operating assistance declined at a rate of 5.4 and 9.4 percent, respectively, while local assistance increased by 16.6 percent, resulting in a 33 percent increase in local operating assistance per trip.

Trends in operating expenses, State and Federal assistance, local funding, and fare revenue for the years 2008 through 2018 are shown in Figure 2.4. Operating expenses and Federal and State assistance have remained relatively stable during the past decade, with increases between 2009 and 2010, followed by a decrease starting in 2013. In recent years, fare revenue has been trending downward, while local assistance has increased slightly.

### Metrolift

As shown in Table 2.9, ridership on Metrolift decreased 9.2 percent between 2014 and 2018, from 11,900 to 10,800, respectively. During the same time period, operating expenses remained relatively stable, decreasing by only 2.5 percent. Ridership on Metrolift increased between 2017 and 2018, and may continue to remain at similar or slightly increased levels due to the expected increase in population aged 65 and over.

### Waukesha County Transit

Trends in operating expenses, State and Federal assistance, local funding, and farebox revenue for the Waukesha County Transit system for years 2008 through 2018, are shown in Figure 2.5. Between 2008 and 2011, operating expenses and State and Federal assistance increased, with subsequent decreases occurring after 2011, coinciding with reductions in State operating assistance. Since 2015, fare revenues and State and Federal assistance have decreased, and therefore, local assistance has increased.

Table 2.10 displays more detailed operating expenditures and revenues for 2014 through 2018. The percent of local operating assistance increased 38.9 percent, from $666,812 to $926,174. During the same time, the amount of Federal and State funding increased 5.9 percent and 1.9 percent, respectively. As shown in Table 2.10, operating expenses per vehicle hour of service increased by $8.36, or 6.2 percent from $134.58

## Table 2.8
## Annual Operating Expenses, Revenues, and Assistance for Waukesha Metro Fixed-Route Service[a]

| Characteristics | Year | | | | | Change 2014-2018 | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | Number | Percent |
| Services Provided | | | | | | | |
| Total Vehicle Miles | 664,100 | 665,000 | 656,800 | 648,200 | 661,700 | -2,400 | -0.4 |
| Total Vehicle Hours | 51,400 | 51,500 | 52,200 | 51,900 | 52,000 | 600 | 1.2 |
| Boarding Passengers | 706,447 | 695,391 | 643,451 | 630,003 | 619,500 | -86,947 | -12.3 |
| Expenses and Revenues | | | | | | | |
| Operating Expenses | $4,461,883 | $4,213,060 | $4,235,681 | $4,271,922 | $4,343,786 | -$118,097 | -2.6 |
| Farebox Revenues[b] | $601,105 | $587,071 | $563,086 | $535,573 | $523,375 | -$77,730 | -12.9 |
| Percent of Expenses | | | | | | | |
| Recovered through Revenues | 13.5 | 13.9 | 13.3 | 12.5 | 12.0 | -1.4 | -10.6 |
| Operating Assistance | | | | | | | |
| Federal | $495,453 | $437,064 | $427,876 | $463,571 | $468,941 | -$26,512 | -5.4 |
| State | $2,177,710 | $2,088,221 | $2,111,666 | $2,055,379 | $1,973,893 | -$203,817 | -9.4 |
| Local | $1,014,894 | $892,929 | $925,570 | $1,006,627 | $1,183,347 | $168,454 | 16.6 |
| Total Operating Assistance | $3,688,057 | $3,418,214 | $3,465,111 | $3,525,577 | $3,618,151 | -$69,906 | -1.9 |
| Per Trip Data[c] | | | | | | | |
| Operating Expenses | $6.32 | $6.06 | $6.58 | $6.78 | $7.01 | $0.70 | 11.0 |
| Farebox Revenue | $0.85 | $0.84 | $0.88 | $0.85 | $0.84 | -$0.01 | -0.7 |
| Total Operating Assistance | $5.22 | $4.92 | $5.39 | $5.60 | $5.84 | $0.62 | 11.9 |
| Operating Expenses Per Mile | $6.72 | $6.34 | $6.45 | $6.59 | $6.56 | -$0.15 | -2.3 |
| Operating Expenses Per Hour | $86.81 | $81.81 | $81.14 | $82.31 | $83.53 | -$3.27 | -3.8 |

Note: Operating Expenses and Revenues are from financial statements for Waukesha Metro (City) and Waukesha County.

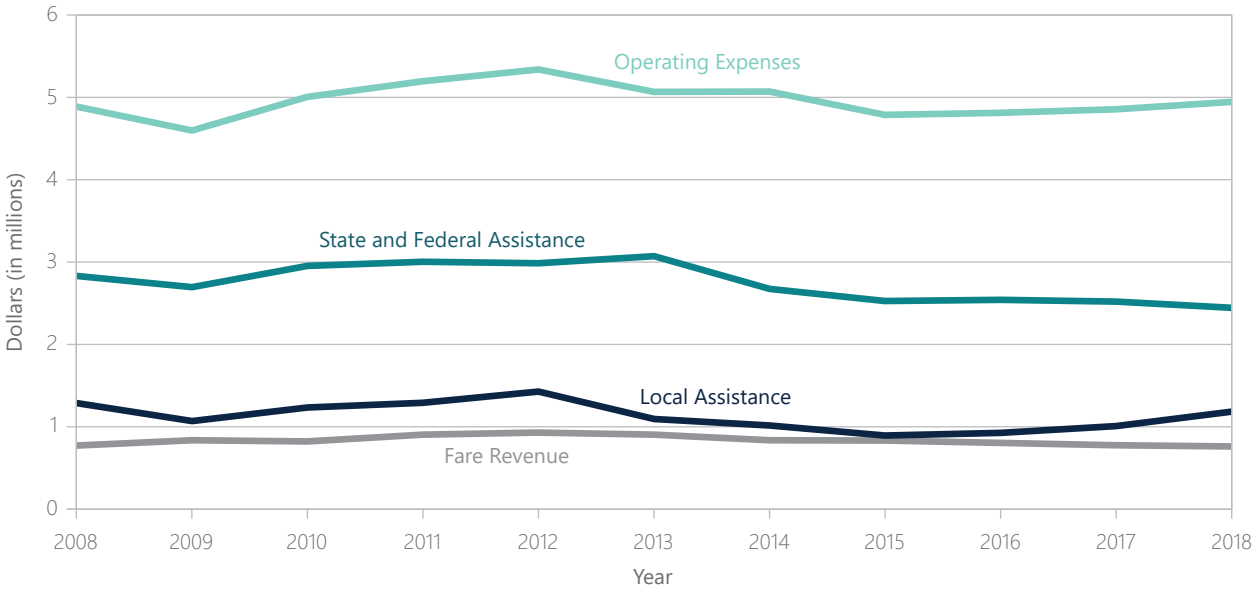
[a] *Data shown for Waukesha Metro Transit include those associated with the Route 1 Extension, which are also accounted for in the Waukesha County Transit system information.*

[b] *Farebox revenues include advertising revenues and revenue that the City of Waukesha receives from Waukesha County for administrative services.*

[c] *Per trip data calculated using boarding passengers, which includes boardings on the Route 1 Extension.*

*Source: Waukesha Metro Transit and SEWRPC*

## Figure 2.4
## Waukesha Metro Transit Service Operating Expenses, Revenues, and Assistance




Note: Waukesha Metro Transit (City) and Waukesha County Transit operating revenues, operating expenses, and operating assistance for years 2011-2018 were obtained from Financial Statements provided by Waukesha Metro staff

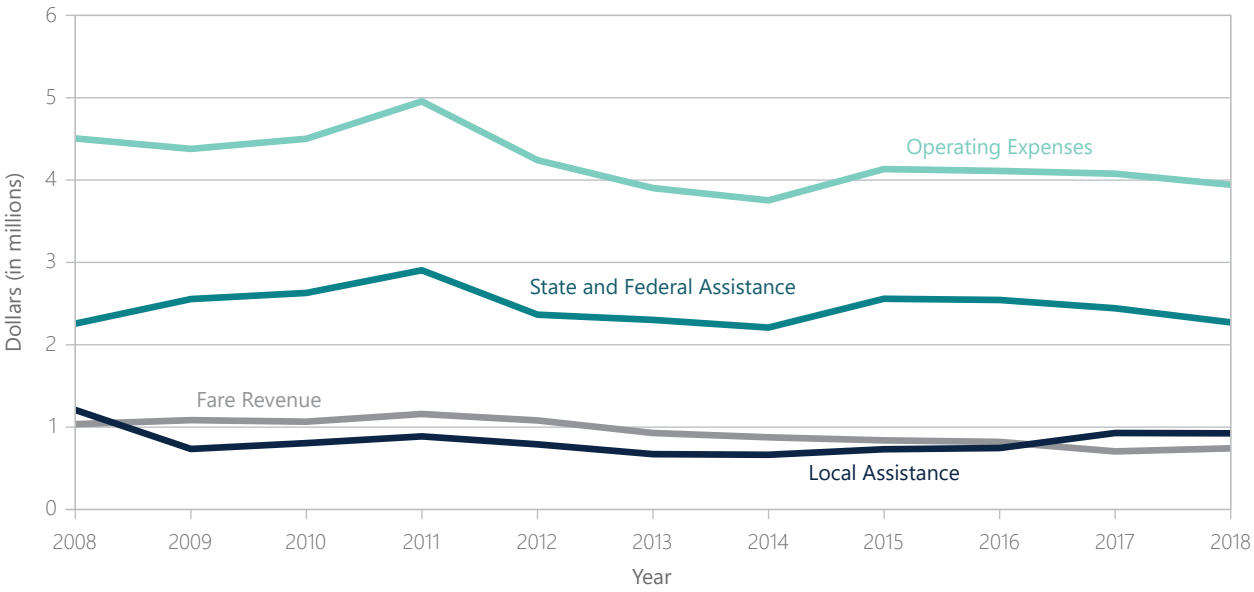
*Source: Waukesha Metro Transit and SEWRPC*

## Table 2.9
## Operating and Service Characteristics of the Complementary Paratransit Service for People with Disabilities (Metrolift): 2014-2018

| Characteristics | Year | | | | | Change 2014-2018 | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | Number | Percent |
| Services Provided | | | | | | | |
| Total Vehicle Miles | 72,200 | 66,500 | 58,500 | 50,300 | 53,500 | -18,700 | -25.9 |
| Total Vehicle Hours | 6,900 | 6,500 | 6,000 | 4,500 | 4,600 | -2,300 | -33.3 |
| Revenue Passengers (linked) | 11,900 | 10,900 | 10,600 | 9,700 | 10,800 | -1,100 | -9.2 |
| Expenses and Revenues | | | | | | | |
| Operating Expenses | $608,439 | $574,508 | $577,593 | $582,535 | $592,334 | -$16,105 | -2.6 |
| Farebox Revenues | $61,326 | $38,917 | $34,835 | $29,599 | $34,559 | -$26,767 | -43.6 |
| Percent of Expenses | | | | | | | |
| Recovered through Revenues | 10.1 | 6.8 | 6.0 | 5.1 | 5.8 | -4.2 | -42.1 |
| Operating Assistance | | | | | | | |
| Federal | $67,562 | $59,600 | $58,347 | $63,214 | $63,946 | -$3,615 | -5.4 |
| State | $321,896 | $307,872 | $308,998 | $300,991 | $290,740 | -$31,156 | -9.7 |
| Local | $157,655 | $168,120 | $175,413 | $188,731 | $204,184 | $46,528 | 29.5 |
| Total Operating Assistance | $547,113 | $535,591 | $542,758 | $552,936 | $558,870 | $11,757 | 2.1 |
| Per Trip Data | | | | | | | |
| Operating Expenses | $51.13 | $52.71 | $54.49 | $60.06 | $54.85 | $3.72 | 7.3 |
| Farebox Revenue | $5.15 | $3.57 | $3.29 | $3.05 | $3.20 | -$1.95 | -37.9 |
| Operating Expenses Per Mile | $8.43 | $8.64 | $9.87 | $11.58 | $11.07 | $2.64 | 31.4 |
| Operating Expenses Per Hour | $88.18 | $88.39 | $96.27 | $129.45 | $128.77 | $40.59 | 46.0 |

*Source: Waukesha Metro Transit and SEWRPC*

## Figure 2.5
## Waukesha County Transit Service Operating Expenses, Revenues, and Assistance




Note: Waukesha Metro Transit (City) and Waukesha County Transit operating revenues, operating expenses, and operating assistance for years 2011-2018 were obtained from Financial Statements provided by Waukesha Metro staff

*Source: Waukesha County Transit and SEWRPC*

**Table 2.10**
**Annual Operating Expenses, Revenues, and Assistance for Waukesha County Transit Service: 2014-2018**

| Characteristics | Year | | | | | Change 2014-2018 | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | Number | Percent |
| Services Provided | | | | | | | |
| Total Vehicle Miles | 554,200 | 629,300 | 631,200 | 599,700 | 556,700 | 2,500 | 0.5 |
| Total Vehicle Hours | 27,900 | 30,600 | 30,700 | 29,300 | 27,600 | -300 | -1.1 |
| Revenue Passengers (linked)[a] | 543,000 | 398,900 | 404,700 | 376,000 | 474,200 | -68,800 | -12.7 |
| Expenses and Revenues | | | | | | | |
| Operating Expenses | $3,754,702 | $4,133,219 | $4,113,049 | $4,079,475 | $3,945,048 | $190,346 | 5.1 |
| Farebox Revenues | $876,282 | $839,287 | $822,265 | $705,701 | $745,774 | -$130,508 | -14.9 |
| Percent of Expenses | | | | | | | |
| Recovered through Revenues | 23.34 | 20.31 | 19.99 | 17.30 | 18.90 | -4.43 | -19.0 |
| Operating Assistance | | | | | | | |
| Federal | $495,822 | $469,541 | $467,725 | $513,039 | $525,287 | $29,465 | 5.9 |
| State | $1,715,786 | $2,092,066 | $2,075,703 | $1,930,404 | $1,747,813 | $32,027 | 1.9 |
| Local | $666,812 | $732,325 | $747,356 | $930,331 | $926,174 | $259,362 | 38.9 |
| Total Operating Assistance | $2,878,420 | $3,293,932 | $3,290,784 | $3,373,774 | $3,199,274 | $320,854 | 11.1 |
| Per Trip Data | | | | | | | |
| Operating Expenses | $6.91 | $10.36 | $10.16 | $10.85 | $8.32 | $1.40 | 20.3 |
| Farebox Revenue | $1.61 | $2.10 | $2.03 | $1.88 | $1.57 | -$0.04 | -2.5 |
| Total Operating Assistance | $5.30 | $8.26 | $8.13 | $8.97 | $6.75 | $1.45 | 27.3 |
| Local Operating Assistance | $1.23 | $1.84 | $1.85 | $2.47 | $1.95 | $0.73 | 59.0 |
| Operating Expenses Per Mile | $6.77 | $6.57 | $6.52 | $6.80 | $7.09 | $0.31 | 4.6 |
| Operating Expenses Per Hour | $134.58 | $135.07 | $133.98 | $139.23 | $142.94 | $8.36 | 6.2 |

Note: Operating Expenses and Revenues are from financial statements for Waukesha Metro (City) and Waukesha County.

[a] *Total revenue passengers do not include paratransit ridership provided by Waukesha County Transit.*

*Source: Waukesha County Transit and SEWRPC*

in 2014 to $142.94 in 2018. As ridership decreased 12.7 percent, service became less efficient over those five years, with operating expenses per trip increasing 20.3 percent.

### Waukesha County Paratransit

Table 2.11 shows operating expenses, total operating assistance, and farebox revenue for the County's complementary paratransit service. Between 2014 and 2018, paratransit ridership has decreased 24.3 percent, from 3,700 passengers in 2014 to 2,800 passengers in 2018. Total operating assistance has remained relatively stable over the past five years, while operating expenses per trip have increased 25.5 percent as the number of passengers has decreased.

## 2.7 CHARACTERISTICS AND TRAVEL PATTERNS OF USERS

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) conducted a passenger survey of the Waukesha Metro Transit and Waukesha County Transit Systems in 2012. The survey entailed distributing a prepaid, pre-addressed, mail-back survey questionnaire to all passengers on each scheduled weekday bus trip operated by the transit system on the survey day. Passengers who preferred to use Spanish were provided with a Spanish translation of the questionnaire.

### Waukesha Metro

#### *Characteristics of Users*

Commission staff received 492 completed survey questionnaires, representing about 20 percent of the average weekday trips made in 2012 and including riders on the extension of Route 1 outside of the City of Waukesha. Table 2.12 provides a summary of the socio-economic characteristics of Waukesha Metro passengers using the bus service in 2012. The following observations can be made based upon examination of this information:

**Table 2.11**
**Annual Operating Expenses, Revenues, and Assistance for Waukesha County's Complementary Paratransit Service for People with Disabilities: 2018**

| Characteristics | Year | | | | | Change 2014-2018 | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | Number | Percent |
| Services Provided | | | | | | | |
| Total Vehicle Miles | 20,851 | 22,049 | 22,830 | 21,920 | 17,441 | -3,410 | -16.4 |
| Total Vehicle Hours | 1,430 | 1,380 | 1,432 | 1,444 | 1,459 | 29 | 2.0 |
| Revenue Passengers (linked) | 3,700 | 3,100 | 3,200 | 3,500 | 2,800 | -900 | -24.3 |
| Expenses and Revenues | | | | | | | |
| Operating Expenses | $158,727 | $137,951 | $142,894 | $157,726 | $150,743 | -$7,984 | -5.0 |
| Farebox Revenues | $26,988 | $23,686 | $24,525 | $26,904 | $24,320 | -$2,668 | -9.9 |
| Percent of Expenses | | | | | | | |
| Recovered through Revenues | 17.0 | 17.2 | 17.2 | 17.1 | 16.1 | -0.9 | -5.1 |
| Total Operating Assistance | $130,337 | $114,267 | $118,369 | $130,822 | $126,423 | -$3,914 | -3.0 |
| Per Trip Data | | | | | | | |
| Operating Expenses | 42.9 | 44.5 | 44.7 | 45.1 | 53.8 | 10.9 | 25.5 |
| Farebox Revenue | 7.3 | 7.6 | 7.7 | 7.7 | 8.7 | 1.4 | 19.1 |
| Total Operating Assistance | 35.2 | 36.9 | 37.0 | 37.4 | 45.2 | 9.9 | 28.2 |
| Operating Expenses Per Mile | $7.61 | $6.26 | $6.26 | $7.20 | $8.64 | 1.0 | 13.5 |
| Operating Expenses Per Hour | $111.00 | $99.96 | $99.79 | $109.23 | $103.32 | -$7.68 | -6.9 |

*Source: Waukesha County Transit and SEWRPC*

- Waukesha Metro passengers represent all age groups, with the highest percentage of riders between 25 and 34 years old at 17.5 percent and the lowest percentage of riders in the 65 years old and over, or 6.5 percent

- Nearly half of Waukesha Metro riders did not have access to a vehicle and over half of riders reported not having a driver's license

- A majority of riders (37.2 percent) used Waukesha Metro more than five times a week

- In 2012, most Waukesha Metro riders had an annual household income under $29,999, with the highest percentage of riders reporting an annual household income of $10,000 or less at 28.9 percent

- The highest percentage of riders used Waukesha Metro to commute to work at 29.3 percent, followed by other trips at 21.7 percent, and school at 21.3 percent

***Travel Patterns of Users***

As part of the passenger survey of Waukesha Metro Transit, riders were asked to record where they were coming from and going to on their trip. Map 2.7 and Map 2.8 show the distribution of weekday trip productions and attractions for the Waukesha Metro Transit routes. The production area for trips having one end at "home," which either is coming from or going to home, is the area containing the location of the "home." The attraction area is the area containing the "non-home" end of that trip. The production area for trips having neither end at "home" is the area where the trip started and the attraction area is the location of the trip destination. The following observations may be made based upon the maps:

- Although downtown Waukesha produces a high number of transit trips, the area south of downtown Waukesha, including residences south of West Sunset Drive, between South West Avenue and South East Avenue, produced over 100 weekday trips. This area is currently served by Routes 4 and 3, which perform relatively well, based on data provided by Waukesha Metro staff.

- Additional areas that produce a relatively high number of weekday transit trips include the Waukesha County Technical College, neighborhoods on the eastside of downtown Waukesha, and west of downtown Waukesha in neighborhoods around the Pro Health Waukesha Memorial Hospital and Waukesha North High School.

- Downtown Waukesha and locations immediately east and south attract the highest number of transit trips within the Waukesha Metro service area, reflecting the location of commercial areas and employment centers. In addition, a high number of weekday transit trips appear to be generated by the Westbrook Shopping Center to the east, the Walmart Super Center and the Waukesha Commerce and Industrial Center on South West Avenue to the south, and the Pro Health Waukesha Memorial Hospital to the west.

### Waukesha County Transit

#### *Characteristics of Users*

Commission staff received 336 completed survey questionnaires,[7] representing about 15 percent of the average weekday trips made in 2012. Table 2.13 provides a summary of the socio-economic characteristics of Waukesha County Transit passengers using the bus service in 2012. The following observations can be made based upon examination of this information:

- Most passengers, or 46.7 percent, were between 45 and 64 years old
- Most riders were licensed drivers (87.8) and had two or more vehicles available in their household (72 percent)
- Most passengers (74.1 percent) used Waukesha County Transit between three and five times per week
- Most passengers use Waukesha County Transit for travel to work (76.8 percent) and had an annual household income over $75,000 (44.3 percent)

#### *Travel Patterns of Users*

Maps 2.9 through 2.12 show the average weekday production-attraction flows for the four Waukesha County Transit routes collected on March 7 and 14, 2018, and April 24 and 30, 2019. Nearly all the riders use the Waukesha County transit services for the traditional commute into the City of Milwaukee and the University of Wisconsin-Milwaukee campus. A significant majority of riders on Routes 901, 904, and 905 boarded and alighted from the Goerke's Corners Park & Ride Lot. A relatively large number of riders on Route 901 also board and alight at the Brookfield Square Mall. Downtown Milwaukee was by far the largest trip attractor for all routes, when compared to routes that also serve UW-Milwaukee. During the four days surveyed, there were an average of 91 daily reverse-commute trips to Waukesha County that primarily originated from the western portion of downtown Milwaukee.

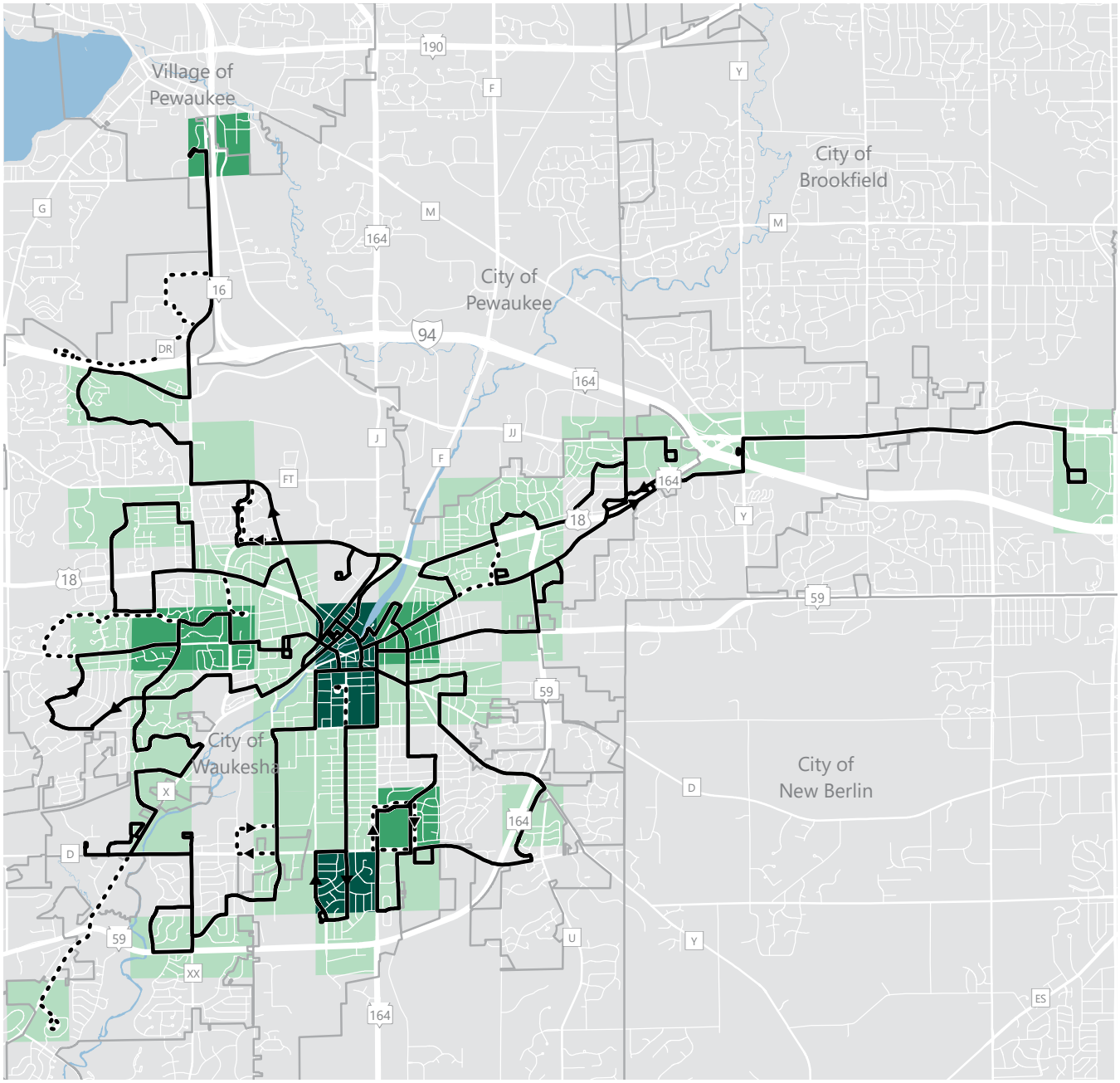
**Table 2.12**
**Socioeconomic Characteristics of Weekday Transit Riders on Waukesha Metro Transit: October 2012**

| Category | Percent of Total Trips |
|---|---|
| Age | |
| 18 and under | 13.2 |
| 19 to 24 | 14.6 |
| 25 to 34 | 17.5 |
| 35 to 44 | 15.5 |
| 45 to 54 | 14.6 |
| 55 to 64 | 10.4 |
| 65 and over | 6.5 |
| No Response | 7.7 |
| Total | 100.0 |
| Sex | |
| Male | 37.8 |
| Female | 47.2 |
| No Response | 15.0 |
| Total | 100.0 |
| Licensed Driver | |
| Yes | 36.40 |
| No | 55.30 |
| No Response | 8.30 |
| Total | 100.0 |
| Frequency of Use | |
| Less than once a month | 10.0 |
| 1-3 times a month | 8.3 |
| 1-2 times a week | 10.4 |
| 3-5 times a week | 26.0 |
| More than 5 times a week | 37.2 |
| No Response | 8.1 |
| Total | 100.0 |
| Household Income | |
| Under $10,000 | 28.9 |
| $10,000-$19,999 | 17.1 |
| $20,000-$29,999 | 9.6 |
| $30,000-$39,999 | 7.5 |
| $40,000-$49,999 | 4.1 |
| $50,000-$74,999 | 4.7 |
| $75,000-$99,999 | 4.5 |
| No Response | 23.8 |
| Total | 100.0 |
| Trip Purpose | |
| Home-Based Work | 29.3 |
| Home-Based Shopping | 12.6 |
| Home-Based Other | 21.8 |
| Nonhome Based | 14.0 |
| School | 21.3 |
| No Response | 1.0 |
| Total | 100.0 |
| Vehicles Available per Household | |
| No vehicle | 46.7 |
| One vehicle | 23.8 |
| Two or more vehicles | 15.9 |
| No Response | 13.6 |
| Total | 100.0 |

*Source: SEWRPC*

[7] *Given the difficulty of separating and properly expanding responses to represent passengers on only the Waukesha County portion of the services, these survey results do not include the users of the Waukesha Metro Transit Route 1 Extension, or the portions of MCTS' Gold Line or Route 79 in Waukesha County.*

## Map 2.7
## Locations of Trip Productions of Weekday Revenue Passengers on Waukesha Metro Transit Routes




**WEEKDAY DAYTIME ROUTES**

- REGULAR SERVICE
- LIMITED SERVICE

**NUMBER OF TRANSIT TRIPS PRODUCED PER U.S. PUBLIC LAND SURVEY QUARTER SECTION**

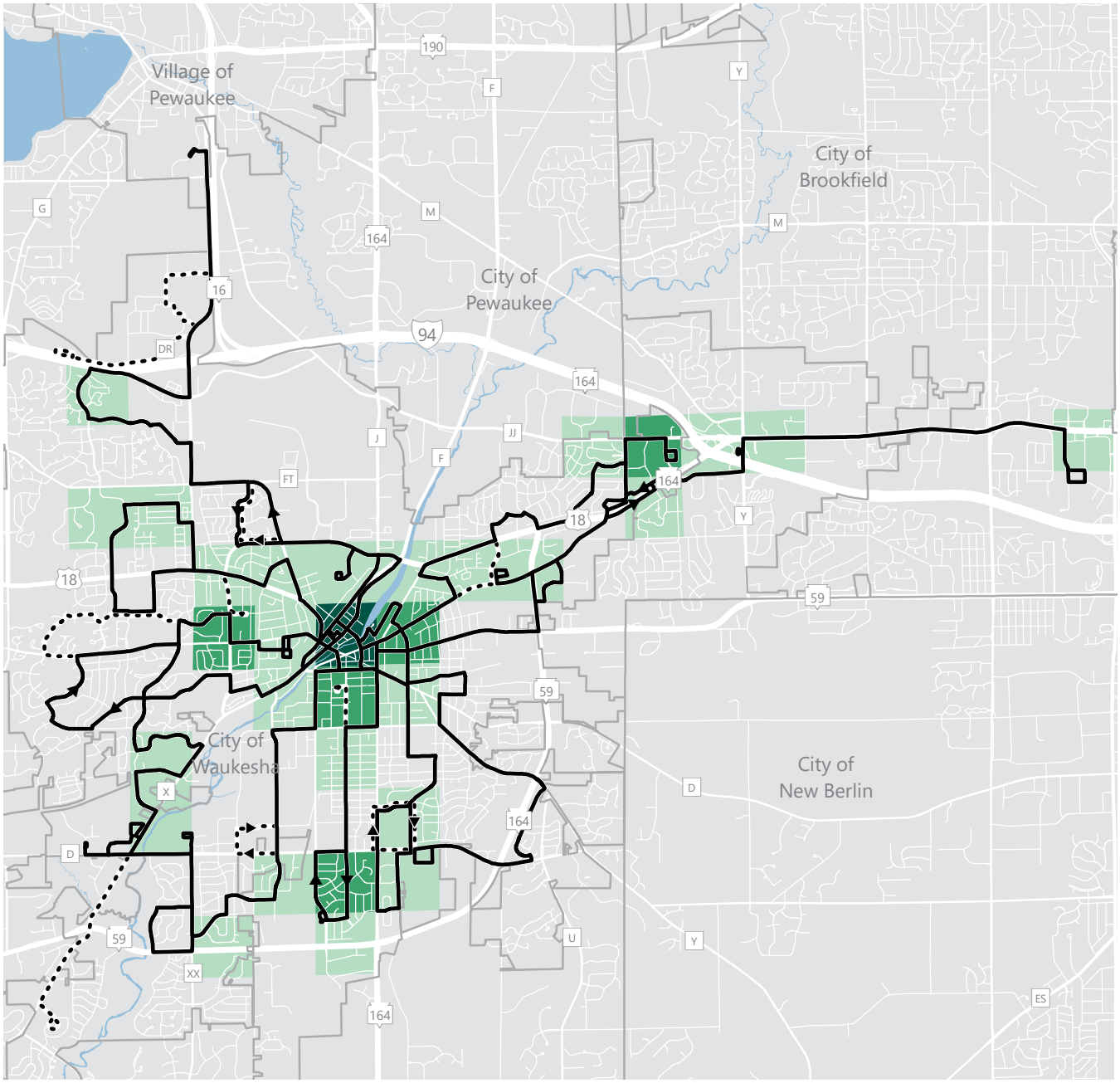
- 10 OR FEWER
- 11 TO 50
- 51 TO 100
- MORE THAN 100

N

0 1250 2500 3750 5000 Feet

*Source: Waukesha Metro Transit and SEWRPC*

## Map 2.8
## Locations of Trip Attractions of Weekday Revenue Passengers on Waukesha Metro Transit Routes




**WEEKDAY DAYTIME ROUTES**

- REGULAR SERVICE
- LIMITED SERVICE

**NUMBER OF TRANSIT TRIPS ATTRACTED PER U.S. PUBLIC LAND SURVEY QUARTER SECTION**

- 10 OR FEWER
- 11 TO 50
- 51 TO 100
- MORE THAN 100

N

0 1250 2500 3750 5000 Feet

*Source: Waukesha Metro Transit and SEWRPC*

## 2.8 EQUIPMENT AND FACILITIES

### Waukesha Metro

The City of Waukesha currently owns 25 revenue vehicles, including 20 fixed-route buses and five paratransit vehicles, or cutaways, as shown in Table 2.14. The City also owns four non-revenue service vehicles. All 25 revenue vehicles are wheelchair accessible, with two wheelchair passengers able to be accommodated on each of the 20 fixed route buses and six paratransit vehicles.

The minimum service life, or useful life benchmark for a 35-foot long transit bus is 12 years and 500,000 miles and the useful life of a paratransit vehicle is four years and 100,000 miles. Waukesha Metro's revenue vehicles are generally in a state of good repair, with an average vehicle age of three years old. Ideally, transit systems should have a range of vehicle ages in the fleet to avoid having to replace a large number of vehicles in any one year. Waukesha Metro has a staggered year of replacement for the bus fleet, with the transit system replacing approximately two to five vehicles per year, as shown in Table 2.15. Capital assets are 80 percent funded by grants from the Federal Transit Administration and 20 percent funded with local tax levy funds. In 2018, Waukesha Metro replaced two 35-foot buses at a total cost of $830,648, including $166,130 in local funding.

The Waukesha Metro Transit system operates out of two facilities. The Badger Drive facility is the administrative and maintenance facility that houses the buses. The original maintenance building opened in March 1986 and a building expansion occurred in 1995 to add bus storage and administrative functions to the facility. Waukesha Metro also operates out of the Downtown Transit Center located on St. Paul Avenue. The Downtown Transit Center opened in October 2004 and provides an indoor waiting area, restrooms, 13 covered bus bays, a drivers' lounge, and a customer service area where passengers can purchase Metro passes and ride cards, apply for employment with Metro, check the lost and found, obtain information about Metro's services in person, or obtain or renew a reduced fare or Metrolift identification card. The Downtown Transit Center also includes a two-floor parking ramp with daily and monthly parking rates that is operated by the City of Waukesha Parking Services. The City of Waukesha implemented security upgrades to the Downtown Transit Center and the Badger Drive facility in 2017 and 2018, and has replaced air conditioner and heating units, as needed, to keep the facilities in good working condition.

### Waukesha County Transit

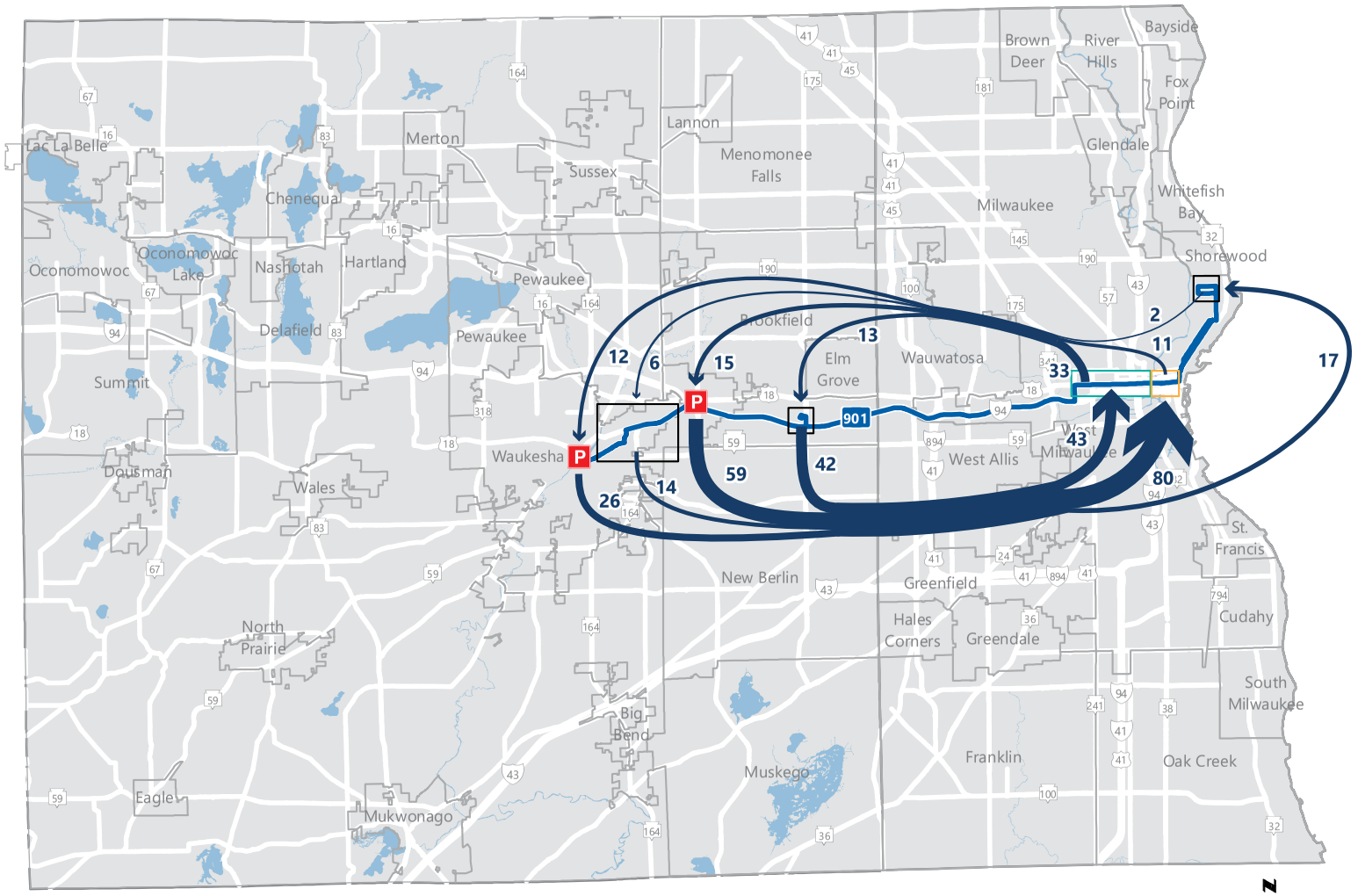
Waukesha County transit contracts with Wisconsin Coach Lines and the Milwaukee County Transit System, for the provision of transit services including the necessary vehicles, equipment, and facilities. However, the commuter routes serve numerous park-ride lots in Waukesha County where passengers are permitted to park. The park-ride lots, including ownership and maintenance responsibilities are listed in Table 2.16. The Wisconsin Department of Transportation (WisDOT) owns and maintains the majority of the park-rides lots, while Waukesha

**Table 2.13**
**Socioeconomic Characteristics of Weekday Transit Riders on Waukesha County Transit: October 2012**

| Category | Percent of Total Trips |
|---|---|
| Age | |
| 18 and under | 0.9 |
| 19 to 24 | 9.8 |
| 25 to 34 | 14.3 |
| 35 to 44 | 13.4 |
| 45 to 54 | 22.0 |
| 55 to 64 | 24.7 |
| 65 and over | 5.1 |
| No Response | 9.8 |
| Total | 100.0 |
| Sex | |
| Male | 39.0 |
| Female | 48.2 |
| No Response | 12.8 |
| Total | 100.0 |
| Licensed Driver | |
| Yes | 87.8 |
| No | 6.8 |
| No Response | 5.4 |
| Total | 100.0 |
| Frequency of Use | |
| Less than once a month | 4.8 |
| 1-3 times a month | 2.7 |
| 1-2 times a week | 7.4 |
| 3-5 times a week | 74.1 |
| More than 5 times a week | 5.4 |
| No Response | 5.6 |
| Total | 100.0 |
| Household Income | |
| Under $10,000 | 3.3 |
| $10,000-$19,999 | 4.8 |
| $20,000-$29,999 | 2.7 |
| $30,000-$39,999 | 4.4 |
| $40,000-$49,999 | 3.0 |
| $50,000-$74,999 | 16.7 |
| $75,000-$99,999 | 44.3 |
| No Response | 20.8 |
| Total | 100.0 |
| Trip Purpose | |
| Home-Based Work | 76.8 |
| Home-Based Shopping | 0.0 |
| Home-Based Other | 5.1 |
| Nonhome Based | 4.7 |
| School | 13.4 |
| No Response | 0.0 |
| Total | 100.0 |
| Vehicles Available per Household | |
| No vehicle | 1.8 |
| One vehicle | 16.1 |
| Two or more vehicles | 72.0 |
| No Response | 10.1 |
| Total | 100.0 |

*Source: SEWRPC*

## Map 2.9
## Average Weekday Passenger Travel Patterns on Waukesha County Transit Route 901




**PRODUCED-ATTRACTED TRIPS ON THE AVERAGE WEEKDAY**

- 10 TRIPS
- 50 TRIPS
- 40 NUMBER OF TRIPS

**WAUKESHA COUNTY TRANSIT**

- 901 WAUKESHA MILWAUKEE EXPRESS
- P PARK-RIDE LOT

Note: Route boardings and alightings collected on March 7 and 14, 2018, and April 24 and 30, 2019.

**DOWNTOWN AREAS**

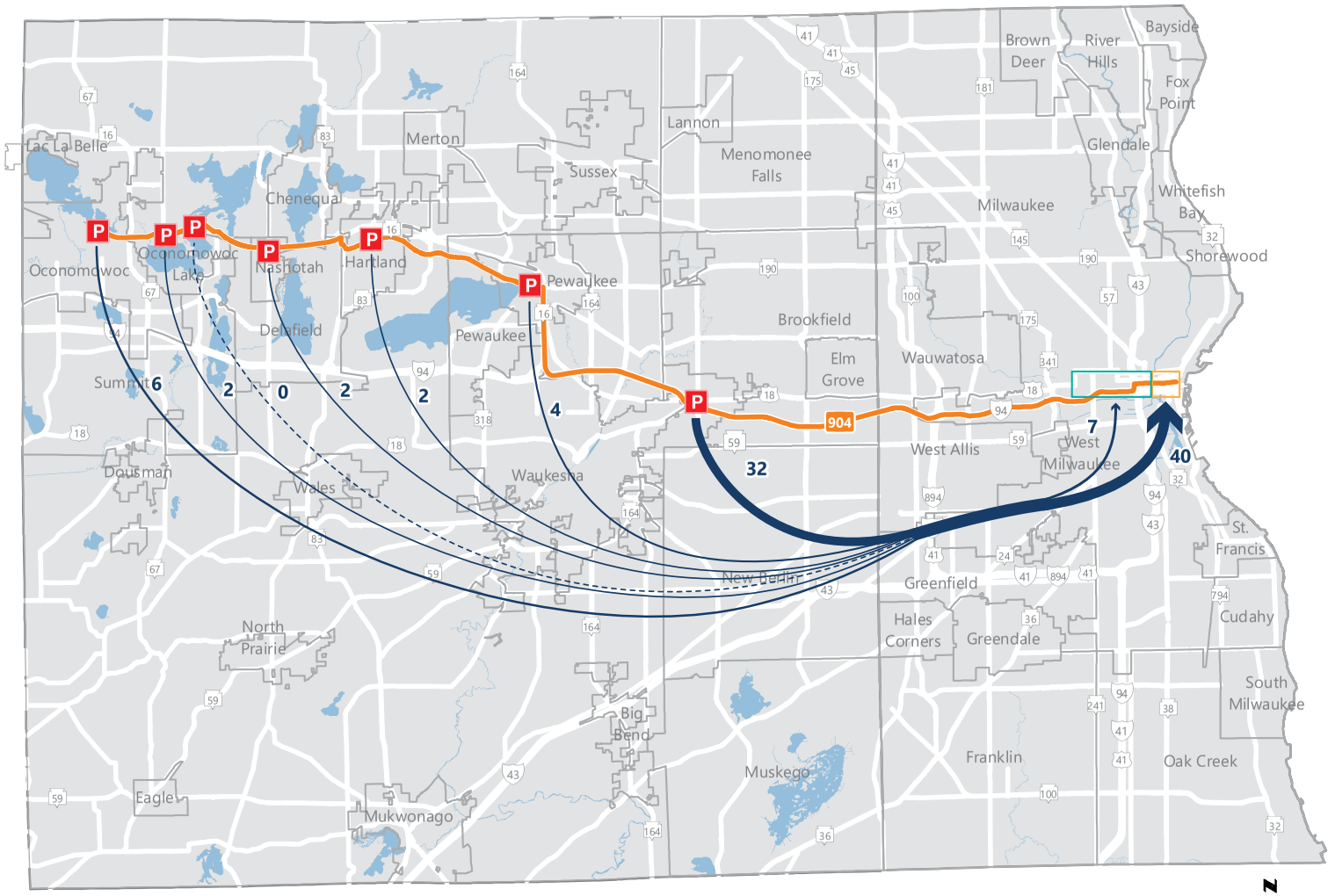
- EAST OF RIVER
- WEST OF RIVER

N

0 1 2 3 4 Miles

*Source: Waukesha County Transit and SEWRPC*

## Map 2.10
## Average Weekday Passenger Travel Patterns on Waukesha County Transit Route 904




**PRODUCED-ATTRACTED TRIPS ON THE AVERAGE WEEKDAY**

- 10 TRIPS
- 50 TRIPS
- 40 NUMBER OF TRIPS

**WAUKESHA COUNTY TRANSIT**

- 904 OCONOMOWOC MILWAUKEE EXPRESS
- P PARK-RIDE LOT

Note: Route boardings and alightings collected on March 7 and 14, 2018, and April 24 and 30, 2019.

**DOWNTOWN AREAS**

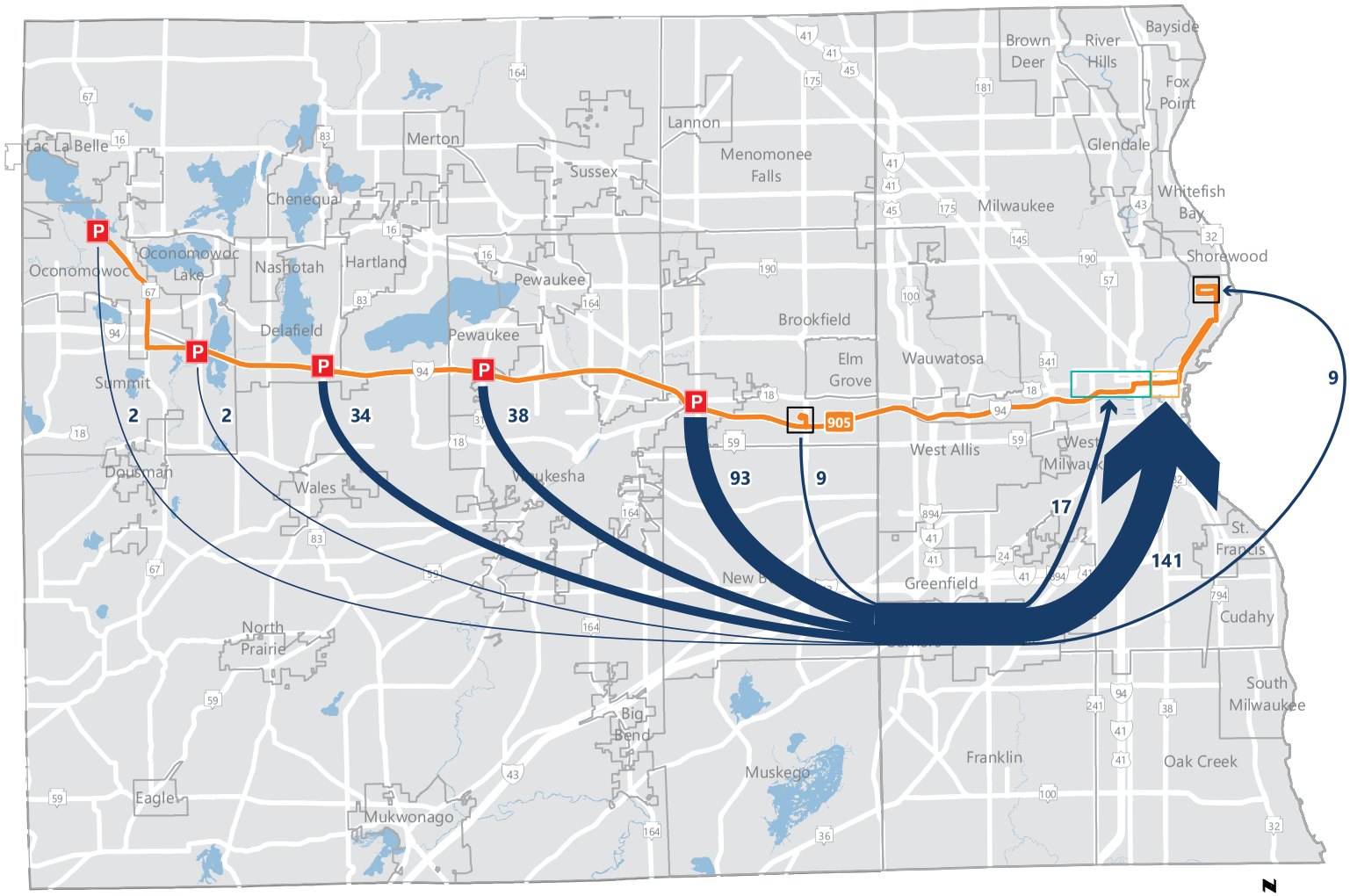
- EAST OF RIVER
- WEST OF RIVER

N

0 1 2 3 4 Miles

*Source: Waukesha County Transit and SEWRPC*

## Map 2.11
## Average Weekday Passenger Travel Patterns on Waukesha County Transit Route 905




**PRODUCED-ATTRACTED TRIPS ON THE AVERAGE WEEKDAY**

- 10 TRIPS
- 50 TRIPS
- 40 NUMBER OF TRIPS

**WAUKESHA COUNTY TRANSIT**

- 904 OCONOMOWOC MILWAUKEE EXPRESS
- P PARK-RIDE LOT

Note: Route boardings and alightings collected on March 7 and 14, 2018, and April 24 and 30, 2019.

**DOWNTOWN AREAS**

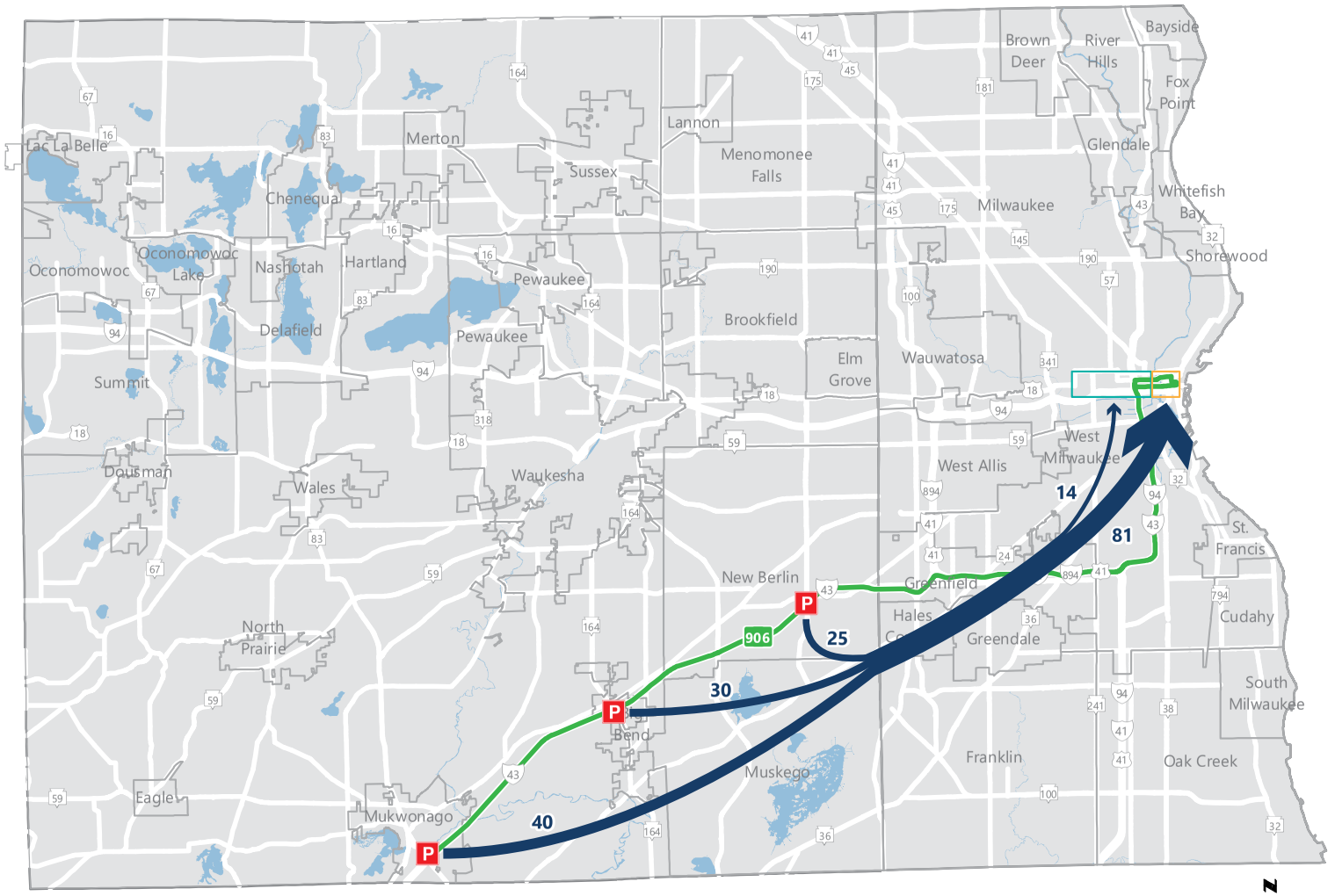
- EAST OF RIVER
- WEST OF RIVER

N

0 1 2 3 4 Miles

*Source: Waukesha County Transit and SEWRPC*

## Map 2.12
## Average Weekday Passenger Travel Patterns on Waukesha County Transit Route 906




**PRODUCED-ATTRACTED TRIPS ON THE AVERAGE WEEKDAY**

- 10 TRIPS
- 50 TRIPS
- 40 NUMBER OF TRIPS

**WAUKESHA COUNTY TRANSIT**

- 906 MUKWONAGO MILWAUKEE EXPRESS
- P PARK-RIDE LOT

Note: Route boardings and alightings collected on March 7 and 14, 2018, and April 24 and 30, 2019.

**DOWNTOWN AREAS**

- EAST OF RIVER
- WEST OF RIVER

N

0 1 2 3 4 Miles

*Source: Waukesha County Transit and SEWRPC*

## Table 2.14
## Waukesha Metro Transit Revenue Vehicles Condition Assessment

| Fleet Number | Model | Year of Manufacture | Replacement Cost[a] | Mileage[b] | Age of Vehicle | Minimum Useful Life Benchmarks[c] | | Condition Assessment | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Age (Years) | Mileage | Past Age Useful Life Benchmark | Past Mileage Useful Life Benchmark |
| Buses | | | | | | | | | |
| 153 | Gillig Low Floor | 2008 | $430,000 | 354,902 | 11 | 12 | 500,000 | No | No |
| 154 | Gillig Low Floor | 2008 | $430,000 | 354,590 | 11 | 12 | 500,000 | No | No |
| 155 | Gillig Low Floor | 2008 | $430,000 | 344,062 | 11 | 12 | 500,000 | No | No |
| 159 | Gillig Low Floor | 2015 | $430,000 | 154,323 | 4 | 12 | 500,000 | No | No |
| 160 | Gillig Low Floor | 2015 | $430,000 | 151,700 | 4 | 12 | 500,000 | No | No |
| 161 | Gillig Low Floor | 2015 | $430,000 | 151,641 | 4 | 12 | 500,000 | No | No |
| 162 | New Flyer Xcelsior | 2015 | $430,000 | 119,100 | 4 | 12 | 500,000 | No | No |
| 163 | New Flyer Xcelsior | 2015 | $430,000 | 126,712 | 4 | 12 | 500,000 | No | No |
| 164 | New Flyer Xcelsior | 2015 | $430,000 | 128,333 | 4 | 12 | 500,000 | No | No |
| 165 | New Flyer Xcelsior | 2015 | $430,000 | 128,101 | 4 | 12 | 500,000 | No | No |
| 166 | New Flyer Xcelsior | 2015 | $430,000 | 122,599 | 4 | 12 | 500,000 | No | No |
| 167 | New Flyer Xcelsior | 2016 | $430,000 | 114,573 | 3 | 12 | 500,000 | No | No |
| 168 | New Flyer Xcelsior | 2016 | $430,000 | 120,196 | 3 | 12 | 500,000 | No | No |
| 169 | New Flyer Xcelsior | 2016 | $430,000 | 111,780 | 3 | 12 | 500,000 | No | No |
| 170 | New Flyer Xcelsior | 2017 | $430,000 | 85,399 | 2 | 12 | 500,000 | No | No |
| 171 | New Flyer Xcelsior | 2017 | $430,000 | 84,559 | 2 | 12 | 500,000 | No | No |
| 172 | Gillig Low Floor | 2018 | $430,000 | 22,218 | 1 | 12 | 500,000 | No | No |
| 173 | Gillig Low Floor | 2018 | $430,000 | 21,313 | 1 | 12 | 500,000 | No | No |
| 174 | Gillig Low Floor | 2018 | $430,000 | 11,038 | 1 | 12 | 500,000 | No | No |
| 175 | Gillig Low Floor | 2018 | $430,000 | 13,169 | 1 | 12 | 500,000 | No | No |
| Cutaways | | | | | | | | | |
| 150 | Bluebird Xcel | 2007 | $254,000 | 192,854 | 12 | 4 | 100,000 | Yes | Yes |
| 151 | Bluebird Xcel | 2007 | $254,000 | 220,687 | 12 | 4 | 100,000 | Yes | Yes |
| 156 | Arboc | 2011 | $200,000 | 126,085 | 8 | 4 | 100,000 | No | Yes |
| 157 | Arboc | 2011 | $200,000 | 118,983 | 8 | 4 | 100,000 | No | Yes |
| 158 | Arboc | 2011 | $200,000 | 112,356 | 8 | 4 | 100,000 | No | Yes |

| | |
|---|---|
| Average Age of Revenue Vehicles | 3 |
| Total Revenue Vehicle Value | $8,600,000 |
| Cost to Replace Vehicles Beyond Age or Mileage Useful Life Benchmarks | $500,000 |

[a] *The replacement costs of buses were based on the most recent purchase prices.*

[b] *Odometer reading as of June 2019.*

[c] *The minimum useful life benchmarks are based on the FTA Circular 5010.1E, March 21, 2017, revised July 16, 2018. Minimum useful life is determined by years of service or accumulation of miles, whichever comes first, by asset time.*

*Source: Waukesha Metro and SEWRPC*

**Table 2.15**
**Annual Fleet Expenditures for Waukesha Metro Transit: 2014-2018**

| Year | Fleet Purchase | Federal Share ($) | Local Share($) | Total Cost($) |
|---|---|---|---|---|
| 2014 | Replacement of Driver Relief Van | 16,704 | 4,176 | 20,880 |
| 2015 | Replacement of 3 Fixed Route Buses | 916,968 | 229,242 | 1,146,210 |
| 2015 | Replacement of 5 Fixed Route Buses | 1,630,187 | 407,547 | 2,037,734 |
| 2016 | Replacement of 3 Fixed Route Buses | 978,422 | 244,606 | 1,223,028 |
| 2017 | Replacement of 2 Fixed Route Buses | 652,334 | 163,084 | 815,418 |
| 2018 | Replacement of 2 Fixed Route Buses | 664,518 | 166,130 | 830,648 |
| | Total | 4,859,134 | 1,214,783 | 6,073,917 |

*Source: Waukesha Metro Transit and SEWRPC*

County provides maintenance to the Goerke's Corners and Pilgrim Road Park & Ride lots. The remaining public park-ride lots are owned and maintained by the municipality in which they reside. Average weekday usage provided by WisDOT indicates that the majority of the park-ride lots have capacity for additional vehicles, although the Goerke's Corners Park & Ride Lot is near capacity with approximately 89 percent of the parking spaces occupied on an average weekday in 2018.

## 2.9 OTHER MAJOR PUBLIC TRANSIT SERVICES

In addition to public transportation services provided by the City of Waukesha and Waukesha County, a number of other transit services are available for the general public or specific population groups needing to make connections to or from areas within and outside Waukesha County. A summary of the other major public or human services transportation providers operating in the Waukesha area is provided below. Table 2.17 provides a more comprehensive list of human services transportation providers and service details.

### Intercity Bus Services

Wisconsin Coach Lines/Coach USA operates an Airport Express route along IH 94 between the Goerke's Corners Park & Ride Lot and Chicago's O'Hare International Airport, including stops at the Milwaukee Intermodal Station and General Mitchell Airport. Service over the route consists of 11 daily round trips from Goerke's Corners. This route primarily serves airport and rail-related travel and is not conducive to general-purpose travel between the Waukesha area and Chicago. A one-way trip from the Goerke's Corners Park & Ride Lot to the Intermodal Station and General Mitchell Airport costs $13.00, whereas a trip to O'Hare costs $34.00.

Badger Coaches operates eight daily round trips over IH 94 between Milwaukee and Madison, with a stop at the Goerke's Corners Park & Ride Lot. Costs per trip vary depending on the destination. For example, a one-way trip from the Goerke's Corners Park & Ride Lot to UW-Madison costs $20.00; a trip from the Goerke's Corners Park & Ride Lot to General Mitchell Airport costs $13.00; and a trip from the Goerke's Corners Park & Ride Lot to the Milwaukee Intermodal Station costs $10.00.

Megabus provides eastbound service from the City of Muskego to General Mitchell Airport and the Milwaukee Intermodal Station. A westbound trip is also offered from the City of Muskego to the City of Milton, Wisconsin, with stops in the Village of East Troy and the City of Whitewater. Both routes operate one run per day, including on weekends. The cost of a one-way trip from the City of Muskego to the Milwaukee Intermodal Station is $8.00, and a one-way trip from the City of Muskego to the City of Milton starts at $12.99.

### Taxicab Service

#### *On-Demand, General Public*

Private taxicab service in the City of Waukesha is available through the following three companies, TaxiMKE, Yellow Cab Cooperative, and Waukesha Cab, LLC. These companies provide on-demand service for the general public seven days a week and 24 hours per day. TaxiMKE offers wheelchair accessible vehicles. The rates vary depending on the number of miles traveled. Their service areas vary, with Waukesha Cab, LLC providing service in the City of Waukesha, City of Milwaukee, and surrounding communities, while Yellow Cab Cooperative serves Milwaukee County and the surrounding areas, and TaxiMKE serves all of Southeastern Wisconsin. The ride-hailing services Uber and Lyft operate in Southeastern Wisconsin, providing on-demand services to the general public. Fares are generally based on miles traveled and time

## Table 2.16
## Park-Ride Lots Served by the Bus Routes Comprising the Waukesha County Transit System: 2018

| Location | Bus Routes Served | Ownership and Maintenance Responsibility | Available Parking Spaces | Average Weekday Autos Parked | Percent of Space Used |
|---|---|---|---|---|---|
| Collins and Cross Parking Lot (City of Oconomowoc) | 904/905 | City of Oconomowoc | 187 | N/A | N/A |
| STH 16 and CTH P (Village of Oconomowoc Lake) | 904 | WisDOT | 45 | 6 | 13.3 |
| E. Wisconsin Avenue and Shady Lane (Village of Oconomwoc Lake) | 904 | Private | 11 | N/A | N/A |
| STH 16 and CTH C (Village of Nashotah) | 904 | WisDOT | 60 | 7 | 11.7 |
| Capitol Dr. and Goodwin (Village of Hartland) | 904 | Village of Hartland | 15 | N/A | N/A |
| Village Parking Lot (Village of Pewaukee) | 904 | Village of Pewaukee | 143 | N/A | N/A |
| Goerke's Corners (Town of Brookfield) | 904/905/901; Route 1 (Metro) | WisDOT owns, Waukesha County maintains | 315 | 281 | 89.2 |
| STH 67 and CTH P (Town of Summit) | 905 | WisDOT | 100 | 40 | 40.0 |
| IH 94 and STH 83/Nagawaukee (City of Delafield) | 905 | WisDOT, Waukesha County provides winter maintenance | 199 | 90 | 45.2 |
| IH 94 and CTH G/Meadowbrook (Village of Pewaukee) | 905 | WisDOT owns, Waukesha County maintains | 247 | 60 | 24.3 |
| IH 43 and STH 83 (Village of Mukwonago) | 906 | WisDOT owns, City of Mukwonago maintains | 165 | 59 | 35.8 |
| IH 43 and STH 164 (Village of Big Bend) | 906 | WisDOT owns, Waukesha County maintains | 147 | 41 | 27.9 |
| IH 43 and Moorland Road (City of New Berlin) | 906 | WisDOT owns, Waukesha County maintains | 174 | 35 | 20.1 |
| USH 41/45 and Good Hope Road (City of Milwaukee) | 79 (MCTS) | WisDOT | 134 | 36 | 26.9 |
| USH 45 and Watertown Plank Road (City of Wauwatosa) | 79 (MCTS) | WisDOT | 238 | 93 | 39.1 |
| USH 41 and Pilgrim Road (Village of Menomonee Falls) | 79 (MCTS) | WisDOT owns, Waukesha County maintains | 69 | 28 | 40.6 |
| Downtown Waukesha Transit Center | 901; Route 1 (Metro) | City of Waukesha | 494 | N/A | N/A |

*Source: Waukesha County Transit, Milwaukee County Transit System, and SEWRPC*

## Table 2.17
## Inventory of Additional Human Services Transit Service Providers in Waukesha County: 2019

| Name of Service Provider | Service Area | Eligible Users | Days and Hours of Operations | Fare Per Trip | Vehicles Used | Funding Sources in Addition to Fares |
|---|---|---|---|---|---|---|
| Private For-Profit Provider | | | | | | |
| Door-Through-Door Service and Advance Reservation Required | | | | | | |
| 4Boomers Transport, LLC*<br>(262) 224-9000<br>4boomerstransport.com | Waukesha County and surrounding communities | General public; for user-side subsidy, must be county resident, non/limited driver 65 years or older, or people with disabilities<br><br>Must be able to enter and exit a vehicle with little or no assistance | Monday-Friday:<br>6:00 a.m. to 6:00 p.m.,<br>weekends by appointment | User-side subsidy:<br>$3.75 one-way, plus any amount over $9.00 gross cost | Unknown | Contract with County for State §85.21 |
| At Your Service<br>(262) 354-3700<br>weare-atyourservice.com | Waukesha County | Older adults; must be able to enter and exit a vehicle with little or no assistance | 7 days a week, 24 hours a day | $35.00 per hour with a one-hour minimum, plus $0.53 per mile | Unknown | Unknown |
| Meda-Care Vans of Waukesha, Inc.<br>(262) 650-1000 | Waukesha and parts of Milwaukee County with preapproval (for medical services only) | County residents, non/limited-drivers 65 years or older, or under 65 years of age and users of a cane, crutches, walker, wheelchair, scooter, or legally blind. Individuals must be unable to enter or exit a car with little or no assistance<br><br>Title 19 Medical Assistance for qualified nursing home residents; also private pay and chartered services | Monday-Friday:<br>6:00 a.m. to 6:00 p.m. | Based on distance and ability to pay:<br><br>Fares begin at:<br>$3.85: on-way trip within same community;<br>$4.90: one-way trip, origin and destination is from one community to another;<br>$7.50: one-way trip, out of county when preauthorized for medical appointments | **20** 8-passenger accessible vans | Contract with County for State §85.21<br>Private chartered services<br>Waukesha County Aging and Disability Resource Center - RideLine Program |
| Mobility Transportation Specialists<br>(262) 424-0197 | Waukesha and Jefferson Counties | General public | Monday-Friday:<br>7:00 a.m. to 5:00 p.m. | $35.00 base rate<br>$2.00 per mile after first five miles | Unknown | Unknown |
| Personalized Transportation Service (PTS)<br>(262) 628-0189 | Southeastern Wisconsin | General public, does not provide assistance with stairs in and out of home if individual uses a wheelchair | Monday-Friday:<br>8:00 a.m. to 5:00 p.m. | $28.00 base rate<br>$2.50 per mile | Unknown | Unknown |
| Door-to-Door Service | | | | | | |
| *Advance Reservation Required* | | | | | | |
| American Med Trans<br>(414) 274-3000<br>amtwi.com | Southeastern Wisconsin | General public medical transportation | Monday-Friday:<br>6:00 a.m. to 6:00 p.m. | Rates available upon request, credit card only | Unknown | Unknown |

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## Table 2.17 (Continued)

| Name of Service Provider | Service Area | Eligible Users | Days and Hours of Operations | Fare Per Trip | Vehicles Used | Funding Sources in Addition to Fares |
|---|---|---|---|---|---|---|
| *Advance Reservation Required (continued)* | | | | | | |
| American Cancer Society - Road To Recovery Program<br>(800) 227-2345<br>cancer.org | Southeastern Wisconsin | Cancer patients in current treatment<br>Must be ambulatory and able to get in and out of a vehicle with little to no assistance | Monday-Friday:<br>9:00 a.m. to 5:00 p.m. | No fare within service area | Volunteers | Unknown |
| A Quick Trip Transportation Service<br>(262) 565-0031 | Waukesha and surrounding areas | General public; for user-side subsidy, must be county resident, non- or limited-driver 65 years or older, or people with disabilities<br>Must be able to enter and exit a car with little or no assistance | Monday-Friday:<br>7:00 a.m. to 6:00 p.m.,<br>Saturday and Sunday by appointment | $15.00 for first five miles for pick-ups in City/Town of Waukesha, Pewaukee, New Berlin. Adds $5.00 to base rate beyond previously mentioned communities.<br>$1.00 per mile after.<br>Accepts Waukesha County Shared-fare card | Unknown | Unknown |
| Comfort Transport, LLC<br>(262) 446-9810<br>comfort-transport.com | Waukesha and Washington counties | Seniors and people with disabilities | Monday-Friday:<br>6:00 a.m. to 5:00 p.m.<br>or by appointment | Ambulatory:<br>$14.50 one way<br>Non-Ambulatory:<br>$22.00 one way<br>Both include first 5 miles | **5** Ford transit vans<br>**4** minivans, 2 accessible<br>**12** vans, 8 accessible | Private pay<br>Medicaid<br>P.A.C.E.<br>I.R.I.S. |
| Lifestar Medical Transportation Service<br>(262) 338-9798<br>lifestar-ems.com | Waukesha County, Ozaukee County, Milwaukee County, Dane County, Sheboygan County, Fond du Lac County, Washington County | Medical and non-medical transportation to individuals who are wheelchair bound or otherwise disabled | Monday-Friday:<br>6:00 a.m. to 6:00 p.m.<br>Saturday:<br>7:00 a.m. to 4:30 p.m.<br>Sunday: call for availability | $26.00 for first five miles, then $3.00 per mile after<br>Accepts Medicaid insurance | Unknown | Private Pay<br>Medicaid |
| Phoenix Transportation<br>(262) 373-0165 | Southeastern Wisconsin | General public | Monday-Friday:<br>5:00 a.m. to 5:00 p.m.<br>Saturdays by appointment | Available upon request | Unknown | Unknown |
| Waukesha American Mobility<br>(262) 501-3598 | Southeastern Wisconsin | General public | Monday-Friday:<br>6:00 a.m. to 7:00 p.m. | Available upon request | Unknown | Unknown |
| *Demand Response* | | | | | | |
| Waukesha Cab, LLC<br>(262) 613-8595 | City of Waukesha, City of Milwaukee, and surrounding communities | General public; for user-side subsidy, must be county resident, non/limited driver 65 years or older, or people with disabilities<br>Must be able to enter and exit a vehicle with little or no assistance | 7 days a week, 24 hours a day | Distance-based or zone-based<br>User-side subsidy:<br>$3.50, plus any amount over $9.00 gross cost | **3** 5-passenger sedans<br>Only one available for evening and night rides | Unknown |
| Uber and Lyft | Southeastern Wisconsin | General public; in most cases passengers must sign up with a smartphone and credit card number | 7 days a week, 24 hours a day | Distance-based or zone-based | Depends on driver | Unknown |

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## Table 2.17 (Continued)

| Name of Service Provider | Service Area | Eligible Users | Days and Hours of Operations | Fare Per Trip | Vehicles Used | Funding Sources in Addition to Fares |
|---|---|---|---|---|---|---|
| Curb-to-Curb and Demand Response Service | | | | | | |
| Best Cab of Waukesha*<br>(262) 549-6622<br>bestcabcompany.com | City and Town of Waukesha | General public; for user-side subsidy, must be county resident, non/limited driver 65 years or older, or people with disabilities<br>Must be able to enter and exit a vehicle with little or no assistance | 7 days a week, 24 hours a day | User-side subsidy:<br>$3.75 one-way, plus any amount over $9.00 gross cost | **3** 5-passenger sedans | Contract with County for State §85.21 |
| TaxiMKE<br>(414) 220-5000<br>taximke.com | Southeastern Wisconsin | General public | 7 days a week, 24 hours a day | $2.25 base rate<br>$2.50 per mile<br>$0.35 per minute during a waiting period | Unknown | Unknown |
| Yellow Cab Cooperative<br>(414) 271-1800<br>yellowcabmilwaukee.com | Milwaukee and surrounding areas | General public | 7 days a week, 24 hours a day | $4.50 for the first mile, $2.50 for each additional mile<br>$20.00 minimum fare if origin or destination is located outside of Milwaukee County | Unknown | Unknown |
| Private Non-Profit Provider | | | | | | |
| Door-Through-Door Service and Advance Reservation Required | | | | | | |
| Disabled American Veterans<br>(414) 384-2000 ext. 47274<br>(262) 719-7233<br>dav-wi.org | Waukesha, Milwaukee, Racine, and Kenosha Counties | Ambulatory veterans with medical appointments at Milwaukee VA (Zablocki) Medical Center, must be able to enter and exit a vehicle without assistance | Monday-Friday,<br>by appointment only | No Fare | Accessible vehicles | Private Donations |
| Eras Senior Network<br>(262) 549-3348<br>eraswaukesha.org | Waukesha County and Milwaukee County | Waukesha County residents over age 60, or residents with disabilities.<br>Mandatory in-home assessment in order to receive services | Monday-Friday:<br>9:00 a.m. - 4:00 p.m.<br>or by appointment | No charge | 2 6-passenger accessible van; volunteers provide their own vehicles | Federal §5310, United Way of Greater Milwaukee and Waukesha County, Corporation for National and Community Service, ProHealth Care |
| ProHealth Care Transportation<br>(262) 928-7618<br>prohealthcare.org | ProHealth Care service area:<br>Waukesha County, Jefferson County, Dodge County, Ozaukee County<br>Walworth County, and parts of Racine County | Qualified ProHealth Care patients and their families, for medical appointments only | Monday-Friday:<br>For appointments scheduled between 7:30 a.m.<br>and 3:30 p.m. | $40.00 one-way, financial assistance and prepaid voucher program available for those who qualify | **4** 7-passenger accessible vans<br>**20** 12-passenger accessible vans | ProHealth Care<br>Private donations |

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## Table 2.17 (Continued)

| Name of Service Provider | Service Area | Eligible Users | Days and Hours of Operations | Fare Per Trip | Vehicles Used | Funding Sources in Addition to Fares |
|---|---|---|---|---|---|---|
| Door-to-Door Service | | | | | | |
| *Demand Response* | | | | | | |
| Elmbrook Senior Taxi*<br>(262) 785-1200<br>elmbrookseniortaxi.org | City and Town of Brookfield, Villages of Butler and Elm Grove, and Mayfair Mall | General public; for user-side subsidy, must be county resident, non/limited driver 65 years or older, or people with disabilities.<br><br>Must be able to enter and exit a vehicle with little or no assistance. | Monday-Tuesday, Thursday-Friday:<br>8:00 a.m. to 5:00 p.m.<br>Wednesday:<br>8:00 a.m. to 9:00 p.m.<br>Saturday:<br>9:00 a.m. to 4:00 p.m.<br>or by appointment | $14.25 each way ($9.00 with Taxi Card): locally<br>$18.25 each way ($13.00 with Taxi Card): Froedtert Hospital, Highway 100<br>$19.25 each way ($14.00 with Taxi Card): Waukesha Memorial, Menomonee Falls Hospital<br>User-side subsidy: $3.75 one-way, plus any amount over $9.00 gross cost | **3** 5-passenger sedans | Contract with County for State §85.21 |
| *Advanced Reservation Required* | | | | | | |
| Interfaith Caregivers of Washington County<br>(262) 365-0902<br>*Available to Washington County residents only, but included in the Find-a-Ride network guide for destinations in Waukesha County.* | Within 50 miles of Washington County, including Froedert and the Milwaukee VA (Zablocki) Medical Center | Washington County residents age 60 and over, who can transfer independently | Monday-Friday:<br>8:00 a.m. to 5:00 p.m.,<br>as drivers are available | No fare, donations appreciated | Volunteers' personal vehicles and accessible vans owned by Interfaith | Federal §5310 |
| Lake Country Cares Cab*<br>(262) 695-2670<br>lcccabs.com | City and Town of Delafield, City and Village of Pewaukee, Villages of Hartland and Nashotah, Town of Merton, and parts of Oconomowoc | General public; for user-side subsidy, must be county resident, non- or limited-driver 65 years or older, or people with disabilities<br><br>Must be able to enter and exit a car with little or no assistance | Monday-Friday:<br>8:30 a.m. to 4:30 p.m.<br>or by appointment | User-side subsidy:<br>$3.75 one-way, plus any amount over $9.00 gross cost | **3** 5-passenger sedans | Contract with County for State §85.21 |
| Seniors on the Go*<br>(262) 363-5700<br>seniorsonthegowi.com | City and Town of Mukwonago, Waukesha County, and parts of Walworth and Racine Counties | General public; for user-side subsidy, must be county resident, non-driving, 65 years or older, or people with disabilities | Monday-Saturday:<br>5:30 a.m. to 8:00 p.m. | User-side subsidy:<br>$3.75 one-way, plus any amount over $9.00 gross cost | **7** 5-passenger sedans<br>**3** 7-passenger vans<br>**9** 2-wheelchair accessible vans | Contract with County for State §85.21 |
| Muskego Senior Taxi*<br>(262) 679-4754<br>muskegoseniortaxi.wordpress.com | Muskego, Big Bend, Vernon, and outlying hospitals | General public; for user-side subsidy, must be county resident<br><br>Non/limited-drivers 65 years or older, or people with disabilities, must be able to enter and exit a car with little or no assistance | Monday-Friday:<br>7:30 a.m. to 4:30 p.m.<br>(last pickup 3:30 p.m.) | User-side subsidy:<br>$3.75 one-way, plus any amount over $9.00 gross cost | **3** 5-passenger sedans | Contract with County for State §85.21 |

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## Table 2.17 (Continued)

| Name of Service Provider | Service Area | Eligible Users | Days and Hours of Operations | Fare Per Trip | Vehicles Used | Funding Sources in Addition to Fares |
|---|---|---|---|---|---|---|
| *Advanced Reservation Required (continued)* | | | | | | |
| New Berlin Senior Taxi*<br>(262) 814-1611 | City of New Berlin, Brookfield Square, Mayfair area, Medical Centers (west of 84th Street), Aurora West Allis Memorial Hospital, Froedert Hospital | Ambulatory residents of New Berlin, for user-side subsidy, must be county resident, non-driving, 65 years or older, or people with disabilities | Monday-Friday:<br>9:00 a.m. to 4:30 p.m.<br>or by appointment | User-side subsidy:<br>$3.75 one-way, plus any amount over $9.00 gross cost | **3** 5-passenger sedans | Contract with County for State §85.21 |
| Oconomowoc Silver Streak*<br>(262) 567-6404<br>oconosilverstreak.org | City of Oconomowoc, east to the YMCA at Pabst Farms, south to Valley Road, north to Lang Road, west to Jefferson County Line, parts of the town of Summit including Aurora Medical Center and Lake Country Landing | General public; for user-side subsidy, must be county resident, limited/non-driving, 55 years or older, or people with disabilities, must be able to enter/exit car with little or no assistance | Monday-Friday:<br>8:30 a.m. to 4:30 p.m.<br>or by appointment | User-side subsidy:<br>$3.75 one-way, plus any amount over $9.00 gross cost<br>$10.00 one-way | **3** 5-passenger sedans | Contract with County for State §85.21 |
| Other | | | | | | |
| Find-a-Ride Network of Waukesha County<br>(262) 468-7433<br>find-a-ride.org | Waukesha County: transportation guide for seniors and adults with disabilities | Waukesha County residents | Single point of contact that refers residents to transportation services | N/A | N/A | Federal §5310 |
| Goodwill Industries<br>(262) 970-6002<br>goodwillsew.com | Waukesha County | Waukesha County residents with disabilities who attend Goodwill adult day centers | Monday-Friday:<br>6:30 a.m.-10:30 a.m.<br>1:30 p.m.-5:30 p.m.<br>Scheduled for day trips as required | No fare if enrolled in Family Care; otherwise, private pay. | Contract with Exact Transport for vehicles and drivers for subscription service;<br>**5** accessible vans for day trips | State Family Care<br>Federal §5310 |
| Public Provider | | | | | | |
| Door-to-Door Service and Advance Reservation Required | | | | | | |
| Milwaukee County Transit Plus Program<br>(414) 343-1700 | Waukesha County residents eligible for Metrolift services | Individuals with disabilities that do not require a high degree of medical or personal care | 7 days a week: 4:30 a.m. to 1:00 a.m. | $4.00 one way | Unknown | Unknown |
| Waukesha County Aging and Disability Resource Center – RideLine<br>(262) 650-1000 | Waukesha County, out-of-county trips are available only for medical purposes that cannot be served in Waukesha County. | County residents, non/limited-drivers 60 years or older, or under 60 years of age and users of a cane, crutches, walker, wheelchair, scooter, or legally blind. Individuals must be unable to enter or exit a car with little or no assistance<br><br>Title 19 Medical Assistance for qualified nursing home residents; also private pay and chartered services | Monday-Friday:<br>6:00 a.m. to 6:00 p.m. | Based on distance and ability to pay:<br><br>Fares begin at:<br>$3.85: on-way trip within same community;<br>$4.90: one-way trip, origin and destination is from one community to another;<br>$7.50: one-way trip, out of county when preauthorized for medical appointments | Vehicles and drivers provided by Meda-Care Vans of Waukesha, Inc. | State §85.21<br>Waukesha County |

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## Table 2.17 (Continued)

| Name of Service Provider | Service Area | Eligible Users | Days and Hours of Operations | Fare Per Trip | Vehicles Used | Funding Sources in Addition to Fares |
|---|---|---|---|---|---|---|
| Door-to-Door Service and Advance Reservation Required (continued) | | | | | | |
| Waukesha County Department of Health and Human Services –Volunteer Transportation Service<br>(262) 548-7284<br>waukeshacounty.gov/HHS | Waukesha County | Clients of Department of Health and Human Services | Monday-Friday:<br>7:30 a.m. to 8:00 p.m., pending driver availability | No charge | Volunteers provide their own vehicles | Waukesha County |
| Curb-to-Curb | | | | | | |
| Menomonee Falls Senior Shuttle<br>(262) 251-4230 | Village of Menomonee Falls, with limited service to Brookfield Square Shopping Center and Germantown healthcare facilities | Ambulatory Menomonee Falls residents 60 years or older | Monday-Thursday:<br>9:00 a.m. to 2:00 p.m.<br>4:00 to 5:00 p.m.<br>(returns only)<br>Friday:<br>9:00 a.m. to 2:00 p.m.<br>To Brookfield Square, second Thursday of each month:<br>9:00 a.m. to 2:00 p.m. when six or more advanced reservations are made. | $2.00 one way | **1** 23-passenger bus | Menomonee Falls Recreation Department<br>Village of Menomonee Falls<br>Contract with County for State §85.21 |

*Denotes taxi providers included in the Waukesha County Aging and Disability Resource Center's Shared-Fare Program.

*Source: SEWRPC*

of day. Rides can be scheduled by downloading the apps to a personal smartphone. Passengers must have a credit card to purchase a ride, although each ride-hailing service offers a business platform for employers to schedule and pay for rides.

***Human Services Transportation Programs***

In addition to the transportation services for the general public summarized above, many agencies provide transportation services specifically for seniors or people with disabilities for trips that would be difficult to make on existing public transit services. The Commission conducted a transportation coordination planning effort that included a detailed inventory of all the human services transportation providers in Waukesha County, and identified some of the unmet needs for human services transportation and strategies to address those unmet needs.[8]

Waukesha Aging and Disability Resource Center (ADRC)

The Aging and Disability Resource Center of Waukesha County (ADRC) sponsors four subsidized transportation services for individuals, including non- or limited-driving adults 65 years of age and older, and for people with disabilities who are under the age of 65. Users of the transportation services are required to complete an eligibility application and become certified as eligible to access the services. When approved for transportation services, applicants receive a discounted fare. The ADRC receives funding from the Wisconsin Department of Transportation's County Elderly and Disabled Transportation Assistance Program, which provides counties with financial assistance to deliver transportation services to seniors and people with disabilities. These funds, available under Wisconsin Statute Section 85.21, are allocated annually based on current population estimates. In 2019, Waukesha County was allocated $933,538 through the Wisconsin 85.21 County Elderly and Disabled Transportation Assistance Program. The four transportation services sponsored by the Waukesha County ADRC are summarized below.

*Shared-Fare Taxi Program*

This program provides fare assistance for Waukesha County residents who are non- or limited-drivers and are 65 years of age or older, or under 65 years of age and receiving Supplemental Security Income or Social Security Disability Insurance. The ADRC partners with eight non-profit taxi companies and one for-profit taxi company. The non-profit taxi companies include 4Boomers, A Quick Trip, Elmbrook Senior Taxi, Lake Country Cares Cab, New Berlin Senior Taxi, Oconomowoc Silver Streak, Mukwonago Seniors on the Go, and Muskego Senior Taxi. The for-profit taxi company is Best Cab of Waukesha. Persons requesting transportation through this program must contact the respective taxicab company by telephone at least 24 hours in advance. Rates vary by provider, with individuals paying a minimum of $3.75 toward the cost of each one-way trip, and any additional fare cost over $9.00. In 2018, the Shared Fare program provided 42,246 rides, with personal business and medical appointments comprising the largest percentages of trips, at 31 percent and 29 percent, respectively.

*Ride Line Program*

The Ride Line program is a County-wide service sponsored by the Waukesha County ADRC that utilizes accessible vans provided by Meda-Care Vans. The program is available for Waukesha County residents who are non- or limited-drivers and 65 years of age or older. The service is also available for residents of Waukesha County who are under 65 years of age and users of a cane, crutches, walker, wheelchair, scooter, or are legally blind. This is an advance reservation, door-to-door transportation service for those requiring mobility aids and/or or those living in areas in Waukesha County where taxi service is not available.

Prior to using the program, individuals must complete an application, which includes a Fare Determination Form, and be certified as eligible. A sliding scale is used to determine an individual's fare and is based on the ability to pay. One-way fares range from $3.85 to $8.30 for a trip within the same community, $4.90 to $10.90 for a trip between different communities, and $7.50 to $17.65 for a trip to an adjoining County for a pre-approved medical trip. Reservations must made at least 24 hours in advance. Service is offered on weekdays between 6:00 a.m. and 6:00 p.m. There is no service on weekends or holidays. In 2018, the Ride Line program provided 15,721 rides, of which approximately 75 percent were for medical purposes.

[8] *See SEWRPC Memorandum Report No. 234,* Public Transit – Human Services Transportation Coordination Plan for Waukesha County: 2016*, April 2017*.

*Menomonee Falls Senior Shuttle*

Shuttle service is offered within the Village of Menomonee Falls for area residents who are 60 years of age or older, with one trip per week to Brookfield Square Mall. The service offered is curb-to-curb and individuals must be ambulatory. There is no application or certification required to use the shuttle program but passengers must be Village of Menomonee Falls residents. The one-way fare is $2.00 and reservations should be made 24-hours in advance. Service is provided Monday through Thursday from 9:00 a.m. until 2:00 p.m. and 4:00 p.m. to 5:00 p.m. On Fridays, service is provided from 9:00 a.m. to 2:00 p.m. Sunday service is provided from 8:00 a.m. until 1:00 p.m. In 2018, the Menomonee Falls Senior Shuttle provided 1,241 rides, primarily for personal business, nutrition, and medical purposes.

*Eras Volunteer Driver Program*

Eras Volunteer Driver program is available for Waukesha County residents who are 60 years or older or individuals with a disability that are between the ages of 18 and 59. Riders must be able to enter and exit any vehicle with little or no assistance. Volunteer drivers are matched with clients to assist with medical transport, grocery shopping, and personal errands. Eras owns one accessible van and volunteer drivers also use their personal vehicles. Reservations must be made at least seven days in advance, with service provided once a week per customer. The Eras Volunteer Driver program does not require a rider co-pay, but does request donations for the rides. In 2018, the volunteer driver program provided 7,518 rides, primarily for medical and nutrition purposes.

Find-A-Ride Network

The Waukesha County Find-a-Ride Network (FARN) was developed to address the community's growing and aging population of seniors and adults with disabilities by creating resources to help the residents of Waukesha County locate transportation options that best suit their needs. The program is engaged in establishing a One-Call One-Click system to serve as a centralized access point for seniors and adults with disabilities, healthcare systems, nonprofit service providers, and family caregivers to request information about transportation services and schedule rides through a central phone number and an internet-based customer portal. The FARN website[9] currently allows residents to locate available transportation services in their area and the guidebook provides a complete listing of available transportation providers.

## 2.10 CONCLUSION

This chapter summarized the existing public transit and human services transportation providers in the City of Waukesha and Waukesha County with the most recent data available as of 2019. The review of services indicates that levels of service for both Waukesha Metro and Waukesha County have remained relatively stable over the last five years, with modest service changes, including elimination of unproductive segments, in response to decreases in Federal, State and local funding, or changes in ridership on those segments. Ridership levels have generally decreased on both services, which may be a result of demographic changes, reductions in fuel costs, or increases in automobile ownership among populations that may have previously relied on transit. Inventorying and understanding the existing transit services in the Waukesha area is a necessary step in determining what service alternatives should be studied as part of the planning process. Budget constraints and trends in ridership indicate the need to explore alternative service models, such as public-private partnerships, to provide access to employment and commercial areas within Waukesha County.

[9] *The Find-A-Ride Network's website is www.find-a-ride.org.*

# PUBLIC TRANSIT SERVICE OBJECTIVES AND STANDARDS 3


*Credit: Waukesha County Transit*

## 3.1 INTRODUCTION

To allow a thorough evaluation of the existing transit services offered by Waukesha Metro Transit and Waukesha County Transit and any alternative transit services proposed as part of this study, this chapter establishes the objectives for the transit services and identifies the principles and standards that will be used to measure how successful the existing systems and any proposed alternatives are at fulfilling those objectives. The objectives included in this chapter are intended to represent the level of transit service and performance desired by the residents of the City of Waukesha, Waukesha County, and riders from other counties that utilize the transit services provided by both systems. The planning principles support each objective, and the associated standards describe how a transit service can fulfill the objective. Specifically, the standards provide the basis upon which the performance of existing transit services will be assessed; alternative service plans designed and evaluated; and service improvements recommended. Therefore, only if the objectives, principles, and standards clearly reflect the transit-related goals of the community will the recommended plan provide the desired level of service within the limits of available financial resources.

Given the need for objectives, principles, and standards to reflect the desired level of transit service for the City of Waukesha and Waukesha County, the task of formulating these metrics must involve interested and knowledgeable public officials and private citizens representing a broad cross-section of interests in the community, as well as individuals familiar with the technical aspects of providing transit service. Accordingly, one of the important functions of the Waukesha Area Transit Development Plan Advisory Committee was to articulate transit service objectives, principles, and standards for the planning effort. By drawing upon the collective knowledge, experience, views, and values of the members of the Advisory Committee, a relevant set of transit service objectives, supporting principles, and standards was defined and is listed in Figure 3.1.

## Figure 3.1
## Public Transit Service Objectives, Principles, Standards, and Performance Measures

**Objective 1**

**Public transit should efficiently serve the travel needs of residents and employers within the City of Waukesha and Waukesha County, connecting to major activity centers, population centers, and areas of employment, which are fully developed or planned to be developed to medium or high densities.**

**Associated Public Transit Principle**

Transit services can increase mobility for all segments of the population in urban and rural areas, particularly for people residing in low-to-middle income households, students, seniors, and people with disabilities. Fixed-route public transit services are generally best suited for operating within and between large and medium-sized urban areas, serving the mobility needs of the population and the labor needs of employers.

**Design and Operating Standards**

**1. Local Bus Service**

Provide local fixed-route transit service to connect areas of urban development to the largest major activity centers within the City, County, and Region.

**2. Commuter Bus Service**

Serve major travel corridors with commuter bus service by connecting major activity centers and concentrations of significant urban development within the City, County, and Region.

**3. Flexible Service**

Provides local transportation linking major transfer centers and commuter services to major employment centers by providing a timed transfer from other services and serving the shift times of large employers. If implemented by the City or County, costs should be partially borne by the employer or employers served.

**4. Paratransit Service**

Paratransit service should be available within the transit service area to meet the needs of people with disabilities who are unable to use fixed-route bus service.

**Performance Standards and Associated Performance Measures**

**1. Major Activity Centers**

Maximize the number of major activity centers and facilities for transit –dependent people served by transit. This is measured by the number of activity centers within one-quarter mile of a local bus or shuttle route, within one-half mile of a commuter bus route, or within the service boundaries of a flexible service. Major activity centers include the following:[a]

a. Commercial areas
b. Educational institutions
c. Medical centers
d. Employers
e. Facilities serving transit-dependent populations
f. Libraries, government centers, and cultural facilities

**2. Population**

Maximize the population served by transit, particularly the transit dependent population. Residents are considered served if they are within the service boundaries of a flexible service, or within the following distances of a fixed-route transit service:

| | Distance from Bus Stop | |
|---|---|---|
| Service Type | Walking | Driving |
| Commuter Bus | ½ Mile | 3 Miles |
| Local Bus or Shuttle | ¼ Mile | -- |

**3. Employment**

Maximize the number of jobs served by transit. This is measured by the total employment at businesses located within one-quarter mile of local bus or shuttle routes, within one-half mile of a commuter bus route, or within the service boundaries of a flexible service.

**4. Density**

Maximize the transit-supportive land area accessible by public transit. Land area is considered transit-supportive if it has a density of at least 4 dwelling units per net residential acre, or at least 640 jobs per quarter section. This is measured by the proportion of the total transit-supportive land area within one-quarter mile of a local bus or shuttle route, within one-half mile of a commuter bus route, or within the service boundaries of a flexible service.

[a] *In order to be considered a major activity center, the following definitions must apply:*

- *Commercial areas are concentrations of retail and service establishments that typically include a department store or a discount store along with a supermarket on 15 to 60 acres, totaling 150,000 or more square feet of gross leasable floor space*
- *Educational institutions are the main campus of traditional four-year institutions of higher education, public technical colleges, and public and private middle schools and high schools*
- *Medical centers are all hospitals and clinics with 10 or more physicians*
- *Employers are all employers with more than 100 employees, or clusters of adjacent employers with collectively more than 100 employees such as in business or industrial parks*
- *Facilities serving transit-dependent populations are senior centers, senior meal sites, residential facilities for seniors and/or people with disabilities, residential facilities for low-income individuals, and government facilities that provide significant services to members of transit-dependent population groups*
- *Libraries include all local public libraries in Waukesha County*
- *Government and public institutional centers include all major government offices, city halls, civic centers, and Department of Motor Vehicles offices*
- *Cultural facilities include those that hold significant public arts events and have prominence within the State*

## Figure 3.1 (Continued)

**OBJECTIVE 2**

**Provide efficient, safe,[b] reliable, convenient, and comfortable transit services in the City of Waukesha and Waukesha County.**

**Associated Public Transit Principle**

The benefits to the entire public of a transit service are directly related to the level of utilization—measured by ridership—of that service. Ridership is influenced by the level of access the public has to services that are reliable and provide quick, convenient, comfortable, and safe travel. Riders view transit services with these attributes as an effective and attractive alternative to the private automobile.

**Design and Operating Standards**

**1. Route Design**

Extend bus routes as needed or pair them with a local shuttle to perform a collection-distribution function at the ends of the route. Public transit routes should have direct alignments with a limited number of turns, and should be arranged to minimize duplication of services and unnecessary transfers.

**2. Bus Stop and Park-Ride Lot Design**

Clearly mark bus stops and park-ride lots with easily recognizable signs or shelters and locate them so as to minimize the walking or driving distance over an accessible path to and from residential areas and major activity centers, and to facilitate connections with other transit services where appropriate. For local bus routes, place stops approximately every three blocks and provide accessible paths and crosswalks to bus stops.[c] For express transit routes, place stops at intersecting transit routes, signalized intersections, and major activity centers. Place park-ride lots at least one mile apart on commuter bus routes. Within business parks, shuttle stop spacing may need to differ from standard local route stop spacing based on the spacing between businesses and the presence or lack of sidewalks and crosswalks.

**3. Route Design**

The maximum load factor for each route, measured as the ratio of passengers to seats at that point where passenger loads are highest, should not exceed the following:

| Service Type | Peak Periods | All Other Times |
|---|---|---|
| Local | 1.25 | 1.00 |
| Commuter | 1.00 | 1.00 |

**4. Service Frequency and Availability**

Operate all fixed-route transit services with maximum headways as indicated below.

| | Maximum Headway (minutes) | |
|---|---|---|
| Service Type | Weekday Peak Periods | Off-Peak Periods/ Weekends/Holidays |
| Rapid | 15 | 15 |
| Commuter | 30 | 120 |
| Express | 15 | 30 |
| Local/Shuttle | 30 | 60 |

**5. Service Travel Speeds**

Operate transit services such that average travel speeds are not less than 10 miles per hour for local fixed-route services, and not less than 25 miles per hour for commuter bus services.

**6. Vehicle Age and Condition**

Consideration should be given to rehabilitating or replacing each public transit vehicle at the end of its normal service life as defined below for different types of transit vehicles:

| | | Service Life[d] | |
|---|---|---|---|
| Vehicle Type | Length (feet) | Years | Mileage |
| Heavy-Duty Bus | 35+ | 12 | 500,000 |
| Heavy Duty Bus | 25-30 | 10 | 350,000 |
| Medium-Duty Bus | 25-30 | 7 | 200,000 |
| Cars, Vans, and Cutaways | -- | 4 | 100,000 |

**Performance Standards and Associated Performance Measures**

**1. Ridership and Service Effectiveness**

Maximize ridership on and the effectiveness of transit services. This is measured using passengers per capita, total passengers per vehicle hour, total passengers per vehicle mile, and passenger miles per vehicle mile, which will be compared to similar transit systems.

Transit services with service effectiveness measures more than 20 percent below the median of the peer comparison group, with less than 10 passengers per revenue vehicle hour, or less than one passenger per revenue vehicle mile should be reviewed for potential changes to their routes, runs, service areas, and service periods.

**2. On-Time Performance**

Maximize adherence to published schedules for fixed-route transit services. Regularly monitor performance and make adjustments to any fixed-route service with less than 90 percent of trips on time (defined as being between zero minutes early and three minutes late for fixed-route services).

**3. Travel Time**

Keep travel times on transit services reasonable in comparison to travel time by automobiles for similar trips. This standard is measured using the ratio of transit to automobile distance and the ratio of transit to automobile travel time.

[b] *The Federal Transit Administration published the Public Transportation Agency Safety Rule (49 CFR part 673) on July 19, 2018, requiring transit operators to develop safety plans, including safety performance measures by July 20, 2020. Waukesha Metro and Waukesha County Transit have good safety records and are working toward compliance with the Safety Rule. Since the process is underway, specific safety measures are not yet identified as part of this plan.*

[c] *This standard encourages that accessible sidewalks and crosswalks be provided to bus stops and that all pedestrian facilities be designed and constructed in accordance with the Federal American with Disabilities Act (ADA) and its implementing regulations.*

[d] *The service life standards represent the minimum useful life benchmarks defined in FTA Circular 5010.1E, March 21, 2017, revised July 16, 2018. Transit operators are required to measure their transit assets' vehicle age and condition pursuant regulations set forth in 49 CFR part 625 Transit Asset Management, based on a set of maximum useful life benchmarks. However, Figure 3.1 includes the minimum service life measures as they represent the minimum number of years or mileage that recipients of Federal assistance must meet in order to qualify for new vehicles.*

## Figure 3.1 (Continued)

**OBJECTIVE 3**

**Meet all other objectives at the lowest possible cost. Given limited public funds, this objective seeks to permit elected officials the flexibility to balance the standards associated with Objectives 1 and 2 with the level of public funding required to fully meet those standards.**

**Associated Public Transit Principle**

Given limited public funds, the cost of providing transit at a desired service level should be minimized and revenue gained from the service should be maximized to maintain the financial stability of services.

**Design and Operating Standards**

**1. Costs**

Minimize the total operating expenditures and capital investment for transit services to reflect efficient utilization of resources.

**2. Fare Structure**

Charge premium fares for premium services, and discounted fares for priority population groups and frequent riders.

**3. Fare Increases**

Consider periodic increases in passenger fares to maintain the financial stability of transit services when:

a. The farebox recovery ratio falls below the level determined to be acceptable by local officials
b. Operating expenses per unit of service have increased by more than 10 percent since fares were last raised
c. Projected levels of Federal and State operating assistance would require an increase in local operating assistance above the level deemed acceptable by local officials
d. A fare increase would be projected to generate more revenue than would be lost due to potential decreases in ridership

It is recommended that fares not be increased faster than the rate of inflation.

**4. Total Assistance**

Minimize the sum of capital investment and operating assistance in the transit system from all sources, while meeting other objectives.

**5. Cost Sharing**

Charge special fares to, or implement cost-sharing agreements with, agencies, employers, or business improvement districts for additional transit services and trips designed to serve a particular agency, employer, or business improvement district.

**Performance Standards and Associated Performance Measures**

**1. Operating Expenses**

Minimize the operating expenses per total and revenue vehicle mile, the operating expenses per total and revenue vehicle hour, and the operating assistance per passenger. Annual increases in such costs should not exceed the median percentage increases experienced by comparable transit systems.

**2. Farebox Revenue**

Maximize the operating revenues generated from passenger fares. This is measured using the percent of operating expenses recovered through passenger fare revenue.

**3. Cost Effectiveness**

Review transit services with substandard cost effectiveness for potential changes to their routes, runs, service areas, and service periods. Cost effectiveness is considered substandard when the operating expenses per passenger, or operating expenses per passenger mile are more than 20 percent above, or the farebox recovery ratio is more than 20 percent below, the median for comparable transit systems.

*Source: SEWRPC*

## 3.2 OBJECTIVES

The following objectives envision a transit system that will effectively serve the City of Waukesha and Waukesha County while minimizing costs:

1. Public transit should efficiently serve the travel needs of residents and employers within the City of Waukesha and Waukesha County, connecting to major activity centers, population centers, and areas of employment, which are fully developed or planned to be developed to medium or high densities.

2. Provide efficient, safe, reliable, convenient, and comfortable transit services in the City of Waukesha and Waukesha County.

3. Meet all other objectives at the lowest possible cost. Given limited public funds, this objective seeks to permit elected officials the flexibility to balance the standards associated with Objectives 1 and 2 with the level of public funding required to fully meet those standards.

## 3.3 PRINCIPLES AND STANDARDS

Complementing each of the service objectives is a planning principle and set of standards, as shown in Figure 3.1. The planning principle supports each objective, and the associated standards describe how a transit service can fulfill the objective. The standards provide a guideline for the City and County to measure against to determine any areas of a transit service that might need improvement. It is not necessarily realistic to expect Waukesha Metro's or Waukesha County's transit services to meet all of the standards, as standards related to cost effectiveness or levels of public assistance may come in conflict with design standards regarding service area or level of service. The service design and operating standards are intended to provide guidelines for the design of new and improved services, for the operation of the transit system, and for purchasing capital equipment or constructing facilities. The performance standards provide the basis for evaluating the performance of the existing transit system and proposed alternative services. For each performance standard, one or more performance measures are identified that can be used to quantify the performance of the transit service or system for measurement against the standard.

The service performance standards and associated performance measures also reflect cost efficiency standards set forth in Wis. Statute 85.20 and Administrative Rule TRANS 4. Specifically, TRANS 4 establishes six performance indicators to assess the performance of Wisconsin's transit systems, including: operating ratio or farebox recovery rate; operating expense per passenger; passengers per capita; passengers per revenue vehicle hour of service; operating expenses per revenue vehicle hour of service; and revenue hours per capita. All of these indicators have been incorporated into the standards and performance measures included in Figure 3.1 or will be used to identify peer transit systems for evaluating the Waukesha Metro Transit and the Waukesha County Transit Systems. The performance standards in Figure 3.1 can also provide guidance that complements the Management Performance Reviews that are required for systems receiving State transit operating assistance. The most recent review for Waukesha Metro Transit and Waukesha County Transit was finalized in May 2019.

The performance evaluation of the existing transit system utilized in the current study includes individual assessments of transit performance for Waukesha Metro and Waukesha County Transit Systems. The service standards set forth in this chapter represent a comprehensive list from which specific performance standards and measures, as deemed appropriate, were drawn in conducting the service performance evaluations for each transit system. A more complete description of the evaluation process is presented in Chapter 4.

## 3.4 ADDITIONAL CONSIDERATIONS

The objectives, principles, and standards set forth in Figure 3.1 are intended to guide the evaluation of the performance of the existing transit system and the design and evaluation of alternative service improvements. In the application of these objectives, principles, and standards, the limitations of public resources must be pragmatically considered in the following ways:

- An overall evaluation of the existing public transit services and the alternative service plans must be made based on costs and revenue. This analysis may show the attainment of one or more standards to be beyond the fiscal capability of the community, and, therefore, the standards cannot be practically met and must be either modified or eliminated.

- A transit system is unlikely to fully meet all the standards, and the extent to which each standard is met, exceeded, or violated must serve as the final measure of the ability of the system to achieve the objective each standard supports.

- Certain intangible factors, including the perceived value of the transit service to the community and its potential acceptance by the concerned elected officials, may influence the preparation and selection of a recommended plan. Given that transit service may be perceived as a valuable service within the community, the community may decide to initiate or retain such services regardless of performance or cost.

# EVALUATION OF THE EXISTING TRANSIT SYSTEM 4


*Credit: SEWRPC Staff*

## 4.1 INTRODUCTION AND SUMMARY

This chapter details the performance evaluation of existing Waukesha Metro Transit services and Waukesha County Transit services. The evaluations utilize the performance standards selected by the Advisory Committee for the Waukesha Area Transit Development Plan and identified in Chapter 3 of this report to determine how well existing transit services fulfill the standards. The performance evaluations provide insights that will help inform potential options to address unmet transportation needs and improve or expand existing transit services.

The evaluations for Waukesha Metro and Waukesha County Transit were analyzed, with the applicable standards for each service listed under their objective in the sections of this chapter. A number of standards require comparing each transit service to a peer group, which is made up of a selection of transit systems that provide a similar type, level, and quantity of service as Waukesha Metro and Waukesha County Transit. The process for selecting the systems that make up the peer groups is described in more detail later in this chapter. The remaining sections in this chapter present the findings of the performance evaluation of Waukesha Metro and Waukesha County Transit services. Figure 4.1 and the remaining text in this section provide a brief summary of the results of the performance evaluation.

**Summary of the Performance Evaluation of Waukesha Metro Transit**

The Waukesha Metro Transit System performed very well under the performance evaluation summarized in Figure 4.1, with a few areas of noted weaknesses. The service provides substantial coverage in the City of Waukesha and adjacent communities, with reasonable access to the service for a majority of the residents. It also serves a majority of jobs and major activity centers within the City of Waukesha. Waukesha Metro compares well with its peers in the Region and across the Nation, in some cases exceeding the median for the peer transit systems. Certain routes perform poorly in regard to service effectiveness and cost effectiveness, including routes with circuitous alignments that can increase travel time and make transit travel less attractive (Routes 2, 6, and 15). However, these circuitous alignments also provide greater coverage and access service to more residents, which presents a trade-off between service coverage and direct routing that is considered as part of the proposed route changes in the next chapter.

**Figure 4.1**
**Summary of the Results of the Performance Evaluation of Waukesha Metro Transit Services and the Waukesha County Transit System**

| Objective | Standard | Waukesha Metro Transit | Waukesha County Transit |
|---|---|---|---|
| Objective 1<br>Meeting the demand and need for transit services | Local Bus Service | Fulfilled | Fulfilled |
| | Commuter Bus Service | Not Applicable | Fulfilled |
| | Paratransit Service | Fulfilled | Fulfilled |
| | Major Activity Centers | Largely Fulfilled | Partially Fulfilled |
| | Population | Largely Fulfilled | Largely Fulfilled |
| | Employment | Largely Fulfilled | Partially Fulfilled |
| | Density | Fulfilled | Partially Fulfilled |
| Objective 2<br>Operating safely, reliably, conveniently, comfortably, and efficiently | Route Design and Operations | Largely Fulfilled | Partially Fulfilled |
| | Bus Stop and Park-Ride Lot Design | Partially Fulfilled | Partially Fulfilled |
| | Passenger Demand | Fulfilled | Largely Fulfilled |
| | Service Frequency and Availability | Partially Fulfilled | Fulfilled |
| | Service Travel Speeds | Fulfilled | Fulfilled |
| | Vehicle Age and Condition | Fulfilled | Not Applicable |
| | Ridership and Service Effectiveness | Fulfilled | Largely Fulfilled |
| | Travel Time | Fulfilled | Largely Fulfilled |
| Objective 3<br>Achieving the other objectives at the lowest possible cost | Fare Structure | Fulfilled | Fulfilled |
| | Operating Expenses | Fulfilled | Largely Fulfilled |
| | Cost Effectiveness | Fulfilled | Largely Fulfilled |

*Source: SEWRPC*

**Summary of the Performance Evaluation of Waukesha County Transit**

Waukesha County performs relatively well under the evaluation, with the Commuter routes providing fairly good coverage to Waukesha County residents and serving many areas in Milwaukee County with the highest employment density. However, the percentage of Waukesha County jobs served is relatively low due, in part, to the lack of concentrated employment centers. In addition, the small number of reverse commute trips from Milwaukee County to Waukesha County limits the number of jobs served for those who wish to commute to Waukesha County for employment. When compared to its peers, Waukesha County does not meet a number of standards, including two that compare operating expenses per unit of service provided. However, the services measured in these standards are partially dictated by the costs of service included in the operating contract with transit operators, and therefore are not easily addressed through transit service changes. At the route level, none of the 900-series routes meet the cost effectiveness standards, indicating changes to routes, runs, service areas, and service periods should be considered.

## 4.2 PEER SYSTEMS

As part of the evaluation of the Waukesha Metro and Waukesha County Transit services, a number of standards require comparing the performance of the two systems to the performance of a peer group of transit systems. In order to make this comparison, six peer systems were identified for the Waukesha Metro Transit system, and seven peer systems were identified for the Waukesha County Transit system. These peer systems were selected according to data gathered from the National Transit Database (NTD) for 2017 and supplemented with research to understand their service characteristics, including annual ridership, urban area population, total vehicle miles operated annually, total annual operating budget, proximity to Waukesha County, percentage of university students, and climate. Peer systems for the Waukesha Metro Transit service were also selected based on the provision of a pulse, or timed transfer system, while County transit peers were selected based on their provision of commuter services to a metropolitan area from locations that most closely matched Waukesha County's land use and population density characteristics.

**Waukesha Metro Transit Peer Group**

Table 4.1 lists the service characteristics of the six transit systems selected for the Waukesha Metro peer group, all of which offer services that are generally similar to Metro. Waukesha Metro's service characteristics generally fall within the range of its peers for revenue vehicle hours and miles operated, operating expense, service area, and population density. The data contained within Table 4.1 reflect only their local bus service.

**Waukesha County Transit Peer Group**

The seven peer systems selected for the Waukesha County comparison are shown in Table 4.2. These systems similarly operate commuter bus services from suburban communities to central business districts.

As discussed in Chapter 2, Waukesha County funds local services that provide connections to employment centers in Waukesha County, including the Route 1 extension between Goerke's Corners and the Brookfield Square Mall, and the Gold Line connection from Brookfield Square Mall to 124th Street. In order to analyze comparable transit services, Commission staff reviewed the land use and transit service characteristics for the seven peer systems. For those peers that had similar land use patterns as Waukesha County, both their commuter and local fixed route bus services were included in the analysis. The services that include both commuter bus and local bus service statistics include Johnson County Transit, Laketran, and Gwinnett County Transit, while the remaining peers were analyzed using data for their commuter bus service only (Yuba-Sutter Transit Authority, Belle Urban Systems, Ozaukee County Express, and the Washington County Commuter Express).

## 4.3 PERFORMANCE EVALUATION OF WAUKESHA METRO TRANSIT SERVICE

Evaluating the performance of Waukesha Metro Transit requires identifying which standards from Figure 3.1 need to be examined to determine if the service is meeting the public transit service objectives established in Chapter 3 of this report. Those three objectives seek to provide a service that meets the demand and need for transit service within the City of Waukesha; operates safely, reliably, conveniently, comfortably, and efficiently; and utilizes public resources cost-effectively.

**Objective 1: Meet the Need and Demand for Service**

In order to determine if Waukesha Metro effectively serves existing travel patterns, meeting the demand for transit services in the City of Waukesha, each applicable standard and associated performance measures were individually evaluated. These individual evaluations were collectively considered to determine how effectively the current service meets the overall objective. Figure 4.2 contains the full text of Objective 1, the applicable design and performance standards, and associated performance measures used to evaluate Waukesha Metro Transit's fulfillment of the objective.

***Local Bus Service and Paratransit Design and Operating Standards***

Waukesha Metro successfully fulfills the Local Bus Service Design and Operating Standard, as it connects areas of urban development to the largest major activity centers in the City of Waukesha and additional locations adjacent to the City of Waukesha, including the Waukesha County Technical College in the Village of Pewaukee and the Goerke's Corners Park-Ride Lot in the City of Brookfield. The City of Waukesha's paratransit service, Waukesha Metrolift, also successfully fulfills the applicable design and operating standard as it operates within the required 0.75 miles of the fixed-route transit system, thereby offering service to people with disabilities who are unable to use fixed-route service for travel within the City.

***Major Activity Centers Performance Standard***

The Major Activity Centers Standard encourages maximizing the number of major activity centers accessible by transit within the City of Waukesha. To analyze access to major activity centers, the centers were mapped, along with a transit service area of one-quarter mile from Waukesha Metro bus routes. The number of major activity centers served are shown in Table 4.3, while the geographic distribution of the activity centers are shown on Map 4.1. Waukesha Metro provides service to most of the major activity centers within the City of Waukesha, including all major economic activity areas, institutions of higher education, middle and high schools, and senior centers. However, four of the six major hospitals or clinics with 10 or more physicians are not currently within one-quarter mile of a transit route. In addition, there are a number of major employers within the City of Waukesha that are not within the Waukesha Metro service area, particularly on the northern and western edges of the City. Although not all major activity centers are served, the Major Activity Centers Standard is largely fulfilled with most centers in the City of Waukesha served by Waukesha Metro Transit.

## Table 4.1
## Selected Characteristics for Waukesha Metro Transit and Peer Transit Systems in the Nation: 2017

| Transit System | Metropolitan Area | Administrative Structure | Hours of Operation | | | Adult Cash Fare | Urban Area Population |
|---|---|---|---|---|---|---|---|
| | | | Weekdays | Saturdays | Sundays | | |
| Waukesha Metro Transit | Milwaukee, WI | Public | 6:00 a.m. - 9:15 p.m. | 8:20 a.m. - 8:50 p.m. | 9:20 a.m. - 6:50 p.m. | $2.00 | 1,387,245 |
| Gary Public Transportation Corporation | Gary, IN | Public | 5:15 a.m. - 6:15 p.m. | 8:15 a.m. - 4:15 p.m. | N/A | $1.60 | 8,667,303 |
| Cedar Rapids Transit | Cedar Rapids, IA | Public | 5:15 a.m. - 7:15 p.m. | 8:15 a.m. - 5:15 p.m. | N/A | $1.50 | 188,160 |
| Sioux Area Metro | Sioux Falls, SD | Public | 5:45 a.m. - 8:45 p.m. | 7:45 a.m. - 6:45 p.m. | N/A | $1.50 | 174,399 |
| Altoona Metro Transit | Altoona, PA | Transit Authority | 7:00 a.m. - 6:00 p.m. | 7:00 a.m. - 6:00 p.m. | N/A | $1.70 | 75,793 |
| La Crosse Municipal Transit Utility | La Crosse, WI | Public | 5:15 a.m. - 10:45 p.m. | 7:45 a.m. - 7:40 p.m. | 7:45 a.m. - 6:30 p.m. | $1.50 | 103,692 |
| Shoreline Metro | Sheboygan, WI | Public | 5:45 a.m. - 8:45 p.m. | 7:45 a.m. - 5:45 p.m. | N/A | $1.75 | 71,518 |

| Transit System | Service Area Population[a] | Population Density | Operating Expenses ($) | Revenue Vehicle Miles | Revenue Vehicle Hours | Annual Passenger Trips | Fixed-Route Vehicle Fleet |
|---|---|---|---|---|---|---|---|
| Waukesha Metro Transit | 72,173 | 2,542 | 4,271,922 | 648,200 | 51,900 | 630,003 | 20 |
| Gary Public Transportation Corporation | 102,746 | 3,549 | 5,603,915 | 770,898 | 56,262 | 750,161 | 21 |
| Cedar Rapids Transit | 158,890 | 2,255 | 7,122,366 | 954,290 | 68,873 | 1,185,726 | 34 |
| Sioux Area Metro | 137,300 | 2,718 | 4,543,786 | 747,194 | 61,894 | 795,026 | 29 |
| Altoona Metro Transit | 69,608 | 2,027 | 4,391,083 | 495,313 | 39,445 | 557,710 | 29 |
| La Crosse Municipal Transit Utility | 71,201 | 2,034 | 5,153,871 | 844,107 | 58,801 | 999,955 | 20 |
| Shoreline Metro | 59,490 | 2,139 | 3,163,112 | 543,561 | 37,679 | 529,726 | 23 |

[a] *Based on population data from the U.S. Bureau of the Census as reported by each transit operator.*

*Source: National Transit Database, U.S. Bureau of the Census, and SEWRPC*

## Table 4.2
## Selected Characteristics for Waukesha County Transit and Peer Transit Systems in the Nation: 2017

| Transit System | Metropolitan Area | Time Period Served | Days Served | Reverse Commute Service | Adult Cash Fare for Commuter Services | Service Area Population[a] |
|---|---|---|---|---|---|---|
| Waukesha County Transit | Milwaukee, WI | Peak, Midday | Weekdays | Provided | $3.50 | 401,070 |
| Johnson County Transit[b] | Kansas City, MO | Peak | Weekdays | Provided | $3.00 | 411,685 |
| Yuba-Sutter Transit Authority[c] | Sacramento, CA | Peak, Midday | Weekdays | Provided | $4.50 | 141,986 |
| Laketran[b] | Cleveland, OH | Peak | Weekdays | Not Provided | $3.75 | 230,041 |
| Gwinnett County Transit[b] | Atlanta, GA | Peak | Weekdays | Not Provided | $5.00 | 920,260 |
| Racine-Kenosha Commuter Bus[c] | Racine, WI | Peak, Midday | Weekdays | Provided | $4.50 | 112,100 |
| Ozaukee County Express[c] | Milwaukee, WI | Peak | Weekdays | Provided | $3.50 | 86,389 |
| Washington County Commuter Express[c] | Milwaukee, WI | Peak | Weekdays | Not Provided | $3.75 | 134,137 |

| Transit System | Urban Area Population | Population Density | Operating Expenses ($) | Revenue Vehicle Miles | Revenue Vehicle Hours | Annual Passenger Trips |
|---|---|---|---|---|---|---|
| Waukesha County Transit | 1,387,245 | 2,542 | 3,821,383 | 500,455 | 22,142 | 375,994 |
| Johnson County Transit[b] | 1,595,437 | 2,354 | 7,137,133 | 1,351,895 | 60,996 | 448,527 |
| Yuba-Sutter Transit Authority[c] | 125,404 | 3,244 | 989,087 | 313,856 | 8,430 | 130,627 |
| Laketran[b] | 1,760,589 | 2,279 | 5,014,503 | 843,652 | 48,903 | 463,609 |
| Gwinnett County Transit[b] | 5,057,220 | 1,912 | 15,614,210 | 1,888,209 | 98,547 | 1,415,078 |
| Racine-Kenosha Commuter Bus[c] | 130,920 | 1,912 | 1,030,177 | 211,310 | 9,021 | 52,383 |
| Ozaukee County Express[c] | 1,387,245 | 2,542 | 1,154,580 | 192,989 | 7,443 | 102,507 |
| Washington County Commuter Express[c] | 1,387,245 | 2,542 | 1,167,422 | 214,185 | 7,311 | 80,858 |

[a] *Based on population data from the U.S. Bureau of the Census as reported by each transit operator.*

[b] *The peer data presented includes both commuter bus and local bus statistics based on their suburban characteristics to serve as a comparison for Waukesha County's local service.*

[c] *Peer data presented includes commuter bus service only, as any local services provided by these operators are not similar to Waukesha County Transit's local service.*

*Source: National Transit Database, U.S. Bureau of the Census, Waukesha County Transit, and SEWRPC*

## Figure 4.2
## Objective 1 and Associated Standards Applicable to the Evaluation of Waukesha Metro Transit

| Objective 1 |
|---|
| **Public transit should efficiently serve the travel needs of residents and employers within the City of Waukesha, connecting to major activity centers, population centers, and areas of employment, which are fully developed or planned to be developed to medium or high densities.** |

| Associated Public Transit Principle |
|---|
| The demand and need for travel in those areas that are fully developed, or planned to be developed to medium or high densities, should be met by the appropriate level of public transit service. |

| Design and Operating Standards | |
|---|---|
| **1. Local Bus Service**<br>Provide local fixed-route transit service to connect areas of urban development to the largest major activity centers within the City, County, and Region. | **2. Paratransit Service**<br>Serve major travel corridors with commuter bus service by connecting major activity centers and concentrations of significant urban development within the City, County, and Region. |

| Performance Standards and Associated Performance Measures | |
|---|---|
| **1. Major Activity Centers**<br>Maximize the number of major activity centers and facilities for transit-dependent people served by transit. This is measured by the number of activity centers within one-quarter mile of a local bus. Major activity centers include the following:[a]<br>a. Commercial areas<br>b. Educational institutions<br>c. Medical centers<br>d. Employers<br>e. Facilities serving transit-dependent populations<br>f. Libraries, government centers, and cultural facilities | **2. Population**<br>Maximize the population served by transit, particularly the transit dependent population. Residents are considered served if they are within one-quarter mile of local bus. |
| **3. Employment**<br>Maximize the number of jobs served by transit. This is measured by the total employment at businesses located within one-quarter mile of local bus. | **4. Density**<br>Maximize the transit-supportive land area accessible by public transit. Land area is considered transit-supportive if it has a density of at least 4 dwelling units per net residential acre, or at least 640 jobs per quarter section. This is measured by the proportion of the total transit-supportive land area within one-quarter mile of a local bus. |

[a] *In order to be considered a major activity center, the following definitions must apply:*

- *Commercial areas are concentrations of retail and service establishments that typically include a department store or a discount store along with a supermarket on 15 to 60 acres, totaling 150,000 or more square feet of gross leasable floor space*
- *Educational institutions are the main campus of traditional four-year institutions of higher education, public technical colleges, and public and private middle schools and high schools*
- *Medical centers are all hospitals and clinics with 10 or more physicians*
- *Employers are all employers with more than 100 employees, or clusters of adjacent employers with collectively more than 100 employees such as in business or industrial parks*
- *Facilities serving transit-dependent populations are senior centers, senior meal sites, residential facilities for seniors and/or people with disabilities, residential facilities for low-income individuals, and government facilities that provide significant services to members of transit-dependent population groups*
- *Libraries include all local public libraries in Waukesha County*
- *Government and public institutional centers include all major government offices, city halls, civic centers, and Department of Motor Vehicles offices*
- *Cultural facilities include those that hold significant public arts events and have prominence within the State*

*Source: SEWRPC*

## Table 4.3
## Transit Service Provided to Land Uses and Population Groups in the Study Area for Waukesha Metro Transit System: 2019

| Performance Measure | Systemwide Performance Characteristics | |
|---|---|---|
| | Within the City of Waukesha | Outside the City of Waukesha |
| Major Activity Centers Served | | |
| Major Economic Activity Areas | 2 of 2 | 2 |
| Institutions of Higher Education | 2 of 2 | 1 |
| Middle Schools and High Schools | 13 of 13 | 1 |
| Hospitals, Medical Centers, and Major Clinics | 4 of 6 | 0 |
| Major Employers | 56 of 65 | 23 |
| Senior Centers, Senior Meal Sites, and Adult Day Centers | 10 of 10 | 0 |
| Residential Facilities for Seniors, People with Disabilities, and Low-Income Households | 39 of 44 | 2 |
| Nursing Homes | 3 of 3 | 1 |
| Job Resource Centers | N/A | 1 |
| Libraries | 1 of 1 | 0 |
| Governmental and Public Institutional Centers | 1 of 1 | 0 |
| Community or Regional Park | 7 of 8 | 0 |
| Cultural Centers | 1 of 1 | 0 |
| Population Served[a] | | |
| Within the City of Waukesha | 55,232 | -- |
| Outside the City of Waukesha | 4,499 | -- |
| Total Population Served | 59,731 | -- |
| City of Waukesha Total Population | 72,173 | -- |
| Percent of City of Waukesha Resident Population Served | 76.5 | -- |
| Areas with Substantial Transit Needs Served | | |
| Census Block Groups with High Transit Needs Served | 7 of 7 | -- |
| Census Block Groups with Moderate Transit Needs Served | 32 of 35 | -- |
| Total Minority Population in the City of Waukesha | | |
| Census Blocks in Waukesha Metro Service Area that Exceed the County-Wide Average of 9.4 Percent of Minority People, Including Hispanic People | 449 of 469 | -- |
| Employment Served[b] | | |
| Within the City of Waukesha | 36,961 | -- |
| Outside the City of Waukesha | 19,592 | -- |
| Total Employment Served | 56,553 | -- |
| City of Waukesha Total Employment | 45,364 | -- |
| Percent of Total Employment Within City of Waukesha Served | 81.5 | -- |
| Proportion of Areas Meeting Density Requirements Served | 50 of 62 | -- |

Note: The data for the population, employment, and density performance measures are provided within the same column to show the calculations.

[a] *Population based on 2010 U.S. Census data allocated to U.S. Public Land Survey quarter sections by Commission staff.*

[b] *Employment figures based on 2010 U.S. Bureau of Economic Analysis data allocated to U.S. Public Land Survey quarter sections by Commission staff.*

*Source: U.S. Census, Waukesha Metro Transit, and SEWRPC*

### *Population Performance Standard*

The Population Performance Standard recommends maximizing the number of residents with access to transit. In the case of Waukesha Metro, it is measured using the number of people residing within one-quarter mile of a bus route. Map 4.2 displays residential population by quarter section in the City of Waukesha, with a one-quarter mile buffer from Waukesha Metro routes. As of the 2010 U.S. Census, approximately 55,232 residents (approximately 77 percent of all City of Waukesha residents) lived within one-quarter miles of a Waukesha Metro route. As Waukesha Metro serves more than three out of four city residents, the Population Performance Standard is largely fulfilled.

## Map 4.1
## Major Activity Centers Within the Study Area for Waukesha Metro


**MAJOR ACTIVITY CENTERS**

- HOSPITAL, MEDICAL CENTER, OR CLINIC WITH 10 OR MORE PHYSICIANS
- RESIDENTIAL FACILITY FOR SENIORS, PEOPLE WITH DISABILITIES, OR LOW-INCOME HOUSEHOLDS
- SENIOR CENTER, SENIOR MEAL SITE, OR ADULT DAY CENTER
- JOB RESOURCE CENTER
- MAJOR EMPLOYER WITH MORE THAN 100 EMPLOYEES
- MAJOR INSTITUTION OF HIGHER EDUCATION
- NURSING HOME
- GOVERNMENTAL OR INSTITUTIONAL CENTER
- PUBLIC LIBRARY
- CULTURAL CENTER
- PUBLIC COMMUNITY OR REGIONAL PARK
- PUBLIC OR PRIVATE MIDDLE OR HIGH SCHOOL
- MAJOR ECONOMIC ACTIVITY AREA

**WAUKESHA METRO TRANSIT SERVICE AREA**

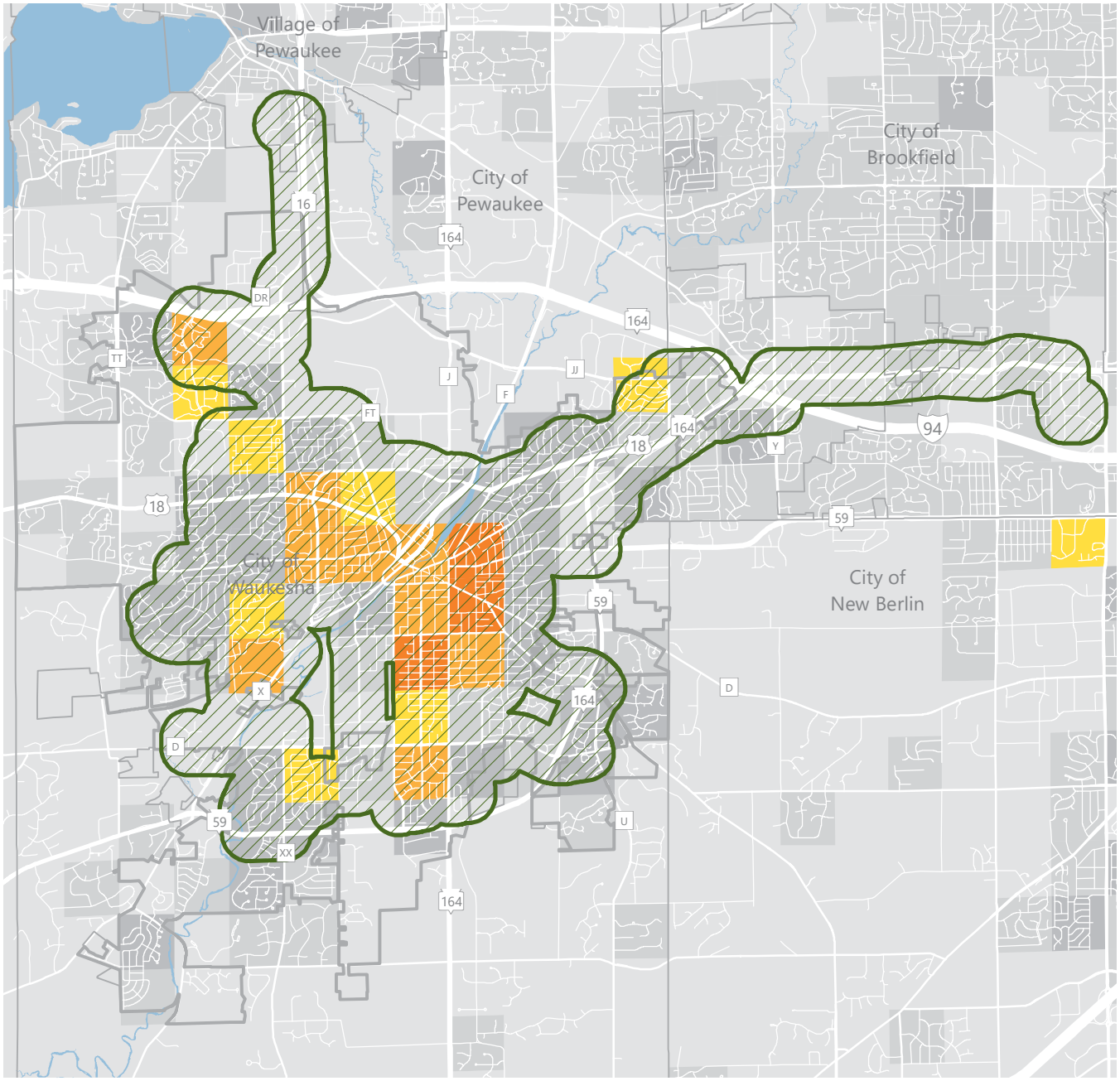
- ONE-QUARTER MILE SERVICE FROM BUS ROUTES

N

0 0.5 1 1.5 Miles

*Source: Waukesha Metro Transit, and SEWRPC*

## Map 4.2
## Population Served by Waukesha Metro Transit




**POPULATION BY QUARTER SECTION (2010)**

- 0 - 250
- 251 - 750
- 751 - 1,194
- 1,195 - 1,500
- 1,501 - 2,000
- 2,001 - 2,329

**WAUKESHA METRO TRANSIT SERVICE AREA**

- ONE-QUARTER MILE FROM BUS ROUTES

Note: Population threshold (1,195+) based on the minimum residential density (3 units per gross acre) determined to support transit service as identified in TCRP 165: Transit Capacity and Quality of Service Manual, 3rd Edition (2013). Persons per unit (2.49) based on U.S. Census, American Community Survey, 2013-2017.

N

0 0.5 1 1.5 Miles

*Source: U.S. Census, Waukesha Metro Transit, and SEWRPC*

Residents with High Transit Needs

Commission staff developed a transit needs index using population data to identify areas of greatest potential transit needs in Waukesha County, including the Waukesha Metro service area, as shown on Map 4.3. U.S. Census block groups within Waukesha County were ranked according to percent of population falling into each of these "high transit needs" categories: school-age children (ages 10 through 17), seniors (ages 75 and older), persons in low-income households, people with disabilities, and households with no vehicle available. Each block group was then scored according to rank, with those block groups with the lowest percentage of a transit need category given a score of "1," while groups with the highest percentage were given a score of "4." The resulting scores were summed for each block group and created an index ranging from 5 to 20. The transit needs were separated into four levels; low (5 through 8), marginal (9 through 12), moderate (13 through 16), and high (17 through 20). Although this methodology does not quantify the potential transit demand, it does indicate where transit needs may be greatest based on resident population characteristics. Waukesha Metro provides good coverage of areas within the City with the greatest potential transit needs, including all seven of the block groups with high transit needs and 32 of 35 Census block groups designated as having moderate transit needs.

Minority Population Served

In addition to the transit needs index, Map 4.4 shows the concentration of total minority population in the City of Waukesha compared to the one-quarter mile service area for Waukesha Metro. 449 of the 469 Census blocks in the City of Waukesha and served by Waukesha Metro have a concentration of minority residents higher than Waukesha County's overall proportion of 9.4 percent. The location of concentrations of minority residents was analyzed given that 32 percent of transit riders on Waukesha Metro were minority in 2011, while 20 percent of the population of the City of Waukesha in 2010 was minority. As shown on Map 4.4 and Table 4.3, Waukesha Metro provides service to nearly all Census blocks comprised of the highest concentration minority people, including those Census blocks that comprise 200 or more minority people.

***Employment Performance Standard***

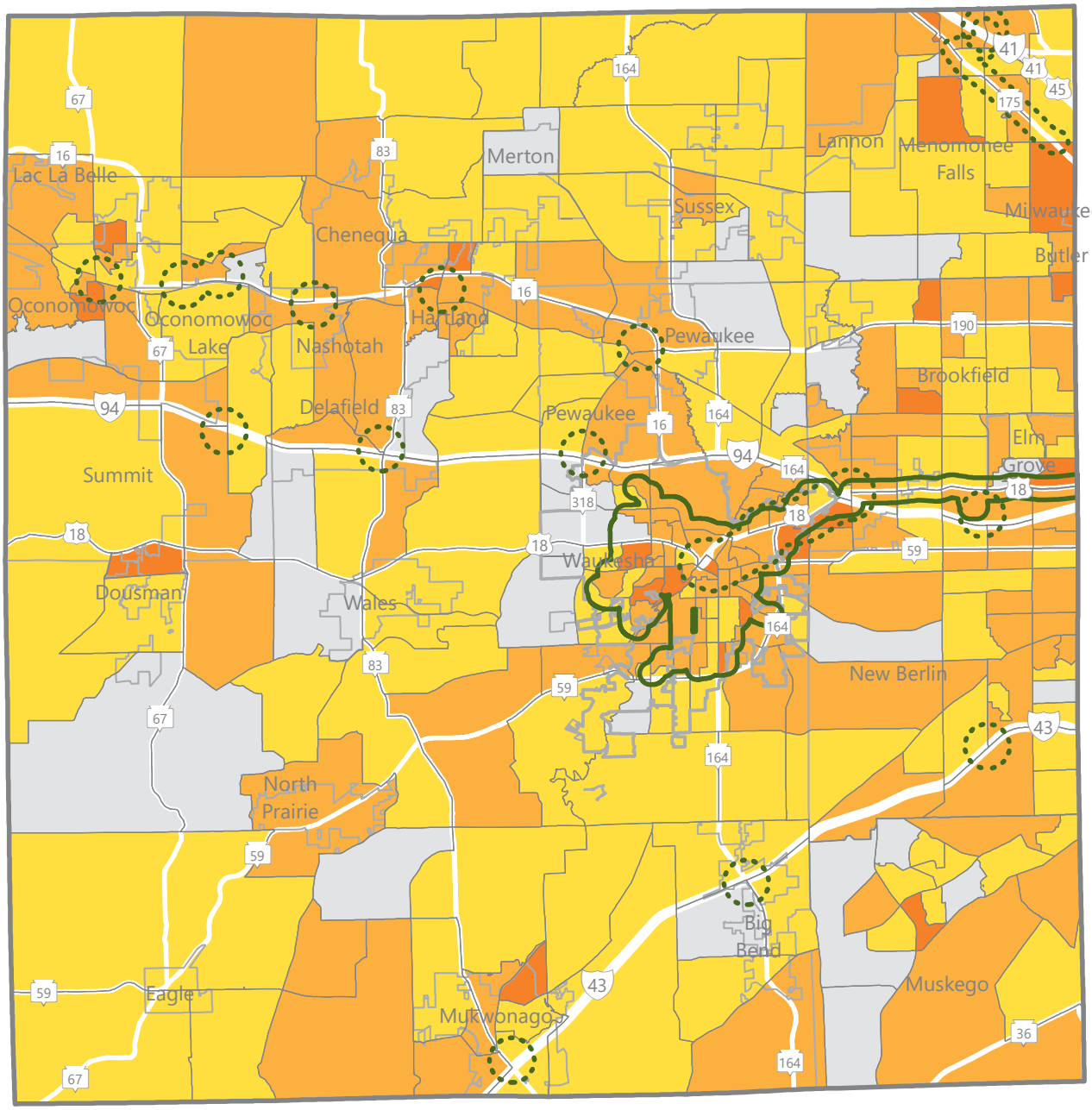
The Employment Performance Standard recommends maximizing the number of jobs accessible via transit. The total employment within one-quarter mile of local transit was measured to determine how well Waukesha Metro fulfills the Employment Performance Standard. Map 4.5 displays employment by quarter section in the City of Waukesha and adjacent communities. Based on 2010 employment data, of the 45,364 jobs in the City of Waukesha, 36,961 jobs within the City, or about 82 percent, were served by Waukesha Metro. In addition, 56 of the 65 major employers in the City of Waukesha are served by Waukesha Metro, as shown in Table 4.3. There are areas with dense development just outside the City of Waukesha's boundaries, particularly businesses north of IH 94 on STH 164 in the City of Pewaukee that are not currently served by fixed-route transit. This area was previously served by a flexible shuttle route that was discontinued in 2006 due to low ridership levels. However, if there is interest from employers, transit service options could be considered. Overall, Waukesha Metro largely fulfills the Employment Performance Standard by maximizing the number of jobs accessible by transit.

***Density Performance Standard***

The Density Performance Standard seeks to maximize the transit-supportive land area accessible by public transit. Based on National Standards established by the *Transit Cooperative Research Program Report 165: Transit Capacity and Quality of Service Manual*, land area is considered transit-supportive if it has a density of four jobs per gross acre and a household density of three units per gross acre. The population and employment density was initially identified using quarter section data provided by the U.S. Census American Community Survey and from SEWRPC's 2010 employment survey. The density thresholds were converted to quarter section areas to match the data available, resulting in a minimum of 640 jobs per quarter section and 1,195 people per quarter section.

The Density Performance Standard described in this section compares quarter sections that could be considered transit supportive based on population and employment densities either individually or combined. Map 4.2 identifies those quarter sections that have population densities and Map 4.5 identifies those quarter sections that have employment densities that exceed thresholds considered appropriate to support transit service based on National standards. Based on these thresholds, Waukesha Metro serves 18 of the 62 quarter sections in the City that meet the minimum population density threshold, and 23 of the 62 quarter sections in the City that meet the minimum employment density threshold.

## Map 4.3
## Residents in Waukesha County with High Transit Needs




**TRANSIT NEEDS INDEX LEVEL**

- LOW (5-8)
- MARGINAL (9-12)
- MODERATE (13-16)
- HIGH (17-20)

**TRANSIT SERVICE AREA**

- LOCAL TRANSIT (ONE-QUARTER MILE FROM BUS ROUTES)
- COMMUTER ROUTES (ONE-HALF MILE FROM BUS ROUTES)

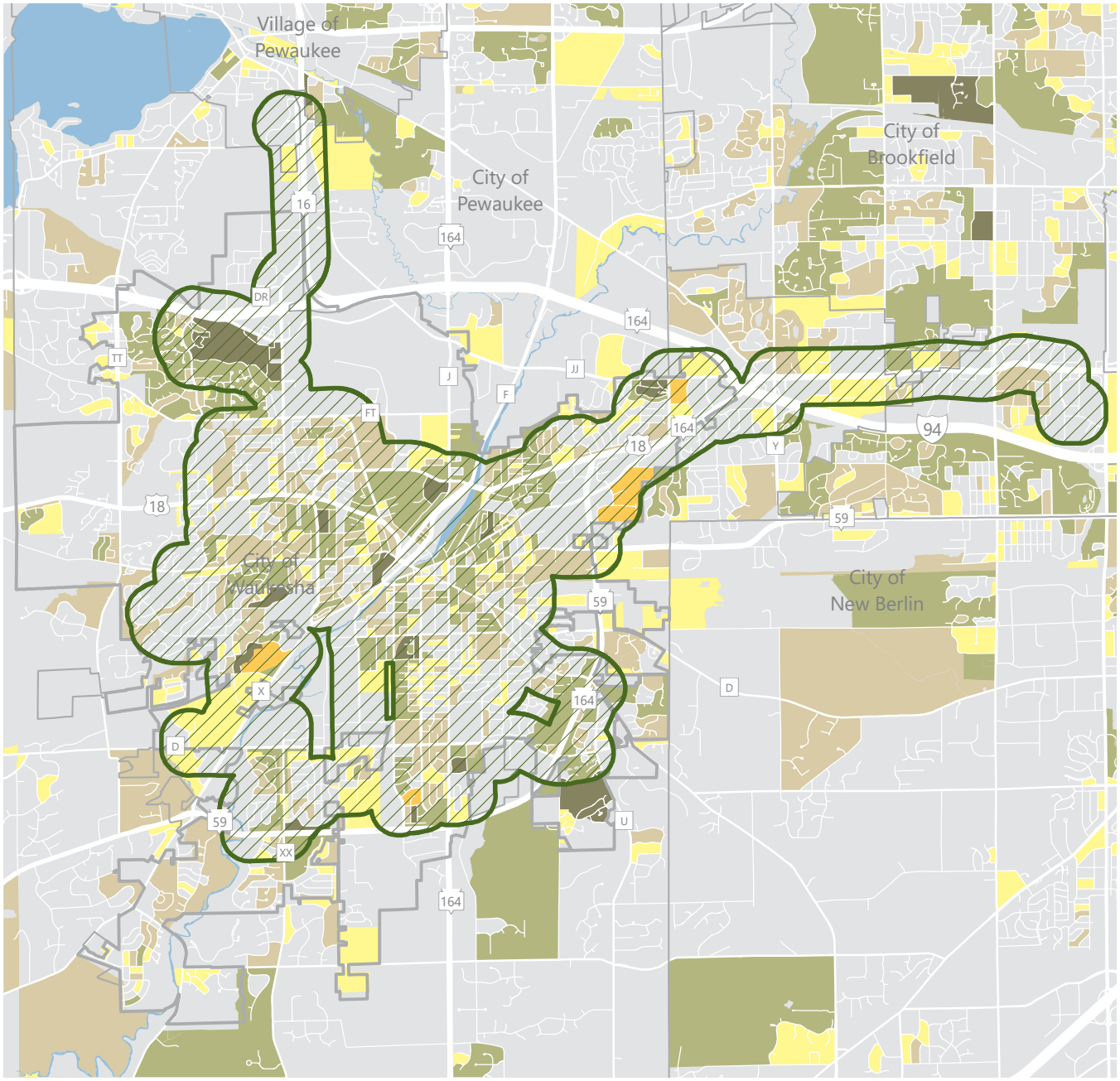
Note: The Transit Need Index is calculated by ranking census block groups based on the percent of total population or households in five categories: school-age children (10 through 17), seniors (75 and older), persons in low-income households, people with disabilites, and households with no vehicle available. Each ranked block group is assigned a score from 1 to 4, in each category, with a 1 for the lowest percentages and a 4 for the highest percentages. The Transit Need Index is equal to the sum of the scores for all five categories.

N

0 1 2 3 4 Miles

*Source: U.S. Census American Community Survey and SEWRPC*

## Map 4.4
## Concentration of Total Minority Population in the City of Waukesha: 2010




**CENSUS BLOCKS WHEREIN THE PERCENTAGE OF MINORITY PEOPLE, INCLUDING HISPANIC PEOPLE, EXCEEDS THE COUNTY-WIDE AVERAGE OF 9.4 PERCENT BASED ON THE 2010 U.S. CENSUS**

- 500 OR MORE MINORITY PEOPLE
- 200 TO 499 MINORITY PEOPLE
- 100 TO 199 MINORITY PEOPLE
- 25 TO 99 MINORITY PEOPLE
- 10 TO 24 MINORITY PEOPLE
- 1 TO 9 MINORITY PEOPLE

Note: Areas in gray are comprised of census blocks wherein the percentage of minority people, including Hispanic people, is less than or equal to the County-wide average of 9.4 percent.

**WAUKESHA METRO TRANSIT SERVICE AREA**

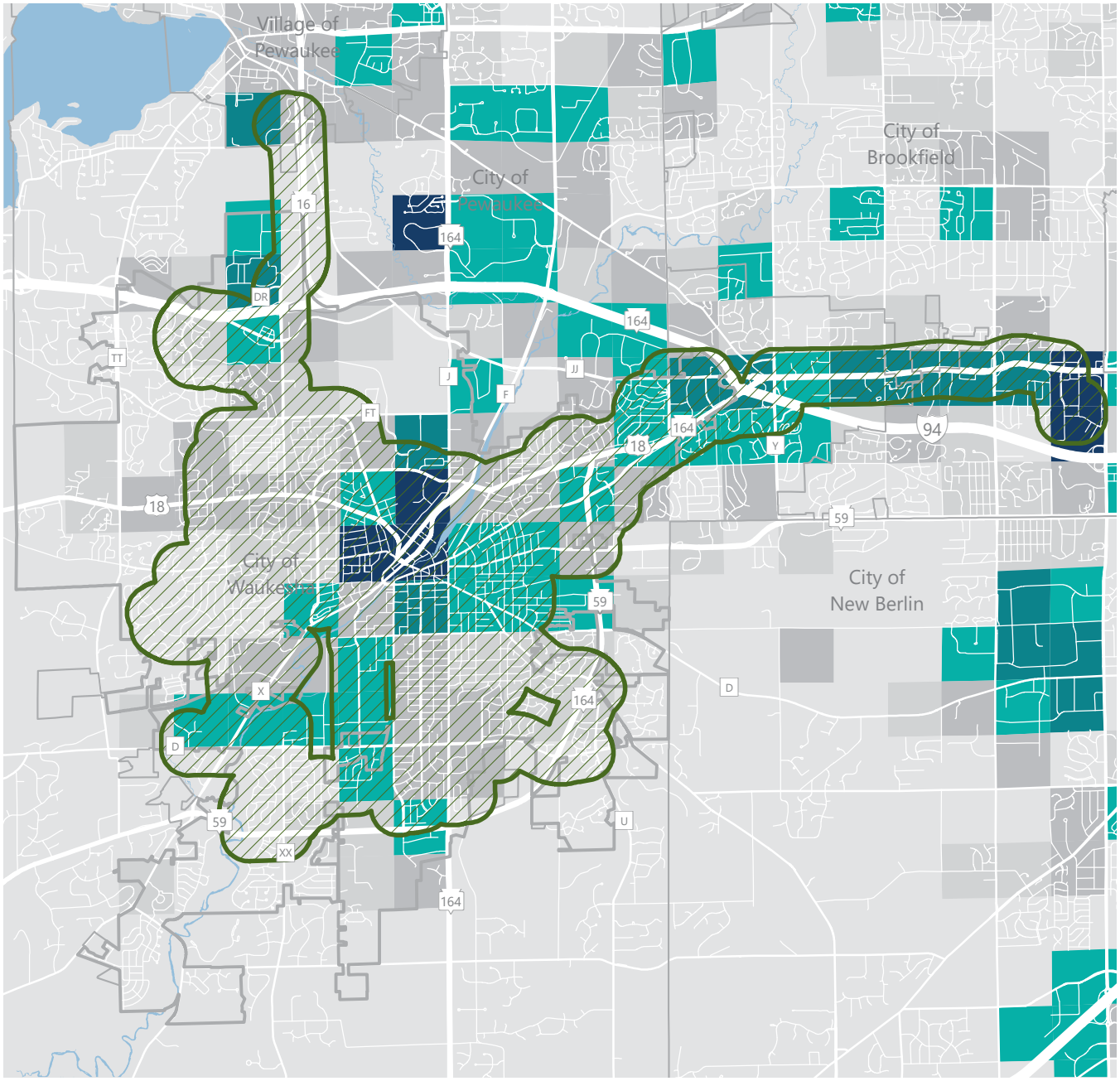
- ONE-QUARTER MILE FROM BUS ROUTES

N

0 0.5 1 1.5 Miles

*Source: U.S. Census, Waukesha Metro Transit, and SEWRPC*

## Map 4.5
## Employment Served by Waukesha Metro Transit




**EMPLOYMENT BY QUARTER SECTION (2010)**

- 0 - 100
- 101 - 250
- 251 - 639
- 640 - 1,500
- 1,501 - 2,500
- 2,501 - 5,329

**WAUKESHA METRO TRANSIT SERVICE AREA**

- ONE-QUARTER MILE FROM BUS ROUTES

Note: Employment threshold (640+) based on the minimum employment density (4 jobs per acre) determined to support transit service as identified in TCRP 165: Transit Capacity and Quality of Service Manual, 3rd Edition (2013).

N

0 0.5 1 1.5 Miles

*Source: U.S. Census, Waukesha Metro Transit, and SEWRPC*

When combining the existing population and jobs present by quarter section to determine if transit-supportive densities are present, a scoring metric was developed to equate the value of each person or job in terms of generating transit ridership. On a scale of 0 to 100, a point was given to a quarter section for each 11.95 people or 6.4 jobs. A quarter section was then considered transit supporting if it reached 100 or more points. Those quarter sections that scored a total of 100 points or above are displayed on Map 4.6 as either a shade of orange or hatched lines. The differing shades of orange or shades of hatching indicate the population and employment score for each quarter section meeting the jobs plus population transit-supportive threshold. As shown on Map 4.6 and in Table 4.3, 50 of the 62 quarter sections in the City of Waukesha served by Waukesha Metro are transit-supportive based on the population and employment scores. Based on these analyses, Waukesha Metro successfully fulfills the Density Performance Standard.

**Objective 2: Operating Safely, Reliably, Conveniently, Comfortably, and Efficiently**

Figure 4.3 contains the applicable standards that were used to determine if Waukesha Metro is providing a service that is efficient, safe, reliable, convenient, and comfortable.

***Route Design and Operating Standard***

The Route Design and Operating Standard encourages routes with direct alignments with a limited number of turns. Waukesha Metro's service includes some alignments that have numerous turns. However, these alignments are largely a result of land use patterns, hilly terrain, and a sometimes-compromised street grid. Waukesha Metro operates within areas with varying land use densities, from the central business district in downtown Waukesha, to shopping centers, business parks, and neighborhoods with single-family housing. In addition, the City of Waukesha includes neighborhoods with relatively steep slopes, which can make certain areas difficult to access, particularly for those with limited mobility. Given the need to connect these various destinations, Waukesha Metro's routes have a number of turns to provide maximum coverage. This extensive coverage avoids unnecessary transfers and Waukesha Metro routes are aligned to prevent the duplication of services, where possible. However, certain popular destinations are served by multiple routes, including the Shoppes at Fox River, which is served by Routes 5 and 6, and the Westbrook Shopping Center, which is served by Routes 1 and 2. In order to evaluate each route's performance, the following sections summarize the ridership, financial performance, and boardings and alightings by route. Overall, Waukesha Metro largely fulfills the Route Design and Operating Standard, however, the transit service recommendations will consider opportunities to create more direct alignments in certain areas of low ridership, while balancing the need to provide access to riders.

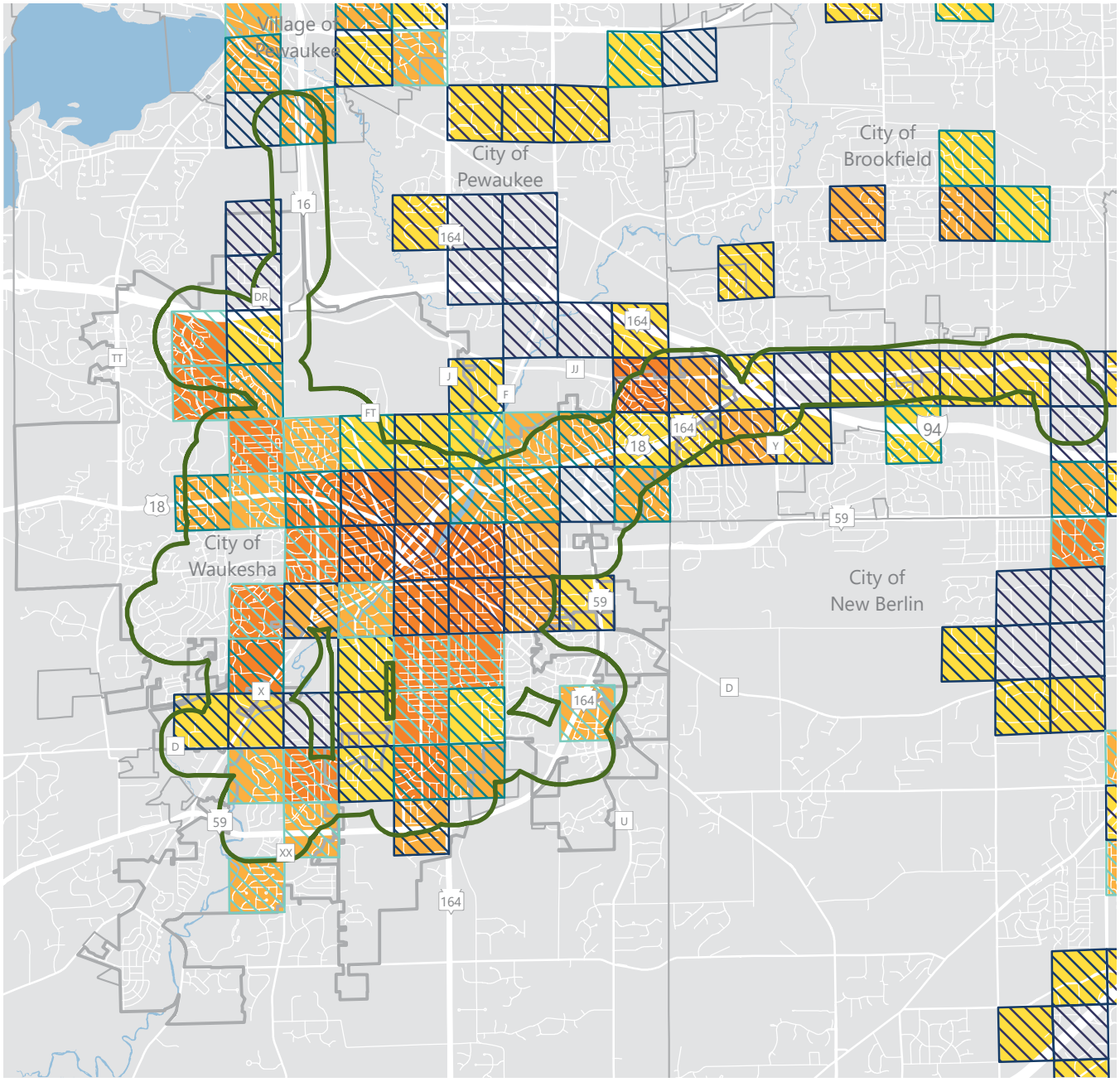
***Bus Stop and Park-Ride Lot Design Standard***

The Bus Stop and Park-Ride Lot Design Standard encourages transit systems to have easily recognizable signs or shelters that include an accessible path to and from nearby destinations. At the request of the Advisory Committee, Commission staff inventoried all bus stops served by Waukesha Metro Transit to determine the presence of signage, pedestrian accommodations, bus pads, curb ramps, bus shelters, benches, and trash cans. The inventory results indicate that some of the 589 Waukesha Metro Transit bus stops are missing signage or do not include accessible paths, as recommended in the bus stop design standard. The bus stop deficiencies include 111 stops without a bus pad, 96 stops without a nearby curb ramp, 54 stops without nearby sidewalk, and 18 stops without signage. Table 4.4 summarizes the number and percentage of Waukesha Metro bus stops with deficiencies, including example photos of bus stops without the amenity. To address the limited pedestrian access due to the lack of nearby sidewalks and crosswalks, it is recommended that the City of Waukesha and other communities served by Waukesha Metro encourage the provision of pedestrian accommodations in areas of existing or planned urban development and design pedestrian amenities in accordance with the Federal American with Disabilities Act and its implementing regulations.

In terms of the spacing of bus stops, Waukesha Metro provides excellent coverage, with bus stops placed at least every three blocks on local routes. Although bus stops placed closely together can assist with access for those individuals with limited mobility, if bus stops are located too tightly together it can increase the travel time on the bus due more frequent stops for boarding and at signalized intersections.

As identified in this design standard, stops should be clearly marked with signs or shelters and minimize the walking distance over an accessible path to and from major destinations. Based on the inventory of bus stop locations served by Waukesha Metro, deficiencies exist that reduce the convenience, comfort,

## Map 4.6
## Waukesha Metro Relative Population Plus Employment Score for Transit Supportive Land Uses by Quarter Section and Existing Transit Service Areas




**POPULATION SCORE**

- 1 - 49
- 50 - 99
- 100 - 195

**EMPLOYMENT SCORE**

- 10 - 49
- 50 - 99
- 100 - 833

**WAUKESHA METRO TRANSIT SERVICE AREA**

- ONE-QUARTER MILE FROM BUS ROUTES

N

0 0.5 1 1.5 Miles

*Source: SEWRPC*

Note: Population + Employment Density Score was calculated by identifying a minimum transit threshold for both population and employment and equalizing them on a weighted scoring scale. Any quarter section scoring 100 or above meets the minimum threshold for transit service. Only quarter sections scoring 100 or above are shown, and the range of weighted scores are provided in the legend.

## Figure 4.3
## Objective 2 and Associated Standards Applicable to the Evaluation of Waukesha Metro Transit

**Objective 2**

**Provide efficient, safe,[a] reliable, convenient, and comfortable transit services in the City of Waukesha**

**Associated Public Transit Principle**

The benefits to the entire public of a transit service are directly related to the level of utilization—measured by ridership—of that service. Ridership is influenced by the level of access the public has to services that are reliable and provide for quick, convenient, comfortable, and safe travel. Riders view transit services with these attributes as an effective and attractive alternative to the private automobile.

**Design and Operating Standards**

**1. Route Design**

Public transit routes should have direct alignments with a limited number of turns, and should be arranged to minimize duplication of services and unnecessary transfers.

**2. Bus Stop Design**

Clearly mark bus stops with easily recognizable signs or shelters and locate them so as to minimize the walking distance over an accessible path to and from residential areas and major activity centers, and to facilitate connections with other transit services where appropriate. For local routes, place stops approximately every three blocks and provide accessible paths and crosswalks to bus stops.[b] For express transit routes, place stops at intersecting transit routes, signalized intersections, and major activity centers. Place park-ride lots at least one mile apart on commuter bus routes. Within business parks, stop spacing may need to differ from standard local route stop spacing based on the spacing between businesses and the presence or lack of sidewalks and crosswalks.

**3. Passenger Demand**

The maximum load factor for each route, measured as the ratio of passengers to seats at that point where passenger loads are highest, should not exceed the following:

| Service Type | Peak Periods | All Other Times |
|---|---|---|
| Local | 1.25 | 1.00 |

**4. Service Frequency and Availability**

Operate all fixed-route transit services, as noted in the table below.

| | Maximum Headway (minutes) | |
|---|---|---|
| Service Type | Weekday Peak Periods | Off-Peak Periods/ Weekends/Holidays |
| Rapid | 15 | 15 |
| Express | 15 | 30 |
| Local/Shuttle | 30 | 60 |

**5. Service Travel Speeds**

Operate transit services such that average travel speeds are not less than 10 miles per hour for local fixed-route services.

**6. Vehicle Age and Condition**

Consideration should be given to rehabilitating or replacing each public transit vehicle at the end of its normal service life as defined below for different types of transit vehicles:

| | | Service Life[c] | |
|---|---|---|---|
| Vehicle Type | Length (feet) | Years | Mileage |
| Heavy-Duty Bus | 35+ | 12 | 500,000 |
| Heavy-Duty Bus | 25-30 | 10 | 350,000 |
| Medium-Duty Bus | 25-30 | 7 | 200,000 |
| Cars, Vans, and Cutaways | -- | 4 | 100,000 |

**Figure continued on next page.**

**Figure 4.3 (Continued)**

| Performance Standards and Associated Performance Measures | |
|---|---|
| **1. Ridership and Service Effectiveness**<br>Maximize ridership on and the effectiveness of transit services. This is measured using passengers per capita, total passengers per vehicle hour, total passengers per vehicle mile, and passenger miles per vehicle mile, which will be compared to similar transit systems.<br><br>Transit services with service effectiveness measures more than 20 percent below the median of the peer comparison group, with less than 10 passengers per revenue vehicle hour, or less than one passenger per revenue vehicle mile should be reviewed for potential changes to their routes, runs, service areas, and service periods. | **2. Travel Time**<br>Keep travel times on transit services reasonable in comparison to travel time by automobiles for similar trips. This standard is measured using the ratio of transit to automobile distance and the ratio of transit to automobile travel time. |

[a] *The Federal Transit Administration published the Public Transportation Agency Safety Rule (49 CFR part 673) on July 19, 2018, requiring transit operators to develop safety plans, including safety performance measures by July 20, 2020. Waukesha Metro and Waukesha County Transit have good safety records and are in compliance with the Safety Rule.*

[b] *This standard encourages that accessible sidewalks and crosswalks be provided to bus stops and that all pedestrian facilities be designed and constructed in accordance with the Federal American with Disabilities Act (ADA) and its implementing regulations.*

[c] *The service life standards represent the minimum useful life benchmarks defined in FTA Circular 5010.1E, March 21, 2017, revised July 16, 2018. Transit operators are required to measure their transit assets' vehicle age and condition pursuant regulations set forth in 49 CFR part 625 Transit Asset Management, based on a set of maximum useful life benchmarks. However, Figure 4.3 includes the minimum service life measures as they represent the minimum number of years or mileage that recipients of Federal assistance must meet in order to qualify for new vehicles.*

*Source: SEWRPC*

and safety of passengers. As a result, Waukesha Metro partially fulfills the Bus Stop and Park-Ride Lot Design Standard. The City could pursue Federal Transit Administration Enhanced Mobility for Seniors and Individuals with Disabilities Program (Section 5310) funding, which would reimburse 80 percent of the cost of construction of many of the missing bus stop amenities. Additional information on specific improvement recommendations and costs can be found in Chapter 5, Transit Service Recommendations.

### *Passenger Demand*

The load factor measures whether the capacity of fixed-route bus service provided (the number of seats on the bus and the existing headways for routes) is appropriate for the number of passengers using the service. In the case of Waukesha Metro, the range of acceptable passenger loading standards is identified in Objective 2, Passenger Demand Design and Operating Standard. This standard specifies that the maximum load factor, measured as the ratio of passengers to seats on the bus at that point where passenger loads are the highest, should not exceed 1.25 during peak periods, and 1.00 at all other times. This standard ensures a high degree of comfort for passengers using the bus service by limiting the number of persons who have to stand. At least half of the seats in a vehicle should be occupied at some point along each route in order for the fixed-route service to be considered as providing an appropriate capacity.

Commission staff used boarding and alighting passenger counts provided by Waukesha Metro for dates in 2018 and 2019 along each weekday bus route to calculate the passenger loads carried over the length of each bus route for each scheduled trip. The passenger loads were then reviewed to determine the highest passenger loads for each route during each time period: morning, midday, afternoon, and evening.

To calculate the maximum load factor for each of the highest passenger loads, Commission staff adjusted the maximum load factor in order to account for variability in ridership. For example, ridership on Waukesha Metro Transit was approximately 2 percent lower in 2018 than it was in 2008, and ridership varies by day of the week and month, as well as by time of the year. Therefore, the maximum load factor for each route was adjusted upward by 20 percent more than observed in the sampled data.

## Table 4.4
## Waukesha Metro Bus Stop Deficiencies Summary

| Number of Bus Stops with Deficiency | Percentage of Bus Stops with Deficiency | Definition | Photo of Deficiency |
|---|---|---|---|
| | | No Signage | |
| 18 | 3.0 | Missing signage that indicates where the bus will stop |  *Greenmeadow Drive at Summit Avenue* *(City of Waukesha)* |
| | | Damage | |
| 92 | 15.6 | Includes worn route maps in shelters, bent poles, graffiti, or scratches on shelters. |  *Irving Place at Aldoro Drive* *(City of Waukesha)* |
| | | No Bus Pad | |
| 111 | 18.9 | No paved waiting area with access to and from the stop |   *Ellis Street at N Greenfield Avenue* *(City of Waukesha)* |

**Table continued on next page.**

## Table 4.4 (Continued)

| Number of Bus Stops with Deficiency | Percentage of Bus Stops with Deficiency | Definition | Photo of Deficiency |
|---|---|---|---|
| | | No Sidewalk | |
| 54 | 9.2 | Missing connecting sidewalk to the bus stop |  *East St. Paul Avenue at Fuller Street* *(City of Waukesha)* |
| | | No Curb Ramp | |
| 96 | 16.3 | Missing a curb cut visible from the stop, approximately 25 to 50 feet, to allow access for people in wheelchairs or other mobility assistance devices |  *Bluemound Road at Woelfel Road* *(Town of Brookfield)* |
| | | No Detectable Warning Surface | |
| 245 | 41.6 | Walking surface with small truncated domes to provide a tactile cue for pedestrian with visual impairments |  *East Racine Avenue at Cheviot Chase* *(City of Waukesha)* |
| | | No Nearby Lighting | |
| 134 | 22.8 | Bus stops without nearby light poles and lacking light sources that could provide adequate ambient lighting |  *Avalon Drive at Stardust Drive* *(City of Waukesha)* |

*Source: Waukesha Metro Transit and SEWRPC*

Table 4.5 displays the observed maximum passenger loads and the adjusted maximum load factors for each route during each weekday time period. No routes had adjusted maximum load factors that exceed the standard of 1.25 passengers per seat during weekday peak periods and 1.00 passengers per seat during off-peak periods. Therefore, Waukesha Metro successfully fulfills the Passenger Demand Design and Operating standard.

***Service Frequency and Availability Operating Standard***

The Service Frequency and Availability Standard requires that service be provided every 30 minutes during weekday peak periods and every 60 minutes during off-peak periods and weekends or holidays. Routes 1, 3, 4, 8, and 9 generally fulfill this standard, with frequencies of 30 to 35 minutes during the weekday peak periods. The remaining routes (Routes 2, 5, 6, 7, and 15) offer service every 60 to 70 minutes during the peak time periods during the weekdays. All Waukesha Metro routes meet this standard during the off-peak periods, weekends, and holidays. Therefore, Waukesha Metro partially fulfills the Service Frequency and Availability Operating Standard.

***Service Travel Speeds Operating Standard***

The Service Travel Speeds Standard requires that local fixed-route services achieve average travel speeds not less than 10 miles per hour over the duration of the route. As currently scheduled, all Waukesha Metro routes meet or exceed this standard, with an average operating speed for all weekday routes of approximately 15 miles per hour. As a result, Waukesha Metro fulfills the Service Travel Speed Operating Standard.

***Vehicle Age and Condition Standard***

The Vehicle Age and Condition Standard requires that each public transit vehicle be rehabilitated or replaced at the end of its normal service life based on the vehicle type. As described in Chapter 2, Waukesha Metro regularly replaces vehicles such that no public transit vehicle currently exceeds its normal service life. The average age of Waukesha Metro's revenue vehicles is three years, well below the service life for buses (12 years), and below the service life for cutaway vehicles (4 years). As further documented in the Group Transit Asset Management Plan,[10] Waukesha Metro conducts timely preventative maintenance and has a goal for 100 percent on-time performance for their preventative maintenance activities. In order to track their maintenance needs, Waukesha Metro utilizes a software program that alerts staff 750 miles prior to the mileage when preventative maintenance is due and produces a vehicle aging report by vehicle that ranks vehicles by years and life miles. As a result of the current vehicle ages and the on-going maintenance policies and standards, Waukesha Metro successfully fulfills the Vehicle Age and Condition Standard.

***Ridership and Service Effectiveness Performance Standard***

The Ridership and Service Effectiveness Standard uses four performance measures (passengers per capita, passengers per revenue vehicle hour, passengers per revenue vehicle mile, and passenger miles per revenue vehicle mile) to compare the service effectiveness of Waukesha Metro's service to six peer transit systems from around the Nation and the State. If the service effectiveness measures are more than 20 percent below the median of the peer comparison group, this standard encourages modifying routes, runs, service areas, or service periods. Figure 4.4 shows the results of this comparison of Waukesha Metro to its peers by displaying the range of the peer group's performance, the median of the peer group's performance, the range of performance that meets the standard, and the performance of Waukesha Metro for each measure. The data for each peer system is presented in Table 4.6.

Figure 4.4 shows that Waukesha Metro is within the acceptable range for all of the four performance measures. Passengers per capita is dependent upon the attractiveness of a transit system's service to the residents within its service area. This attractiveness can be influenced by many factors, some within a transit system's control (such as frequency of service or fare levels) and some outside a system's control (such as land use density and community demographics). Waukesha Metro provides good coverage within the City of Waukesha, with a focus on serving the downtown area and locations with higher density commercial development, including major shopping and business parks. Therefore, Waukesha Metro performs very well when compared to its peers on this measure.

[10] *Group Transit Asset management Plan for Tier II Operators in Southeastern Wisconsin, Memorandum Report No. 238, September 2018.*

## Table 4.5
## Maximum Passenger Loads and Maximum Load Factors for Waukesha Metro Transit Routes

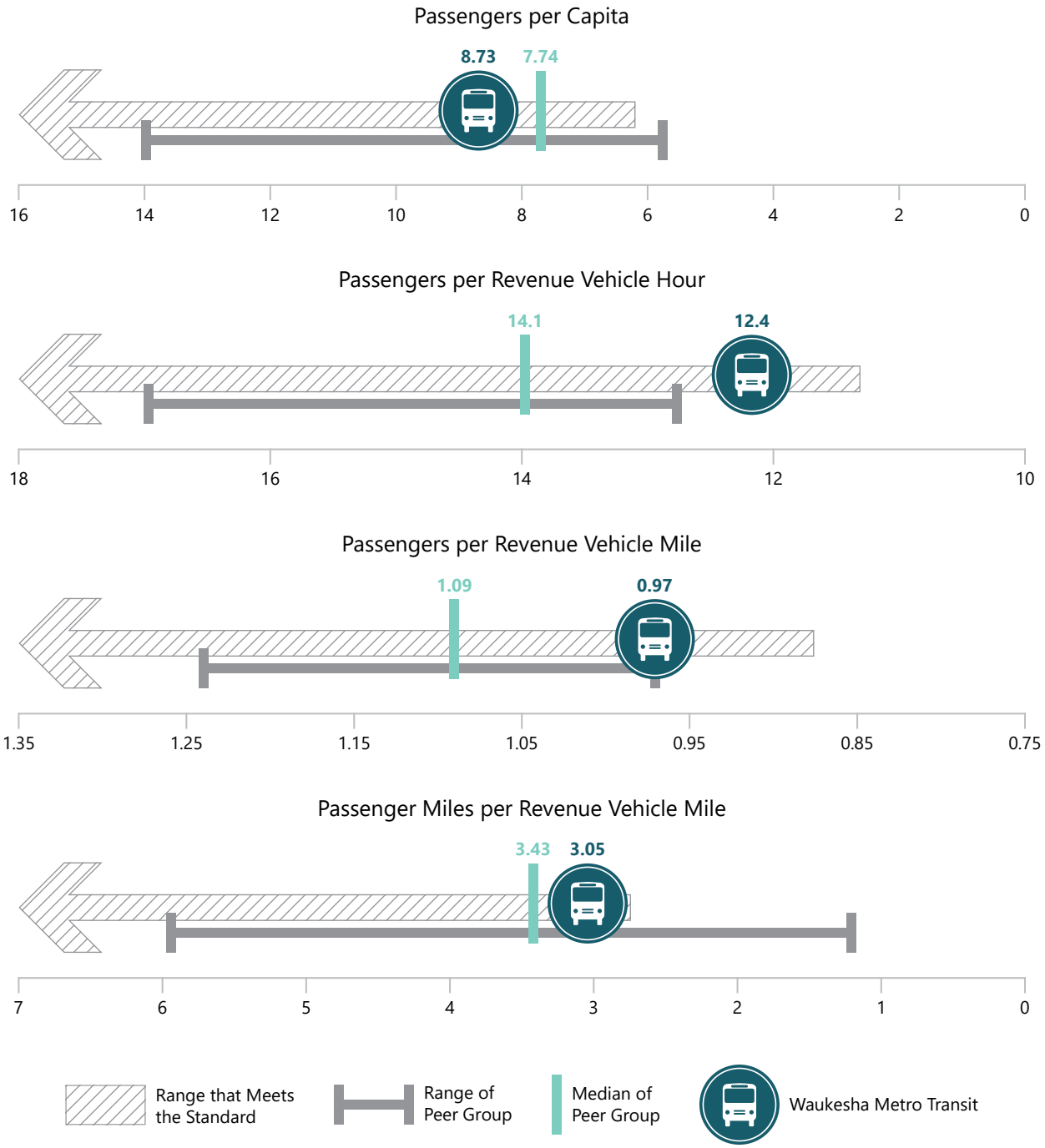
| Route Number | Passengers per Revenue Hour | Morning (5:30 a.m. - 9:00 a.m.) | | Midday (9:00 a.m. - 3:00 p.m.) | | Afternoon (3:00 p.m. - 6:00 p.m.) | | Evening (6:00 p.m. - 10:00 p.m.) | |
|---|---|---|---|---|---|---|---|---|---|
| | | Observed Maximum Passenger Load | Adjusted Maximum Load Factor[a] | Observed Maximum Passenger Load | Adjusted Maximum Load Factor[a] | Observed Maximum Passenger Load | Adjusted Maximum Load Factor[a] | Observed Maximum Passenger Load | Adjusted Maximum Load Factor[a] |
| 1 | 9.8 | 17 | 0.66 | 14 | 0.54 | 24 | 0.93 | 6 | 0.23 |
| 2 | 9.6 | 8 | 0.31 | 8 | 0.31 | 9 | 0.35 | 5 | 0.19 |
| 3 | 12.5 | 4 | 0.15 | 4 | 0.15 | 3 | 0.12 | 4 | 0.15 |
| 4 | 28.6 | 10 | 0.39 | 14 | 0.54 | 16 | 0.62 | 16 | 0.62 |
| 5 | 10.3 | 8 | 0.31 | 16 | 0.62 | 13 | 0.50 | 1 | 0.04 |
| 6 | 7.4 | 7 | 0.27 | 10 | 0.39 | 11 | 0.43 | 8 | 0.31 |
| 7 | 13.2 | 9 | 0.35 | 23 | 0.89 | 15 | 0.58 | 15 | 0.58 |
| 8 | 13.3 | 8 | 0.31 | 7 | 0.27 | 8 | 0.31 | -- | -- |
| 7/8 | 10.4 | N/A | -- | N/A | -- | N/A | -- | 9 | 0.35 |
| 9 | 12.6 | 14 | 0.54 | 12 | 0.46 | 9 | 0.35 | 6 | 0.23 |
| 15 | 9.6 | 7 | 0.27 | 7 | 0.27 | 9 | 0.35 | 5 | 0.19 |
| Performance Standards for Maximum Load Factor[b] Not to Exceed | | -- | 1.25 | -- | 1.00 | -- | 1.25 | -- | 1.00 |

[a] *The maximum load factor is the ratio of the number of passengers on the bus to the number of seats on the bus (assumed to be 31) at the point on the route where the passenger loads are highest. The adjusted maximum load factor was calculated assuming 20 percent more passengers on the bus at the peak times than observed in various weekdays in 2018 and 2019 sampled data. This adjustment accounts for variability in ridership.*

[b] *Under Objective No. 2 and service design and operating standard No. 3, the maximum load factor for local transit service should not exceed 1.25 during peak periods, and 1.00 during off-peak periods.*

*Source: Waukesha Metro Transit and SEWRPC*

**Figure 4.4**
**Ridership and Service Effectiveness Performance Standard: Comparison of Waukesha Metro Transit to Peer Group for Associated Performance Measures**




*Source: National Transit Database, Waukesha Metro Transit, and SEWRPC*

## Table 4.6
## Waukesha Metro Transit and Peer Group Data for the Ridership and Service Effectiveness Performance Standard

| | Performance Measures | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Passengers per Capita | | | Passengers per Revenue Vehicle Hour | | | Passengers per Revenue Vehicle Mile | | | Passenger Miles per Revenue Vehicle Mile | | |
| **Peer System and Metropolitan Area** | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change |
| Gary Public Transportation Corporation (Gary, IN) | 6.86 | 7.30 | 1.62% | 13.26 | 13.33 | 0.17% | 0.96 | 0.97 | 0.37% | 1.23 | 1.22 | -0.13% |
| Cedar Rapids Transit (Cedar Rapids, IA) | 7.90 | 7.46 | -10.42% | 17.45 | 17.22 | -0.12% | 1.25 | 1.24 | 0.21% | 5.78 | 5.95 | 0.93% |
| Sioux Area Metro (Sioux Falls, SD) | 7.10 | 5.79 | -3.55% | 18.44 | 12.84 | -8.41% | 1.42 | 1.06 | -6.87% | 8.31 | 4.45 | -13.80% |
| Altoona Metro Transit (Altoona, PA) | 9.70 | 8.01 | -4.57% | 16.38 | 14.14 | -3.51% | 1.29 | 1.13 | -3.22% | 4.52 | 3.31 | -7.05% |
| La Crosse Municipal Transit Utility (La Crosse, WI) | 16.51 | 14.04 | -3.90% | 21.69 | 17.01 | -5.77% | 1.54 | 1.18 | -6.20% | 4.92 | 3.55 | -7.80% |
| Shoreline Metro (Sheboygan, WI) | 8.76 | 8.90 | 0.44% | 11.96 | 14.06 | 4.18% | 0.89 | 0.97 | 2.35% | 2.37 | 2.43 | 0.71% |
| Waukesha Metro Transit (Milwaukee, WI) | 10.40 | 8.73 | -4.26% | 13.93 | 12.14 | -3.33% | 1.05 | 0.97 | -1.89% | 3.55 | 3.05 | -3.68% |

Note: Cedar Rapids service area changed how it reported service area population starting in 2014. Therefore, the 2014 passengers per capita ratio is provided for comparison purposes. Shoreline Metro did not report passenger miles in 2017, therefore 2016 data were used for passenger miles per revenue vehicle mile in 2017.

*Source: National Transit Database, U.S. Bureau of the Census, Waukesha Metro Transit, and SEWRPC*

Although Waukesha Metro meets the standard, it performs below its peers in regards to passengers per revenue vehicle hour of service and passengers per revenue vehicle mile. This may reflect the efforts made to maximize service to residential areas, major activity centers, and areas with steep inclines within the City on each route while minimizing the overall number of routes needed. By operating along less direct routes, Waukesha Metro increases its coverage, particularly in areas that may be difficult for individuals with limited mobility to traverse. However, providing greater coverage to these areas reduces service effectiveness of the system.

Waukesha Metro also performs below its peers for the passenger miles per revenue vehicle mile measure, which essentially serves as a proxy for the average number of seats filled on a vehicle over the course of its revenue trip. This may reflect the relatively low ridership on certain trips that travel over longer distances to serve outlying commercial areas, such as Routes 2, 6, and 15, which also have relatively low passengers per revenue hour. Waukesha Metro successfully fulfills the Ridership and Service Effectiveness Standard, although this analysis provides useful insight for consideration during the next phase of the process.

***Travel Time Performance Standard***

The Travel Time Performance Standard encourages that travel times and distances be kept reasonable in comparison to travel times and distances by automobiles for similar trips. Table 4.7 compares trip travel distances and time between transit trips and automobile trips. For the travel distance comparison, the automobile routes selected provided a more direct route than that taken by the bus in order to identify routes with less direct alignments. The table also compares travel times utilizing the same alignment as a means to measure how reasonable the travel times on Waukesha Metro Transit service are compared to automobiles.

The comparison of transit and automobile travel times indicates that for all Waukesha Metro routes, transit travel time is about as fast by automobile, with all routes within an acceptable range. As shown in Table 4.7, no routes exceed the ratio of 2.0 for vehicle travel time, which is generally beyond what many riders are willing to accept when determining whether to use transit service.

The comparison of travel distances between transit trips and automobile trips measures the directness of the route alignments. While three routes (Routes 5, 6, and 15) have transit-to-distance ratios that come close to 2.0, reducing the travel distance ratios on these routes would likely require Waukesha Metro to reduce service to certain neighborhoods, thereby reducing the coverage of the transit system. Overall, Waukesha Metro fulfills the Travel Time Performance Standard.

**Objective 3: Utilizing Public Resources Cost-Effectively**

Objective 3 recognizes that public funds are limited, and must be used efficiently. In order to determine if public funds are being spent well, the following analyses compare Waukesha Metro Transit to its peer group using a number of performance measures. The applicable standards and performance measures used to measure how efficiently Waukesha Metro is using public funds are shown in Figure 4.5.

***Fare Structure and Design Standard***

The Fare Structure Standard recommends premium fares for premium services and discounts for priority users, such as seniors and people with disabilities. Waukesha Metro fulfills this standard, with a $2.00 adult cash fare, which is slightly higher than the peer group. Waukesha Metro also offers a discounted fare of $1.00 for seniors and people with disabilities. Furthermore, Waukesha Metro includes free transfers within 90 minutes of the time it was issued, free transfers to MCTS, provides riders the opportunity to purchase a monthly pass, and offers summer youth passes.

***Operating Expenses Performance Standard***

By comparing the annual percent change between 2013 and 2017 in operating expenses per revenue vehicle mile, operating expenses per revenue vehicle hour, operating expenses per total vehicle mile, operating expenses per total vehicle hour, and operating assistance per passenger, the Operating Expenses Performance Standard ensures that the growth in operating costs is comparable to that of peer systems. In order to fulfill the standard, none of the annual percent increases in the five performance measures should exceed the median percentage increases experienced by the peer group. Figure 4.6 compares the annual percent change for each measure between 2013 and 2017 for the range of the peer group's performance to the performance of Waukesha Metro. Table 4.8 provides the detailed data used to develop Figure 4.6.

## Table 4.7
## Comparison of Transit and Automobile Travel Distances and Times for Waukesha Metro Transit Weekday Routes: 2019

| Route Number | Route Termini For Measurements of Travel Distance and Time | Trip Travel Distance (miles)[a] | | | | Vehicle Travel Time (minutes)[b] | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Transit | Automobile | Difference (Transit to Automobile) | Ratio (Transit to Automobile) | Transit | Automobile | Difference (Transit to Automobile) | Ratio (Transit to Automobile) |
| 1 | Downtown Transit Center to Brookfield Square Mall | 9.2 | 7.5 | 1.7 | 1.2 | 35.0 | 32.0 | 3.0 | 1.1 |
| 2 | Downtown Transit Center to Target | 6.1 | 5.1 | 1.0 | 1.2 | 27.0 | 21.0 | 6.0 | 1.3 |
| 3 | Downtown Transit Center to Big Bend Road and Sunset Drive | 2.8 | 2.4 | 0.4 | 1.2 | 11.0 | 9.0 | 2.0 | 1.2 |
| 4 | Downtown Transit Center to Walmart Supercenter on S. West Avenue | 3.2 | 2.7 | 0.5 | 1.2 | 12.0 | 11.0 | 1.0 | 1.1 |
| 5 | Downtown Transit Center to Shoppes at Fox River | 5.8 | 3.2 | 2.6 | 1.8 | 24.0 | 19.0 | 5.0 | 1.3 |
| 6 | Downtown Transit Center to Badger Drive via Shoppes at Fox River | 6.5 | 3.7 | 2.8 | 1.8 | 29.0 | 22.0 | 7.0 | 1.3 |
| 7 | Downtown Transit Center to Pendleton Place and South Comanche Lane via Waukesha Memorial Hospital | 3.5 | 3.2 | 0.3 | 1.1 | 16.0 | 13.0 | 3.0 | 1.2 |
| 8 | Downtown Transit Center to UWM at Waukesha | 3.1 | 2.8 | 0.3 | 1.1 | 12.0 | 10.0 | 2.0 | 1.2 |
| 9 | Downtown Transit Center to WCTC | 8.4 | 5.4 | 3.0 | 1.5 | 26.0 | 20.0 | 6.0 | 1.3 |
| 15 | Downtown Transit Center to Meijer on E. Sunset Drive | 5.6 | 3.0 | 2.6 | 1.9 | 22.0 | 20.0 | 2.0 | 1.1 |

[a] *Travel trip distance compared the bus route to a more direct route to the same destination.*

[b] *Auto travel time compared travel time between the bus route during the morning peak and automobile travel along the same route as the bus.*

*Source: Waukesha Metro Transit and SEWRPC*

## Figure 4.5
## Objective 3 and Associated Standards Applicable to the Evaluation of Waukesha Metro Transit

| Objective 3 |
|---|
| **Meet all other objectives at the lowest possible cost. Given limited public funds, this objective seeks to permit elected officials the flexibility to balance the standards associated with Objectives 1 and 2 with the level of public funding required to fully meet those standards.** |

| Associated Public Transit Principle |
|---|
| Given limited public funds, the cost of providing transit at a desired service level should be minimized and revenue gained from the service should be maximized to maintain the financial stability of services. |

| Design and Operating Standards |
|---|
| **1. Fare Structure**<br>Charge premium fares for premium services, and discounted fares for priority population groups and frequent riders. |

| Performance Standards and Associated Performance Measures | |
|---|---|
| **1. Operating Expenses**<br>Minimize the operating expenses per total and revenue vehicle mile, the operating expenses per total and revenue vehicle hour, and the operating assistance per passenger. Annual increases in such costs should not exceed the median percentage increases experienced by comparable transit systems. | **2. Cost Effectiveness**<br>Review transit services with substandard cost effectiveness for potential changes to their routes, runs, service areas, and service periods. Cost effectiveness is considered substandard when the operating expenses per passenger, or operating expenses per passenger mile are more than 20 percent above, or the farebox recovery ratio is more than 20 percent below, the median for comparable transit systems. |

*Source: SEWRPC*

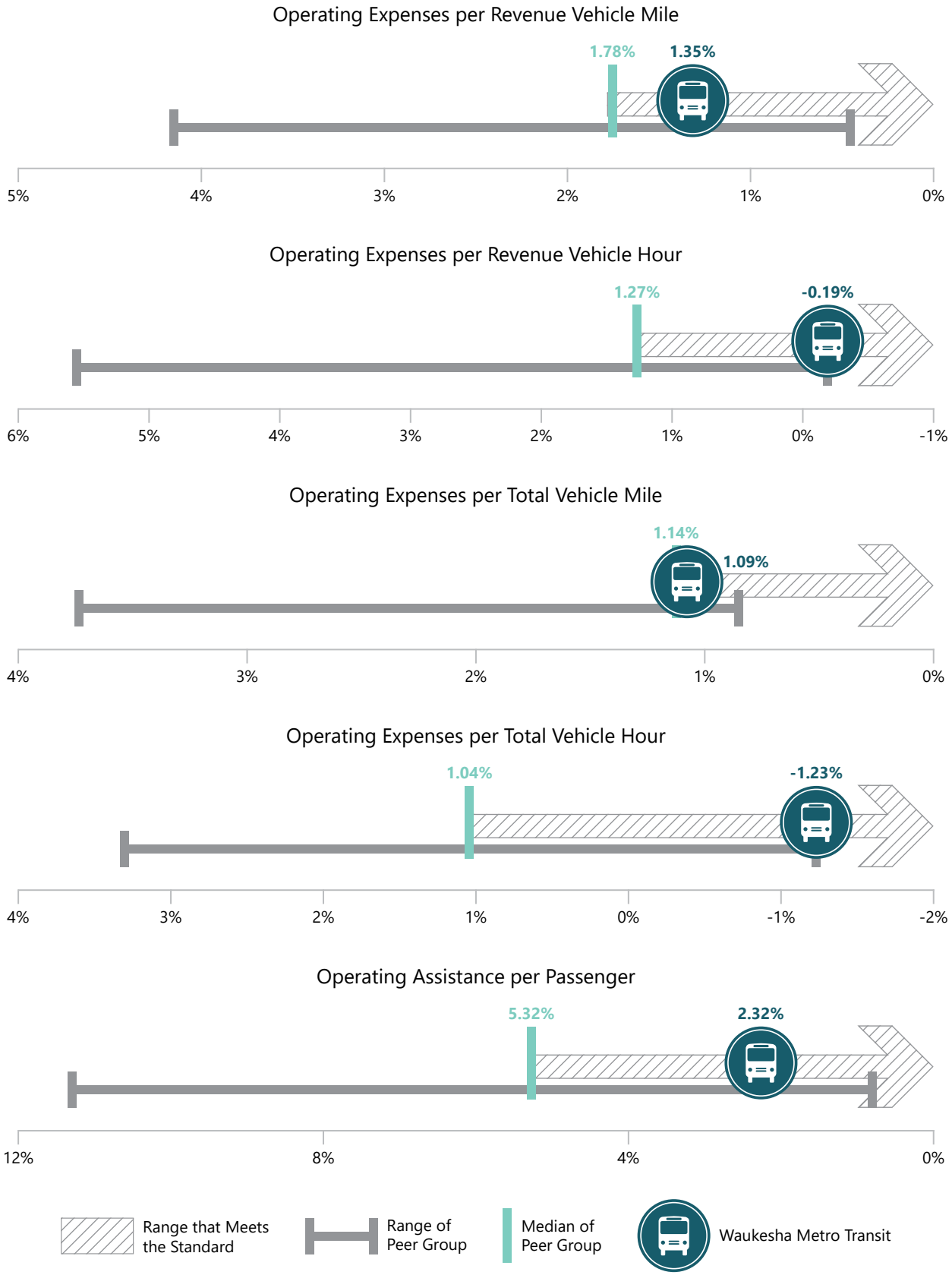
Overall, Waukesha Metro performs well on all five measures, with lower growth rates in operating expenses per unit of service than its peers. However, Waukesha Metro experienced an increase in operating assistance per passenger between 2013 and 2017 with an average annual change of 2.32 percent. This may reflect the decline in ridership between 2013 and 2017, which increased the average subsidy amount per passenger. However, even with this increase, the amount of operating assistance per passenger is still lower than the median of the peer group. Waukesha Metro fulfills the Operating Expenses Performance Standard.

### *Cost Effectiveness Performance Standard*

The Cost Effectiveness Standard recommends that the operating cost per passenger and operating cost per passenger mile should be no greater than 20 percent above the median of the peer group, and that the farebox recovery ratio should not be more than 20 percent below the median of the peer group. If a transit service is substandard under any of these performance measures, it may indicate that changes to routes, runs, service areas, and service periods need to be considered. Figure 4.7 shows the range of the peer group's performance, the median of the peer group's performance, the range of the performance that meets the standard, and the performance of Waukesha Metro for these performance measure. Table 4.9 provides the detailed data used to develop Figure 4.7.

Waukesha Metro is within the range that meets the standard for all three performance measures. However, at $6.78, the operating expenses per passenger are significantly higher than the median of the peer group, reflecting the reductions in ridership in recent years, as well as the lower passengers per unit of service noted under Objective 2, Service Effectiveness Performance Standard. In 2017, Waukesha Metro had a higher farebox recovery ratio than its peers at approximately 17 percent, due to Waukesha Metro's comparatively higher fares and relatively stable operating expenses. Overall, Waukesha Metro provides a cost effective service and successfully meets this standard.

**Figure 4.6**
**Operating Expenses Performance Standard: Comparison of Waukesha Metro Tansit to Peer Group for Associated Performance Measures (Percent Annual Change)**




*Source: National Transit Database, Waukesha Metro Transit, and SEWRPC*

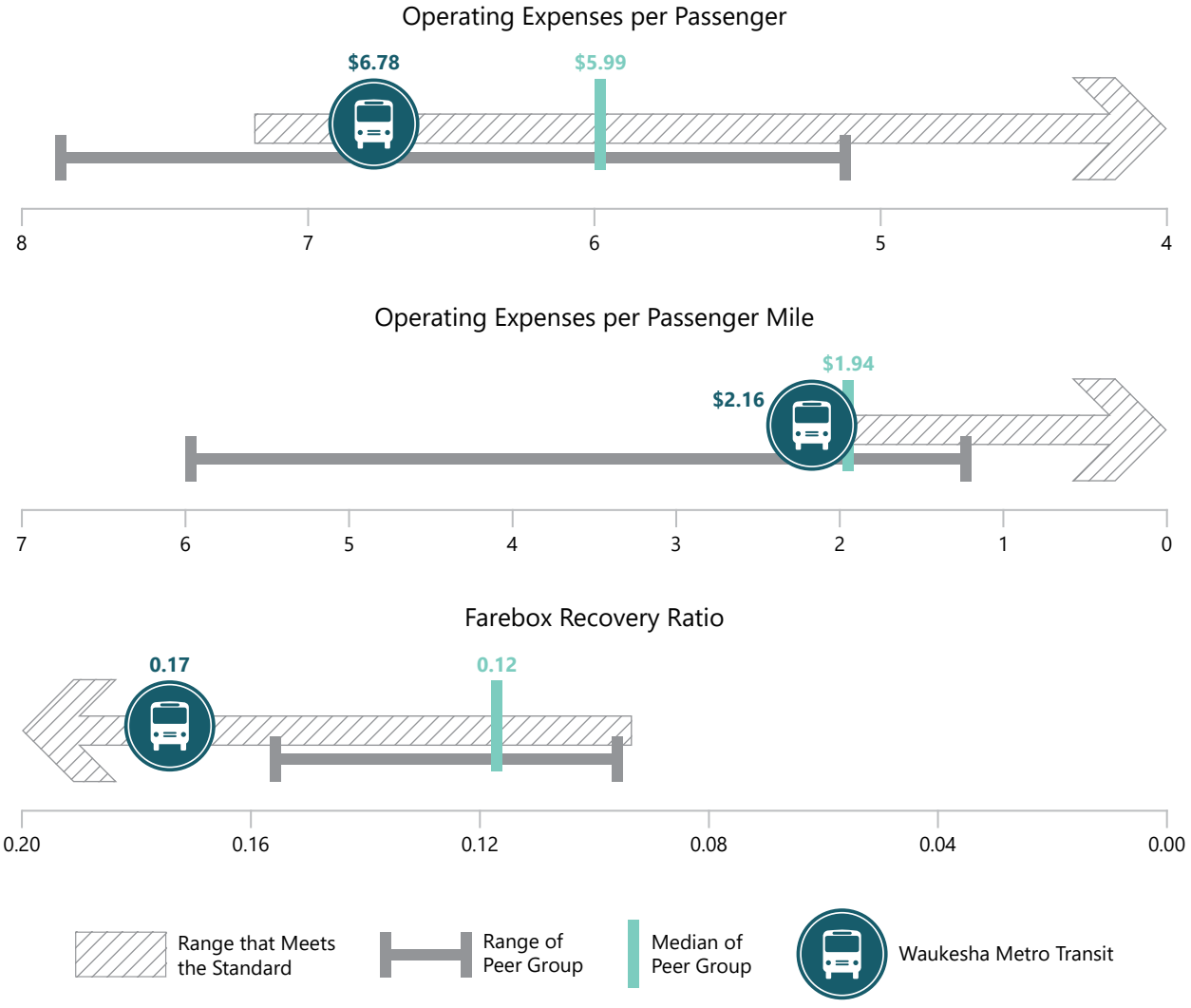
## Table 4.8
## Waukesha Metro Transit and Peer Group Data for the Operating Expenses Performance Standard

| Peer System and Metropolitan Area | Performance Measures | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Operating Expenses per Revenue Vehicle Mile | | | Operating Expenses per Revenue Vehicle Hour | | | Operating Expenses per Total Vehicle Mile | | | Operating Expenses per Total Vehicle Hour | | | Operating Assistance per Passenger | | |
| | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change |
| Gary Public Transportation Corporation (Gary, IN) | $7.09 | $7.27 | 0.89% | $97.83 | $99.60 | 0.71% | $7.09 | $7.27 | 0.87% | $97.83 | $99.60 | 0.69% | $6.33 | $6.66 | 1.52% |
| Cedar Rapids Transit (Cedar Rapids, IA) | $7.32 | $7.46 | 0.49% | $102.58 | $103.41 | 0.21% | $7.05 | $7.32 | 0.97% | $99.04 | $101.78 | 0.69% | $5.22 | $5.31 | 0.86% |
| Sioux Area Metro (Sioux Falls, SD) | $5.57 | $6.08 | 2.20% | $72.52 | $73.41 | 0.42% | $5.53 | $6.00 | 2.08% | $72.08 | $72.85 | 0.38% | $3.37 | $5.17 | 11.35% |
| Altoona Metro Transit (Altoona, PA) | $7.58 | $8.87 | 4.16% | $96.41 | $111.32 | 3.79% | $7.45 | $8.58 | 3.75% | $94.82 | $99.45 | 1.39% | $4.78 | $6.65 | 9.13% |
| La Crosse Municipal Transit Utility (La Crosse, WI) | $5.79 | $6.11 | 1.36% | $81.66 | $87.65 | 1.82% | $5.64 | $5.93 | 1.31% | $76.14 | $85.30 | 2.96% | $3.22 | $4.54 | 9.14% |
| Shoreline Metro (Sheboygan, WI) | $5.08 | $5.82 | 3.66% | $68.29 | $83.95 | 5.55% | $4.93 | $5.10 | 0.92% | $62.98 | $71.41 | 3.31% | $4.90 | $5.10 | 1.15% |
| Waukesha Metro Transit | $6.27 | $6.59 | 1.35% | $83.16 | $82.29 | -0.19% | $6.03 | $6.27 | 1.09% | $76.60 | $72.79 | -1.23% | $5.14 | $5.60 | 2.32% |

Note: Shoreline Metro did not report total vehicle miles or hours in 2017, therefore 2016 data were used for operating expenses per total vehicle mile and total vehicle hour in 2017.

*Source: National Transit Database, U.S. Bureau of the Census, Waukesha Metro Transit, and SEWRPC*

**Figure 4.7**
**Cost Effectiveness Performance Standard: Comparison of Waukesha Metro Transit to Peer Group for Associated Performance Measure**




*Source: National Transit Database, Waukesha Metro Transit, and SEWRPC*

***Performance Evaluation of Individual Routes***

In addition to overall system evaluation in the preceding sections of this chapter, fixed-route urban transit systems should also be analyzed for both service effectiveness (as described under Objective 2) and cost effectiveness (as described under Objective 3) on an individual route basis. This section of the evaluation looks at the ridership and financial performance of the transit system's bus routes in order to identify the routes with the lowest overall performance based on route operating data, including total boarding passengers; passengers per revenue vehicle-hour and per revenue vehicle-mile; total operating cost and operating assistance per passenger; and farebox recovery rate.

Tables 4.10 through 4.12 and Figures 4.8 through 4.9 display the estimated service and cost effectiveness measures for the routes of the transit system. The performance measures presented in these tables and figures are based upon the following data:

- Daily operating characteristics for each route in 2019
- Systemwide cost per vehicle hour and passenger revenue per boarding passenger in 2018
- Boarding passengers per route collected by the transit system on select days in 2018 and 2019

## Table 4.9
## Waukesha Metro Transit and Peer Group Data for the Cost Effectiveness Performance Standard

| | Performance Measures | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Operating Expenses per Passenger | | | Operating Expenses per Passenger Mile | | | Farebox Recovery Ratio | | |
| **Peer System and Metropolitan Area** | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change |
| Gary Public Transportation Corporation (Gary, IN) | $7.38 | $7.47 | 0.48% | $5.77 | $5.95 | 0.98% | 0.14 | 0.11 | -6.01% |
| Cedar Rapids Transit (Cedar Rapids, IA) | $5.88 | $6.01 | 0.85% | $1.27 | $1.25 | 0.02% | 0.11 | 0.12 | 1.19% |
| Sioux Area Metro (Sioux Falls, SD) | $3.93 | $5.72 | 9.84% | $0.67 | $1.37 | 20.39% | 0.14 | 0.10 | -9.61% |
| Altoona Metro Transit (Altoona, PA) | $5.89 | $7.87 | 7.95% | $1.68 | $2.68 | 13.58% | 0.19 | 0.16 | -4.40% |
| La Crosse Municipal Transit Utility (La Crosse, WI) | $3.77 | $5.15 | 8.28% | $1.18 | $1.72 | 9.92% | 0.15 | 0.12 | -5.06% |
| Shoreline Metro (Sheboygan, WI) | $5.71 | $5.97 | 1.22% | $2.15 | $2.15 | 0.16% | 0.14 | 0.15 | 0.73% |
| Waukesha Metro Transit (Milwaukee, WI) | $5.97 | $6.78 | 3.34% | $1.77 | $2.16 | 5.37% | 0.14 | 0.17 | 6.33% |

Note: Shoreline Metro did not report total vehicle miles or hours in 2017, therefore 2016 data were used for operating expenses per total vehicle mile and total vehicle hour in 2017.

*Source: National Transit Database, U.S. Bureau of the Census, Waukesha Metro, and SEWRPC*

## Table 4.10
## Average Weekday Performance Characteristics for Waukesha Metro Transit Routes

| Route Number | Revenue Vehicle Hours[a] | Revenue Vehicle Miles[b] | Boarding Passengers[a] | Service Effectiveness Measures[c] | | Operating Cost ($) | Operating Assistance ($) | Cost Effectiveness Measures[d] | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Passengers per Revenue Vehicle Hour | Passengers per Revenue Vehicle Mile | | | Operating Cost per Passenger ($) | Operating Assistance per Passenger ($) | Farebox Recovery Rate (%) |
| 1 | 48.9 | 560.0 | 479 | 9.8 | 0.9 | 4,144.27 | 3,582.99 | 8.65 | 7.48 | 13.5 |
| 2 | 15.4 | 181.1 | 148 | 9.6 | 0.8 | 1,332.33 | 1,158.59 | 8.98 | 7.81 | 13.0 |
| 3 | 7.1 | 101.2 | 89 | 12.5 | 0.9 | 686.25 | 582.26 | 7.73 | 6.56 | 15.2 |
| 4 | 14.5 | 179.1 | 416 | 28.6 | 2.3 | 1,253.66 | 765.89 | 3.01 | 1.84 | 38.9 |
| 5 | 12.5 | 140.1 | 129 | 10.3 | 0.9 | 1,064.52 | 913.65 | 8.26 | 7.09 | 14.2 |
| 6 | 14.4 | 170.7 | 107 | 7.4 | 0.6 | 1,175.83 | 1,050.65 | 11.00 | 9.83 | 10.6 |
| 7 | 7.6 | 99.3 | 100 | 13.2 | 1.0 | 715.54 | 598.53 | 7.16 | 5.99 | 16.4 |
| 8 | 13.4 | 168.2 | 177 | 13.3 | 1.1 | 1,207.63 | 999.79 | 6.81 | 5.63 | 17.2 |
| 7/8[e] | 1.5 | 18.5 | 16 | 10.4 | 0.8 | 121.35 | 103.09 | 7.78 | 6.61 | 15.1 |
| 9 | 22.8 | 378.1 | 286 | 12.6 | 0.8 | 2,006.02 | 1,670.80 | 7.01 | 5.84 | 16.7 |
| 15 | 13.5 | 145.3 | 129 | 9.6 | 0.9 | 1,182.52 | 1,031.00 | 9.14 | 7.97 | 12.8 |
| Bus system Total/Average | 171.6 | 2,141.6 | 2,077 | 12.5 | 1.0 | 1,353.63 | 1,132.47 | 7.78 | 6.61 | 16.7 |
| Minimum/Maximum Acceptable Level[c,d] | N/A | N/A | N/A | 10.0 | 1.0 | N/A | N/A | 9.34 | 7.93 | 12.0 |

Note: Operating cost per route was estimated by applying the year 2018 systemwide average cost per total vehicle hour to the average weekday total vehicle hours for each route. Operating assistance was estimated by applying the year 2018 average fare revenues per boarding passenger to the average weekday boarding passengers per route, and subtracting the estimated fare revenues per route from the estimated operating cost per route.

[a] *Revenue vehicle hours and boarding passengers per route based on 2018 data from Waukesha Metro Transit.*

[b] *Revenue vehicle miles based on the average weekday school day routes effective for January 1, 2019, April 1, 2019 and September 2, 2019.*

[c] *Waukesha Metro has target service effectiveness levels for its bus routes that specify 10 passengers per revenue vehicle hour and 1.0 passenger per revenue vehicle mile, as shown in Figure 4.3. Red text for these measures indicates that a route does not meet the target level for that particular measure.*

[d] *The target performance level specified in the transit service standards presented in Figure 4.5 for cost effectiveness measures is 20 percent above the systemwide median for all routes. The target performance level specified in Figure 4.5 for farebox recovery is 20 percent below the systemwide median for all routes. Red text for these measures indicates that a route does not meet the target level for that particular measure.*

[e] *Operates only between 6:45 p.m. and 9:11 p.m. on weekdays.*

*Source: Waukesha Metro Transit and SEWRPC*

## Table 4.11
## Average Saturday Performance Characteristics for Waukesha Metro Transit Routes

| Route Number | Revenue Vehicle Hours[a] | Revenue Vehicle Miles[b] | Boarding Passengers[a] | Service Effectiveness Measures[c] | | Operating Cost ($) | Operating Assistance ($) | Cost Effectiveness Measures[d] | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Passengers per Revenue Vehicle Hour | Passengers per Revenue Vehicle Mile | | | Operating Cost per Passenger ($) | Operating Assistance per Passenger ($) | Farebox Recovery Rate (%) |
| 1 | 39.2 | 474.0 | 346 | 8.8 | 0.7 | 3,351.74 | 2,946.64 | 9.69 | 8.52 | 12.09 |
| 2 | 13.0 | 141.3 | 95 | 7.3 | 0.7 | 1,002.59 | 891.77 | 10.60 | 9.43 | 11.05 |
| 3/15 | 11.3 | 145.9 | 94 | 8.4 | 0.6 | 938.99 | 828.43 | 9.95 | 8.78 | 11.77 |
| 4 | 7.6 | 99.8 | 277 | 36.5 | 2.8 | 663.65 | 339.60 | 2.40 | 1.23 | 48.83 |
| 5/6 | 12.9 | 190.0 | 135 | 10.4 | 0.7 | 1,014.31 | 856.72 | 7.54 | 6.37 | 15.54 |
| 7/8 | 5.5 | 67.9 | 117 | 21.2 | 1.7 | 445.22 | 308.65 | 3.82 | 2.65 | 30.67 |
| 9 | 10.3 | 165.5 | 68 | 6.6 | 0.4 | 892.96 | 812.97 | 13.08 | 11.90 | 8.96 |
| Bus system Total/Average | 99.7 | 1,284.2 | 1,131 | 14.2 | 1.1 | 1,187.07 | 997.83 | 8.15 | 6.98 | 19.84 |
| Minimum/Maximum Acceptable Level[c,d] | N/A | N/A | N/A | 10.0 | 1.0 | N/A | N/A | 11.63 | 10.22 | 9.67 |

Note: Operating cost per route was estimated by applying the year 2018 systemwide average cost per total vehicle hour to the average Saturday total vehicle hours for each route. Operating assistance was estimated by applying the year 2018 average fare revenues per boarding passenger to the average Saturday boarding passengers per route, and subtracting the estimated fare revenues per route from the estimated operating cost per route.

[a] *Revenue vehicle hours and boarding passengers per route based on 2018 data from Waukesha Metro Transit.*

[b] *Revenue vehicle miles based on the average Saturday routes effective for January 1, 2019, April 1, 2019 and September 2, 2019.*

[c] *Waukesha Metro has target service effectiveness levels for its bus routes that specify 10 passengers per revenue vehicle hour and 1.0 passenger per revenue vehicle mile, as shown in Figure 4.3. Red text for these measures indicates that a route does not meet the target level for that particular measure.*

[d] *The target performance level specified in the transit service standards presented in Figure 4.9 for cost effectiveness measures is 20 percent above the systemwide median for all routes. The target performance level specified in Figure 4.9 for farebox recovery is 20 percent below the systemwide median for all routes. Red text for these measures indicates that a route does not meet the target level for that particular measure.*

*Source: Waukesha Metro Transit and SEWRPC*

## Table 4.12
## Average Sunday Performance Characteristics for Waukesha Metro Transit Routes

| Route Number | Revenue Vehicle Hours[a] | Revenue Vehicle Miles[b] | Boarding Passengers[a] | Service Effectiveness Measures[c] | | Operating Cost ($) | Operating Assistance ($) | Cost Effectiveness Measures[d] | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Passengers per Revenue Vehicle Hour | Passengers per Revenue Vehicle Mile | | | Operating Cost per Passenger ($) | Operating Assistance per Passenger ($) | Farebox Recovery Rate (%) |
| 1 | 26.9 | 326.3 | 199 | 7.4 | 0.6 | 2,318.18 | 2,084.88 | 11.64 | 10.47 | 10.1 |
| 2 | 9.4 | 115.4 | 58 | 6.2 | 0.5 | 810.11 | 742.62 | 14.06 | 12.89 | 8.3 |
| 4 | 5.1 | 67.1 | 155 | 30.4 | 2.3 | 453.59 | 272.51 | 2.93 | 1.76 | 39.9 |
| 5/6 | 7.9 | 123.0 | 54 | 6.8 | 0.4 | 680.39 | 617.66 | 12.70 | 11.53 | 9.2 |
| 7/8 | 5.0 | 61.7 | 67 | 13.4 | 1.1 | 404.22 | 325.63 | 6.02 | 4.85 | 19.4 |
| Bus system Total/Average | 54.2 | 693.6 | 532 | 12.8 | 1.0 | 933.30 | 808.66 | 9.47 | 8.30 | 17.4 |
| Minimum/Maximum Acceptable Level[c,d] | N/A | N/A | N/A | 10.0 | 1.0 | N/A | N/A | 13.97 | 12.56 | 8.05 |

Note: Operating cost per route was estimated by applying the year 2018 systemwide average cost per total vehicle hour to the average Sunday total vehicle hours for each route. Operating assistance was estimated by applying the year 2018 average fare revenues per boarding passenger to the average Sunday boarding passengers per route, and subtracting the estimated fare revenues per route from the estimated operating cost per route.

[a] *Revenue vehicle hours and boarding passengers per route based on 2018 data from Waukesha Metro.*

[b] *Revenue vehicle miles based on the average Sunday routes effective for January 1, 2019, April 1, 2019 and September 2, 2019.*

[c] *Waukesha Metro has target service effectiveness levels for its bus routes that specify 10 passengers per revenue vehicle hour and 1.0 passenger per revenue vehicle mile, as shown in Figure 4.3. Red text for these measures indicates that a route does not meet the target level for that particular measure.*

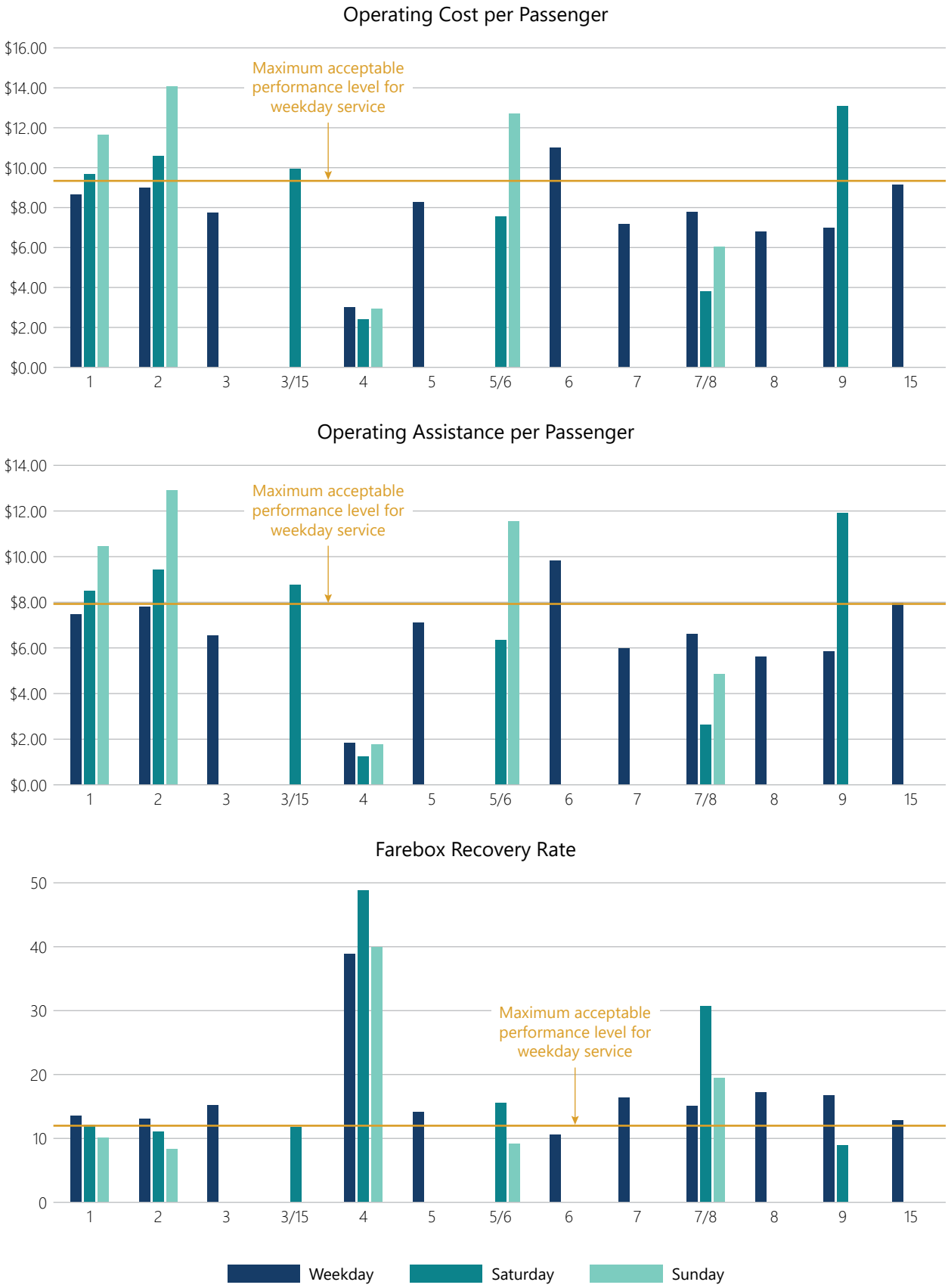
[d] *The target performance level specified in the transit service standards presented in Figure 4.5 for cost effectiveness measures is 20 percent above the systemwide median for all routes. The target performance level specified in Figure 4.9 for farebox recovery is 20 percent below the systemwide median for all routes. Red text for these measures indicates that a route does not meet the target level for that particular measure.*

*Source: Waukesha Metro Transit and SEWRPC*

**Figure 4.8**
**Service Effectiveness Measures for Waukesha Metro Transit Routes**


*Source: Waukesha Metro Transit and SEWRPC*

**Figure 4.9**
**Cost Effectiveness Measures for Waukesha Metro Transit Routes**




*Source: Waukesha Metro Transit and SEWRPC*

Waukesha Metro has target service effectiveness levels for its bus routes specifying 10 passengers per revenue vehicle hour and 1.0 passengers per revenue vehicle mile. In addition, minimum (or maximum) performance targets for cost efficiency were identified by Commission staff under the transit service standards for this study, presented in Figure 4.3. For each of the performance measures used in the evaluation, routes that have service effectiveness or cost efficiency measures that do not meet the target levels specified in the service effectiveness goals for the transit system or in the Commission's service standards are identified as below average performers with red text. The following observations may be drawn from the information in the tables and figures:

Weekday Route Performance

Routes 4, 5, 7, and 8 have weekday performance levels that generally meet or exceed both the target service effectiveness levels for the transit system and the minimum (or maximum) performance targets specified under the service standards. Of these four routes, Routes 4 and 8 are the best performers, as they rank in the top tier for nearly all the service effectiveness and cost effectiveness measures. Routes 1, 3, 7/8, and 9 have weekday performance that is generally within acceptable levels.

The remaining routes—2, 6, and 15—have lower performance levels and fail to meet the minimum or maximum acceptable levels for service effectiveness and cost effectiveness. Of these three routes, the performance levels observed for Route 6 are most problematic as it does not meet the target level for any measure. These three routes merit further study to determine if changes to improve their performance should be considered.

Saturday Route Performance

On Saturdays, Routes 4 and 7/8 have the best performance levels, while Routes 1, 2, 3/15, and 5/6 have mixed performance, meeting the cost effectiveness measures but not the performance targets for service effectiveness. Route 9 does not meet any of the performance targets for service effectiveness or cost effectiveness. The routes that fail to meet a majority of the performance targets require further study to determine if changes to improve their performance should be considered.

Sunday Route Performance

As with the Saturday performance levels, Routes 4 and 7/8 are the best performers on Sundays. The remaining routes (1, 2, and 5/6) have mixed performance, meet some, but not all of the service effectiveness or cost effectiveness measures. The routes not meeting the targets require further study to determine if potential changes to these routes should be considered to improve their performance.

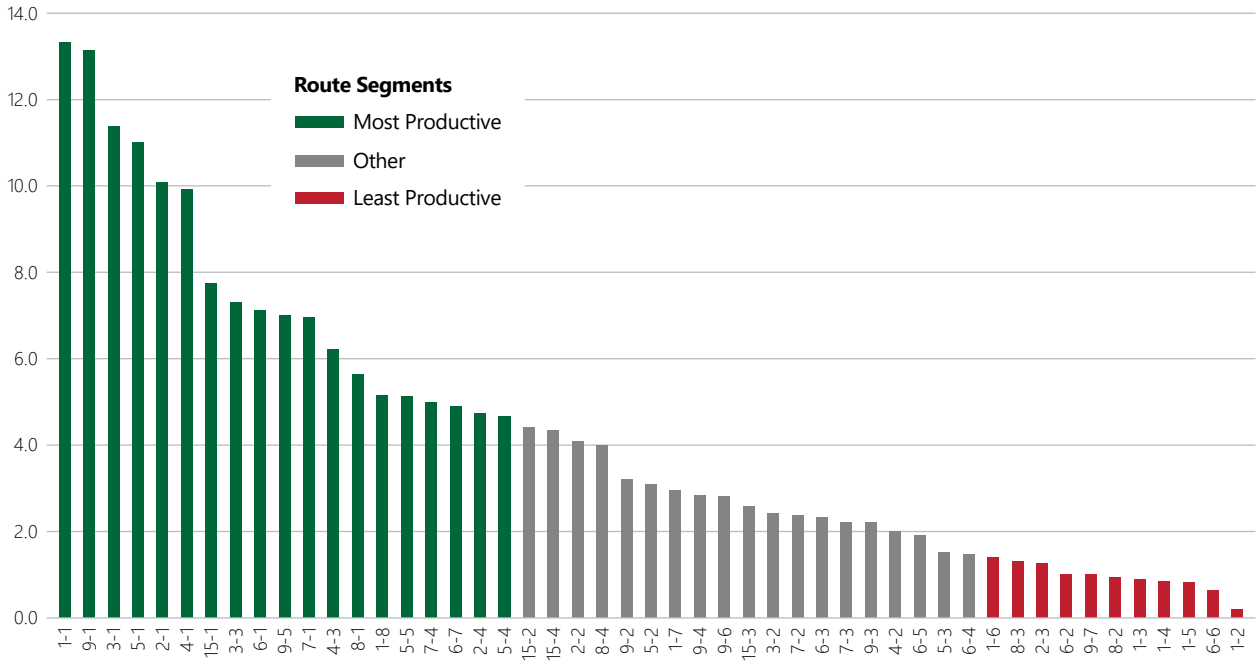
***Ridership by Route Segment***

To supplement the route-level service effectiveness and cost effectiveness measures, Commission staff examined the boarding and alighting passenger activity along each weekday bus route to help identify route segments with the highest and lowest utilization. Commission staff used passenger counts provided by Waukesha Metro for weekdays in 2018 and 2019 that included weekday boardings and alightings by stop for each bus route during every trip. It should be noted that the weekday boardings and alightings data utilized for this analysis was generated from only one to five days' worth of counts, and therefore, provides a limited perspective into passenger activity. However, patterns do emerge from the analysis that were further reviewed and considered as part of the transit service recommendations chapter of this report.

Commission staff conducted the route segment analysis utilizing ridership per scheduled bus trip and ridership by miles traveled. As a first step, Commission staff divided all weekday bus routes into segments that match major intersections or time points. Second, the boardings and alightings were calculated for each route segment. Third, the passenger activity by segment was divided by either the total scheduled bus trips operated over the segment or the number of miles per segment. Boarding and alightings by trip provides a measure of the utilization of each route segment relative to the amount of service provided, while boarding and alightings per mile provides insight into the overall utilization of each route segment.

Figure 4.10 displays the 49 routes segments designated for the transit system, ordered by passenger activity per bus trip. The route segments that rank in the top one-third are considered the "most productive" segments of the transit system, and the route segments ranking in the bottom third are considered the "least productive" segments. The most productive and least productive route segments by bus trip are shown for each route on Map 4.7.

**Figure 4.10**
**Average Weekday Boardings and Alightings per Scheduled Bus Trip Over Segments of Waukesha Metro Transit Routes**




*Source: Waukesha Metro Transit and SEWRPC*

As noted above, Commission staff calculated the boardings and alightings per segment mile, including both inbound and outbound mileage. This comparison demonstrates how well each segment performs relative to only boardings and alightings. By dividing the passenger activity by segment mileage, additional route segments are emphasized as requiring review and potential adjustment. In some cases, segments that performed poorly utilizing the per trip method, due to the relatively high amount of service provided, showed improved performance when comparing only boardings and alightings. Map 4.8 provides the most and least productive route segments per mile and Figure 4.11 includes each route segment, ordered by passenger activity per mile.

The following observations may be drawn from the figures and the maps regarding passenger activity along route segments:

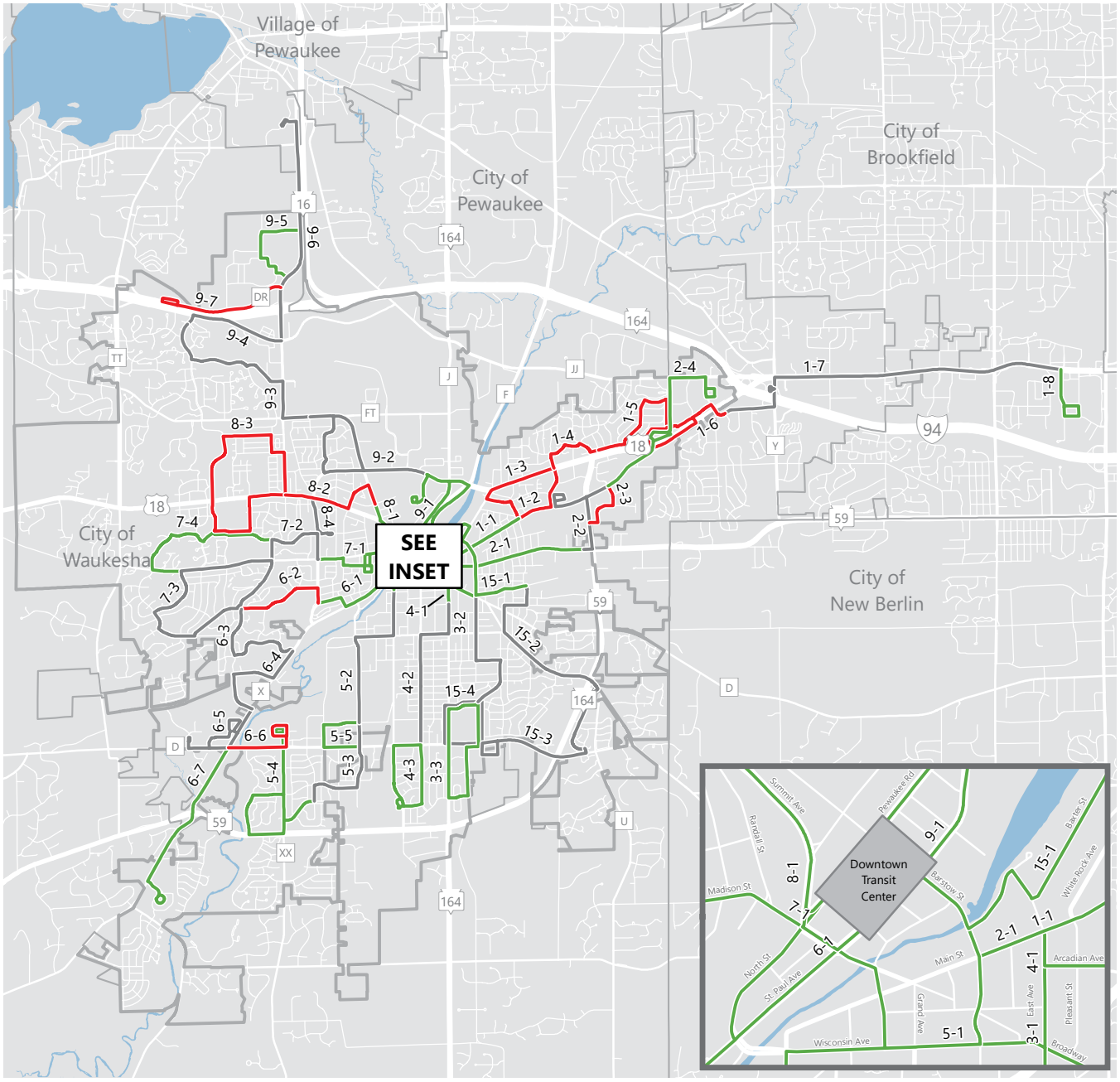
- Generally, those segments with the highest passenger activity per bus trip and per mile are those that serve major commercial areas or that pass through the Downtown Transit Center, which reflects the high number of passengers going to downtown Waukesha or transferring between routes.

- When comparing performance based on passenger activity per trip and per mile, a number of segments that performed relatively well on a per trip basis perform worse on a per mile basis. Generally, the routes that perform worse by comparison include segments with limited service trips, such as segments along Routes 5, 6, and 7.

- All routes of the system had at least one highly productive segment based on passenger activity per trip and per mile, with the exception of Route 15 that does not include a highly productive segment based on per mile activity. Two of the routes (Routes 3 and 4) had no unproductive segments based on either comparison.

- Route 1, which carries the most passengers, has the most segments with low productivity per bus trip for two reasons: First, many of the passengers use Route 1 to travel from the City of Waukesha to Brookfield Square Mall, meaning that few passengers board or alight along some route segments on Bluemound Road or in neighborhoods adjacent to Moreland Boulevard. Second, it has the highest number of bus trips that operate over the route, which results in a lower value for the passenger activity per trip.

## Map 4.7
## Waukesha Metro Transit Route Productivity per Scheduled Bus Trip Over Segments




**ROUTE SEGMENTS**

- MOST PRODUCTIVE ROUTE SEGMENTS
- LEAST PRODUCTIVE ROUTE SEGMENTS
- OTHER ROUTE SEGMENTS

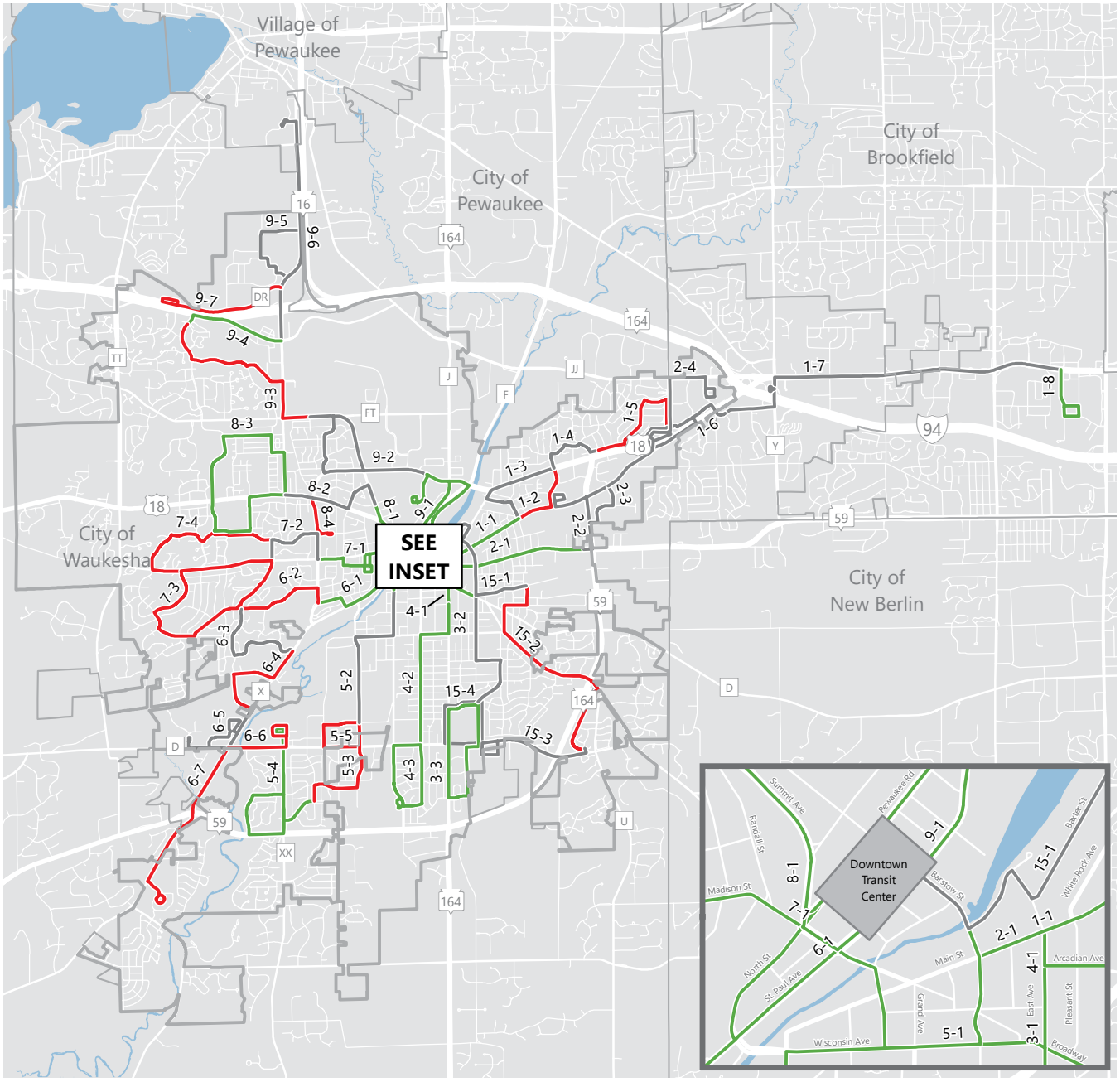
Note: Route segment numbers correspond to the route segments displayed in Figure 4.10.

N

0 0.5 1 1.5 Miles

*Source: Waukesha Metro Transit, and SEWRPC*

## Map 4.8
## Waukesha Metro Transit Route Productivity per Mile Over Segments




**ROUTE SEGMENTS**

- MOST PRODUCTIVE ROUTE SEGMENTS
- LEAST PRODUCTIVE ROUTE SEGMENTS
- OTHER ROUTE SEGMENTS

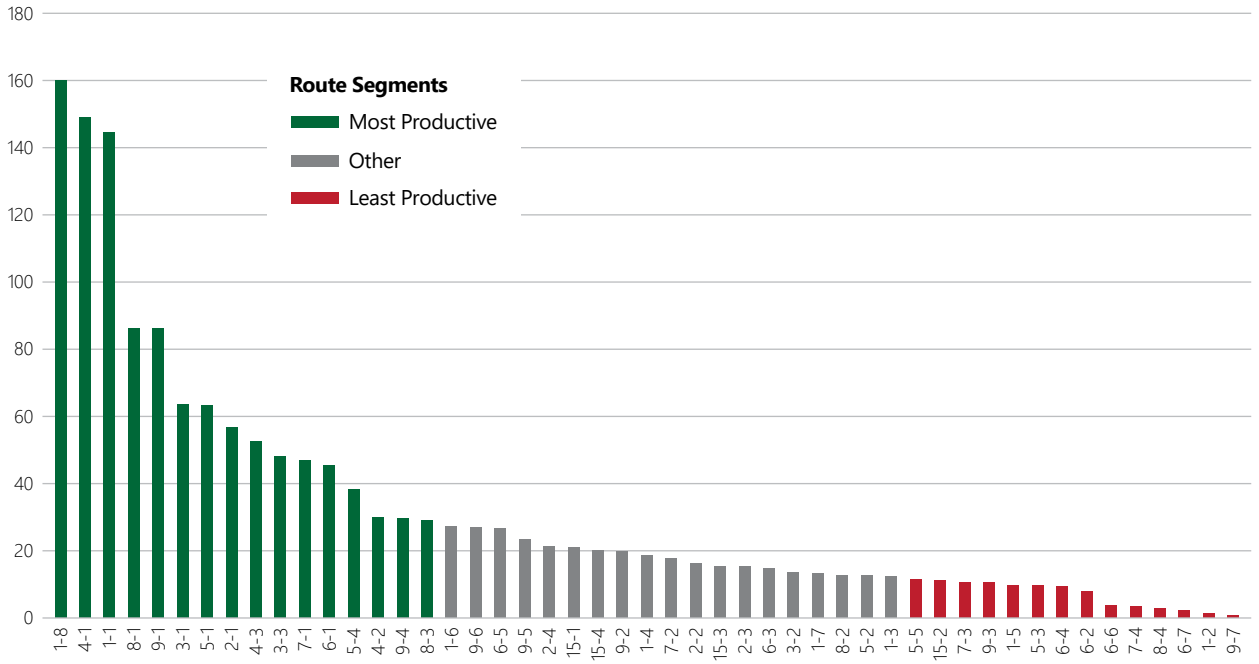
Note: Route segment numbers correspond to the route segments displayed in Figure 4.11.

N

0 0.5 1 1.5 Miles

*Source: Waukesha Metro Transit, and SEWRPC*

**Figure 4.11**
**Average Weekday Boardings and Alightings per Mile Over Segments of Waukesha Metro Transit Routes**




*Source: Waukesha Metro Transit and SEWRPC*

- Unproductive route segments indicate where routing changes should be considered, particularly if the unproductive segments include circuitous route alignments that increase travel time and make transit travel less attractive. These unproductive route segments, particularly those that are identified in both maps, are revisited under the transit service improvements analyzed in the next chapter. However, some of the route segments with the lowest passenger activity occur where bus routes pass through areas with few activity centers and land uses unsupportive of transit, on their way to activity centers or land uses that generate more substantial ridership. Further, not all unproductive route segments can be completely eliminated if the transit system is to continue to provide extensive coverage of the City of Waukesha. Alternative methods of continuing to serve the areas generating lower ridership could be considered, such as flexible shuttles or partnership with ride-hailing companies, such as Lyft or Uber.

## 4.4 PERFORMANCE EVALUATION OF WAUKESHA COUNTY TRANSIT SERVICE

This section details the performance evaluation of existing Waukesha County Transit services, utilizing performance standards selected by the Advisory Committee for the Waukesha Area Transit Development Plan and identified in Chapter 3 of this report to determine well how existing transit services fulfill the standards. The performance evaluations provide insights that will help inform potential transit service changes to address unmet transportation needs and improve or expand existing transit services. Figure 4.1 provides a brief summary of the results of the performance evaluation.

### Objective 1: Meet the Need and Demand for Service

In order to determine if the Waukesha County Transit System effectively serves travel patterns, meeting the demand and need for transit services between Waukesha County and Milwaukee County, each applicable standard and associated performance measure(s) were individually evaluated. These individual evaluations were collectively considered to determine how effectively the current service meets the overall objective. Figure 4.12 contains the full text of Objective 1, the applicable design and performance standards, and associated performance measures used to evaluate Waukesha County Transit's fulfillment of the objective.

## Figure 4.12
## Objective 1 and Associated Standards Applicable to the Evaluation of Waukesha County Transit

**Objective 1**

**Public transit should efficiently serve the travel needs of residents and employers within the City of Waukesha, connecting to major activity centers, population centers, and areas of employment, which are fully developed or planned to be developed to medium or high densities.**

**Associated Public Transit Principle**

Transit services can increase mobility for all segments of the population in urban and rural areas, particularly for people residing in low-to-middle income households, students, seniors, and people with disabilities. Fixed-route public transit services are generally best suited for operating within and between large and medium-sized urban areas, serving the mobility needs of the population and the labor needs of employers.

**Design and Operating Standards**

**1. Local Bus Service**

Provide local fixed-route transit service to connect areas of urban development to the largest major activity centers within the City.

**2. Commuter Bus Service**

Serve major travel corridors with commuter bus service by connecting major activity centers and concentrations of significant urban development within the County and Region.

**3. Paratransit Service**

Paratransit service should be available within the transit service area to meet the needs of people with disabilities who are unable to use fixed-route bus service.

**Performance Standards and Associated Performance Measures**

**1. Major Activity Centers**

Maximize the number of major activity centers and facilities for transit-dependent people served by transit. This is measured by the number of activity centers within one-quarter mile of a local bus or shuttle route, or within one-half mile of a commuter bus route. Major activity centers include the following:[a]

a. Commercial areas
b. Educational institutions
c. Medical centers
d. Employers
e. Facilities serving transit-dependent populations
f. Libraries, government centers, and cultural facilities

**2. Population**

Maximize the population served by transit, particularly the transit dependent population. Residents are considered served if they are within the following distances of a fixed-route transit service:

| | Distance from Bus Stop | |
|---|---|---|
| Service Type | Walking | Driving |
| Commuter Bus | ½ Mile | 3 Miles |
| Local Bus or Shuttle | ¼ Mile | -- |

**3. Employment**

Maximize the number of jobs served by transit. This is measured by the total employment at businesses located within one-quarter mile of local bus or shuttle routes, or within one-half mile of a commuter bus route.

**4. Density**

Maximize the transit-supportive land area accessible by public transit. Land area is considered transit-supportive if it has a density of at least 4 dwelling units per net residential acre, or at least 640 jobs per quarter section. This is measured by the proportion of the total transit-supportive land area within one-quarter mile of a local bus or shuttle route, or within one-half mile of a commuter bus route.

[a] *In order to be considered a major activity center, the following definitions must apply:*

- *Commercial areas are concentrations of retail and service establishments that typically include a department store or a discount store along with a supermarket on 15 to 60 acres, totaling 150,000 or more square feet of gross leasable floor space*
- *Educational institutions are the main campus of traditional four-year institutions of higher education, public technical colleges, and public and private middle schools and high schools*
- *Medical centers are all hospitals and clinics with 10 or more physicians*
- *Employers are all employers with more than 100 employees, or clusters of adjacent employers with collectively more than 100 employees such as in business or industrial parks*
- *Facilities serving transit-dependent populations are senior centers, senior meal sites, residential facilities for seniors and/or people with disabilities, residential facilities for low-income individuals, and government facilities that provide significant services to members of transit-dependent population groups*
- *Libraries include all local public libraries in Waukesha County*
- *Government and public institutional centers include all major government offices, city halls, civic centers, and Department of Motor Vehicles offices*
- *Cultural facilities include those that hold significant public arts events and have prominence within the State*

*Source: SEWRPC*

***Local Bus Service Operating Standard***

As described in greater detail in Chapter 2, Waukesha County funds portions of local transit services that provide connections between Waukesha County and Milwaukee County, including the Route 1 extension between Goerke's Corners in the Town of Brookfield and Brookfield Square Mall and the Gold Line connection that runs along Bluemound Road between Brookfield Square Mall and 124th Street. Both of these transit routes operate along a major travel corridor and connect areas with high density employment, substantial residential development, and major activity centers in the Region. Therefore, Waukesha County fulfills the Local Bus Service Operating Standard.

***Commuter Bus Service and Paratransit Design and Operating Standard***

Overall, transit service provided by Waukesha County fulfills the Commuter Bus Service Standard as the commuter routes serve major travel corridors and connect major activity centers and concentrations of significant urban development within the Region. Waukesha County's paratransit service also fulfills the operating standard as the County provides paratransit service to origins and destinations within 0.75 miles of the Route 901.

***Major Activity Centers Performance Standard***

The Major Activity Centers Performance Standard encourages maximizing the number of major activity centers used by transit-dependent people served by transit. Determining how many major activity centers are served by Waukesha County Transit requires looking at different types of activity centers in Waukesha County and Milwaukee County. In Waukesha County, the analysis considers how accessible the commuter routes are for transit-dependent individuals that reside in the County and wish to travel to Milwaukee County. For those who travel to Milwaukee County, a second analysis considers how many activity centers are accessible by the commuter routes for those walking from a bus stop and those individuals making a connecting trip on local transit service.

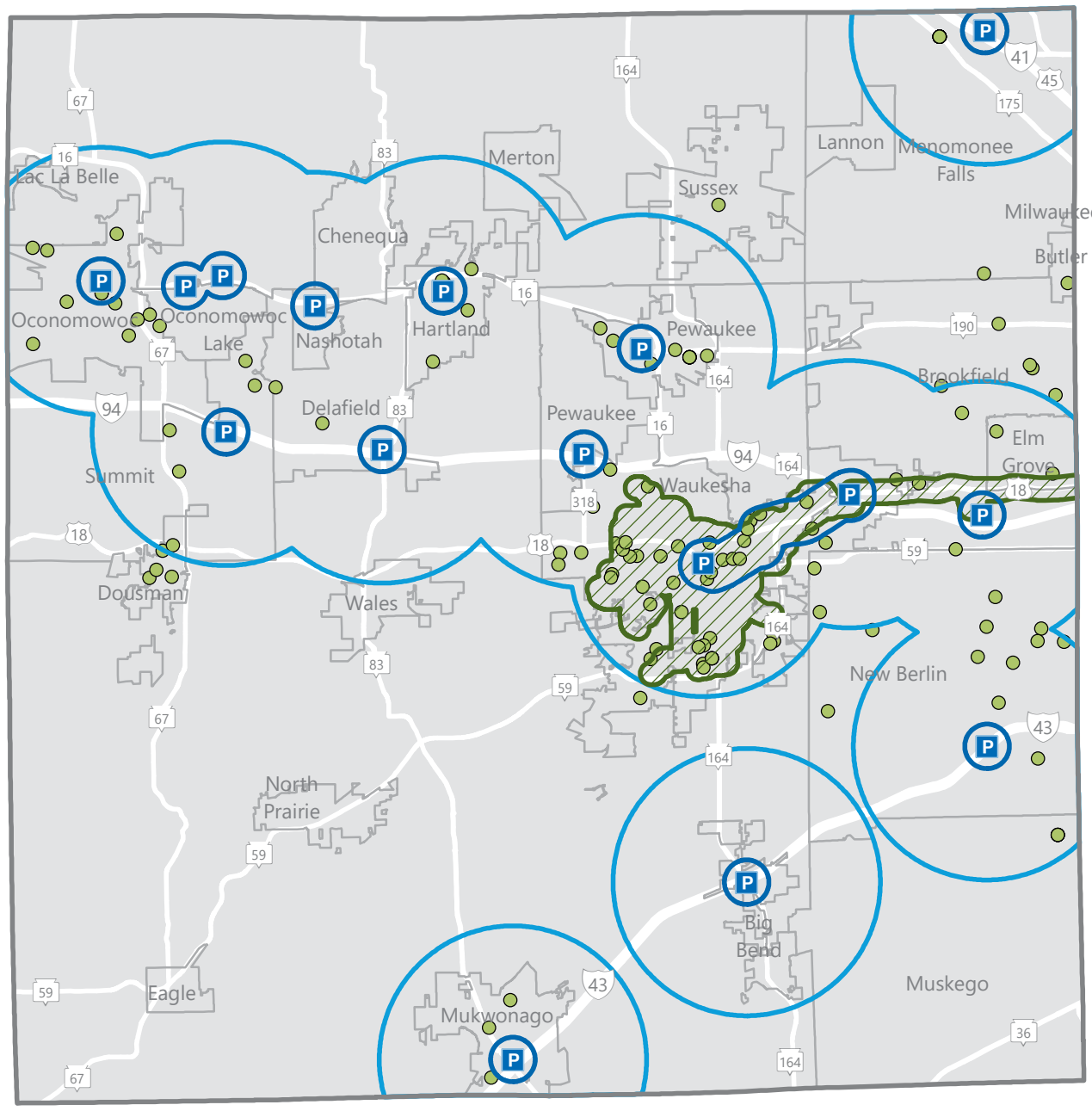
To analyze access to major activity centers for individuals commuting into Milwaukee County, Map 4.9 displays the location of residential facilities for transit-dependent populations in Waukesha County, while Table 4.13 quantifies the number and percentage of these facilities within a half-mile or less, three miles or less, and within a 15-minute connecting trip on local transit. As shown in Table 4.13, 14 percent of residential facilities for transit-dependent individuals can access a Waukesha County commuter bus stop with up to a half-mile walk, whereas 30 percent of transit-dependent individuals can access a commuter bus stop with a half-mile walk and a 15-minute ride on a connecting local bus service provided by Waukesha Metro.

Map 4.10 shows the Milwaukee County major institutions of higher education, major medical facilities, and major economic activity centers, and also displays the areas within one-half mile from a Waukesha Commuter Bus route and within one-quarter mile of a 15-minute ride on a connecting local bus service provided by MCTS. Table 4.13 shows that nearly 30 percent of the major employers in Milwaukee County are served by Waukesha County Commuter routes and connecting local bus service. Over half of the major institutions of higher education and about 27 percent of the major economic activity centers are accessible via Waukesha County Commuter Bus routes or a connecting local service.

Waukesha County Transit Route 901 provides reverse commute service from the Downtown Transit Center in the City of Waukesha to downtown Milwaukee, with limited service to the UW-Milwaukee campus in the City of Milwaukee during fall and spring semesters. In order to evaluate the number of activity centers in Milwaukee County and Waukesha County served by the Route 901's reverse commute, Map 4.11 displays major activity centers within one-half mile of Route 901 and within one-quarter mile of a 15-minute ride on a connecting local bus service. Table 4.14 quantifies the number and percentage of the activity centers in Milwaukee County and Waukesha County that are served by the Route 901's reverse commute trips. As shown in Table 4.14, approximately 1 percent of residential facilities for transit dependent populations in Milwaukee County are within walking distance of the Route 901, whereas nearly 14 percent of transit- dependent individuals can access a bus stop with a half-mile walk and a 15-minute ride on a connecting local bus service.

Table 4.14 also shows the major activity centers served in Waukesha County for those bus riders taking the Route 901 from Milwaukee County to Waukesha County. Specifically, Table 4.14 shows that about 33 percent of major economic activity areas and 24 percent of major employers in Waukesha County are served by the Route 901 and a 15-minute ride on a connecting local bus service. The Route 901 also serves approximately

## Map 4.9
## Waukesha County Residential Facilities Served by Waukesha County Transit




**MAJOR ACTIVITY CENTERS**

- RESIDENTIAL FACILITIES FOR SENIORS, PEOPLE WITH DISABILITIES, AND LOW-INCOME HOUSEHOLDS

**WAUKESHA COUNTY TRANSIT SERVICE AREA**

- ONE-QUARTER TO ONE-HALF MILE FROM BUS ROUTES
- THREE MILE DRIVE RADIUS
- ONE-QUARTER MILE FROM CONNECTING LOCAL BUS ROUTES
- PARK-RIDE LOT

N

0 1 2 3 4 Miles

*Source: SEWRPC*

**Table 4.13**
**Major Activity Centers Served by Waukesha County Transit for Traditional Commuters**

| In Waukesha County | | | |
|---|---|---|---|
| **Major Activity Center Type** | **Distance from Bus Stop Served by Waukesha County Transit** | **Number of Activity Centers Served** | **Percent of All Activity Centers of Type Within County** |
| Residential Facilities for Transit-Dependent Populations | Half-mile or Less | 19 of 136 | 14.0 |
| | Within 15 Minutes on a Connecting Local Transit Service | 41 of 136 | 30.1 |
| | 3 Miles or Less | 120 of 136 | 88.2 |

| In Milwaukee County | | | | |
|---|---|---|---|---|
| | **Within Walking Distance of a Bus Stop Served by Waukesha County Transit** | | **Within 15 Minutes on a Connecting Local Transit Service** | |
| **Major Activity Center Type** | Number | Percent | Number | Percent |
| Major Employers | 81 of 514 | 15.8 | 153 of 514 | 29.8 |
| Major Economic Activity Center | 2 of 15 | 13.3 | 4 of 15 | 26.7 |
| Job Resource Centers | 0 of 2 | -- | 1 of 2 | 0.5 |
| Major Medical Facilities | 1 of 45 | 2.2 | 13 of 45 | 28.9 |
| Major Institutions of Higher Education | 5 of 9 | 55.6 | 5 of 9 | 55.6 |

*Source: SEWRPC*

67 percent of institutions of higher education and 11 percent of major medical facilities with a 15-minute connecting trip on local transit. However, no job resources centers in Waukesha County are accessible from the Route 901.

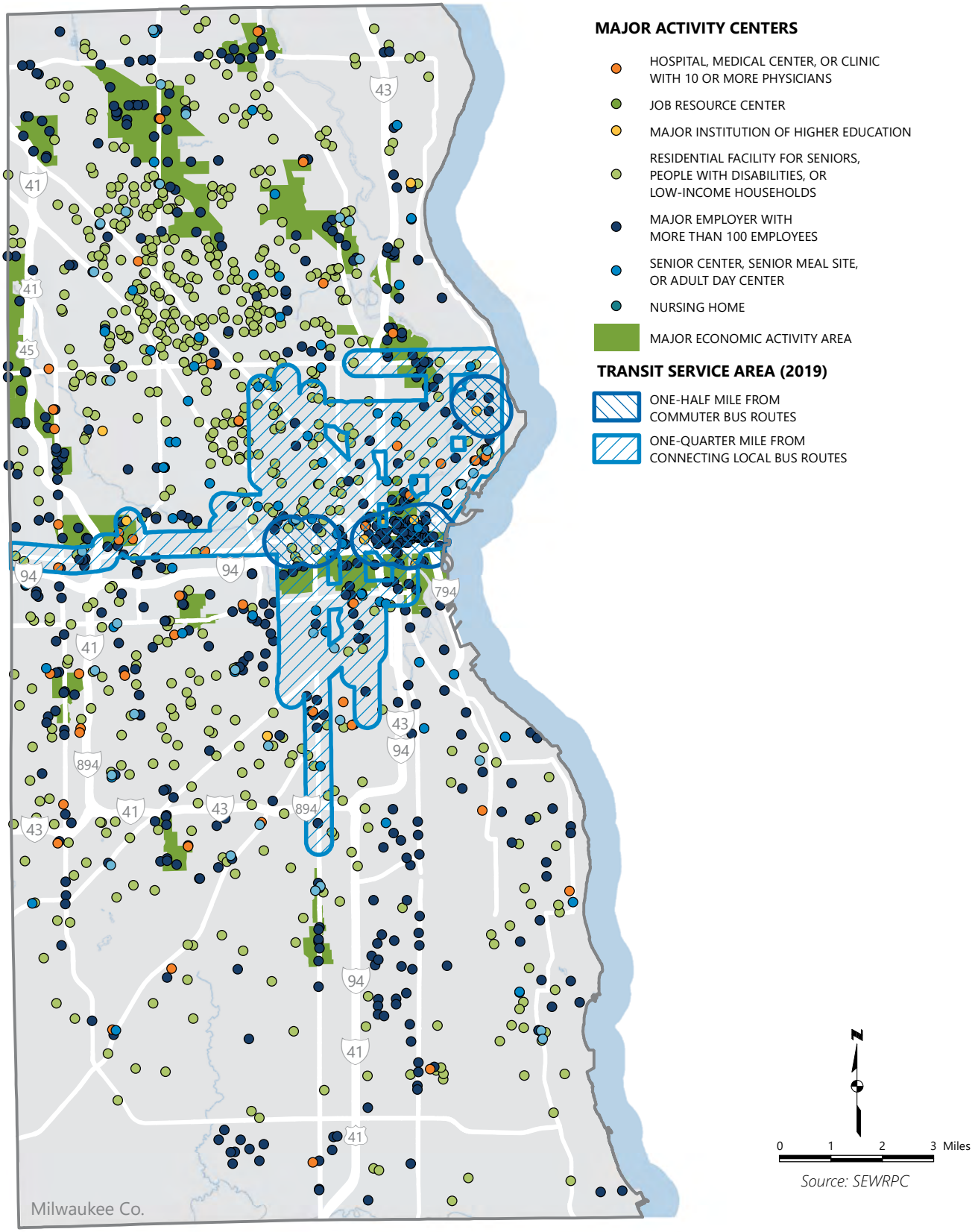
Table 4.15 quantifies those major activity centers in Waukesha County that are served by Waukesha County Transit's local service, including the Route 1 extension and the Gold Line connection. The Route 1 extension includes the segment between the Goerke's Corners Park & Ride Lot and the Brookfield Square Mall, providing service every 30 minutes on weekdays, Saturday, and Sunday. The Gold Line connection provides service along Bluemound Road, between Brookfield Square Mall and 124th Street and operates seven days a week with 15 minute frequencies during peak commute times, connecting to Waukesha Metro Route 1 at Brookfield Square Mall. The local services provided by Waukesha County Transit provide somewhat limited accessibility to major activity centers in Waukesha County. Specifically, approximately 24 percent of major employers are accessible with a connecting ride on local bus service provided by Waukesha Metro, while approximately 68 percent of institutions of higher education are served with a connecting local bus service. Based on these data, Waukesha County Transit partially fulfills this standard.

***Population Performance Standard***

The Population Performance Standard recommends maximizing the number of residents with access to transit. This is evaluated by measuring the number of people that are within a half-mile walk radius of park-ride lots served by Waukesha County Commuter Bus routes, the number of people within a quarter-mile walk radius of a 15-minute ride on a connecting local bus service provided by Waukesha Metro or MCTS, and within a three-mile driving distance of a park-ride lot with a bus stop. Map 4.12 displays the residential population density by quarter section in Waukesha County, with the half-mile, three-mile and walking plus transit access distance from each park-ride lot served by Waukesha County Transit overlaid on top. As of the 2010 U.S. Census, approximately 36,500 residents (9 percent of all County residents) lived within a half-mile of a park-ride lot served by Waukesha County Commuter routes, approximately 73,100 residents lived within a quarter-mile walk of a Waukesha Metro or MCTS route that connects to the commuter routes, and approximately 275,000 residents (70 percent of all County residents) lived within a three-mile drive of a park-ride lot served by Waukesha County Commuter routes.

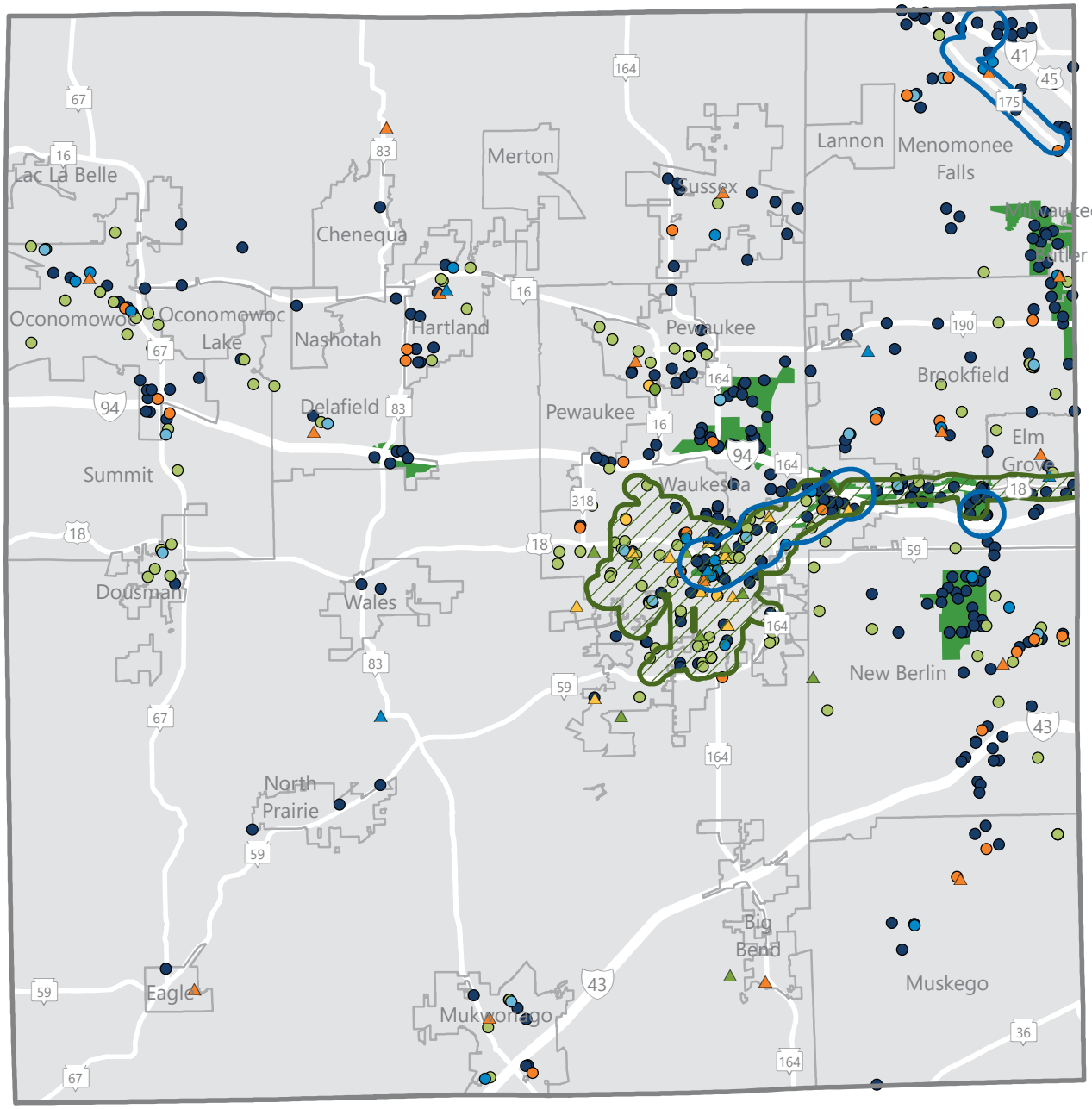
To measure access to transit for individuals commuting to a job in Waukesha County, Map 4.13 displays the residential population density by quarter-section in Milwaukee County, with a one-half mile walking distance

## Map 4.10
## Major Activity Centers in Milwaukee County Served by Waukesha County Transit




*Source: SEWRPC*

## Map 4.11
## Waukesha County Activity Centers Served by Waukesha County Transit Route 901 Reverse Commute




**MAJOR ACTIVITY CENTERS**

- HOSPITAL, MEDICAL CENTER, OR CLINIC WITH 10 OR MORE PHYSICIANS
- RESIDENTIAL FACILITY FOR SENIORS, PEOPLE WITH DISABILITIES, OR LOW-INCOME HOUSEHOLDS
- SENIOR CENTER, SENIOR MEAL SITE, OR ADULT DAY CENTER
- JOB RESOURCE CENTER
- MAJOR EMPLOYER WITH MORE THAN 100 EMPLOYEES
- MAJOR INSTITUTION OF HIGHER EDUCATION
- NURSING HOME
- GOVERNMENTAL OR INSTITUTIONAL CENTER
- PUBLIC LIBRARY
- CULTURAL CENTER
- PUBLIC COMMUNITY OR REGIONAL PARK
- PUBLIC OR PRIVATE MIDDLE OR HIGH SCHOOL
- MAJOR ECONOMIC ACTIVITY AREA

**WAUKESHA COUNTY TRANSIT SERVICE AREA**

- ONE-QUARTER TO ONE-HALF MILE FROM BUS ROUTES
- ONE-QUARTER MILE FROM CONNECTING LOCAL BUS ROUTES

N

0 1 2 3 4 Miles

*Source: SEWRPC*

## Table 4.14
## Major Activity Centers Served by Waukesha County Transit for Reverse Commuters

| In Milwaukee County | | | | |
|---|---|---|---|---|
| | Within Walking Distance of a Bus Stop Served by Waukesha County Transit | | Within 15 Minutes on a Connecting Local Transit Service | |
| **Major Activity Center Type** | Number | Percent | Number | Percent |
| Residential Facilities for Transit-Dependent Populations | 8 of 613 | 1.3 | 84 of 613 | 13.7 |
| Senior Center | 4 of 65 | 6.2 | 25 of 65 | 38.5 |
| Nursing Home | 1 of 33 | 3.0 | 7 of 33 | 21.2 |

| In Waukesha County | | | | |
|---|---|---|---|---|
| | Within Walking Distance of a Bus Stop Served by Waukesha County Transit | | Within 15 Minutes on a Connecting Local Transit Service | |
| **Major Activity Center Type** | Number | Percent | Number | Percent |
| Major Economic Activity Areas | 2 of 6 | 33.3 | 2 of 6 | 33.3 |
| Institutions of Higher Education | 0 of 3 | -- | 2 of 3 | 66.7 |
| Major Medical Facilities | 2 of 27 | 7.4 | 3 of 27 | 11.1 |
| Major Employers | 42 of 332 | 12.7 | 79 of 332 | 23.8 |
| Job Resource Centers | 0 of 1 | -- | 0 of 1 | -- |

*Source: SEWRPC*

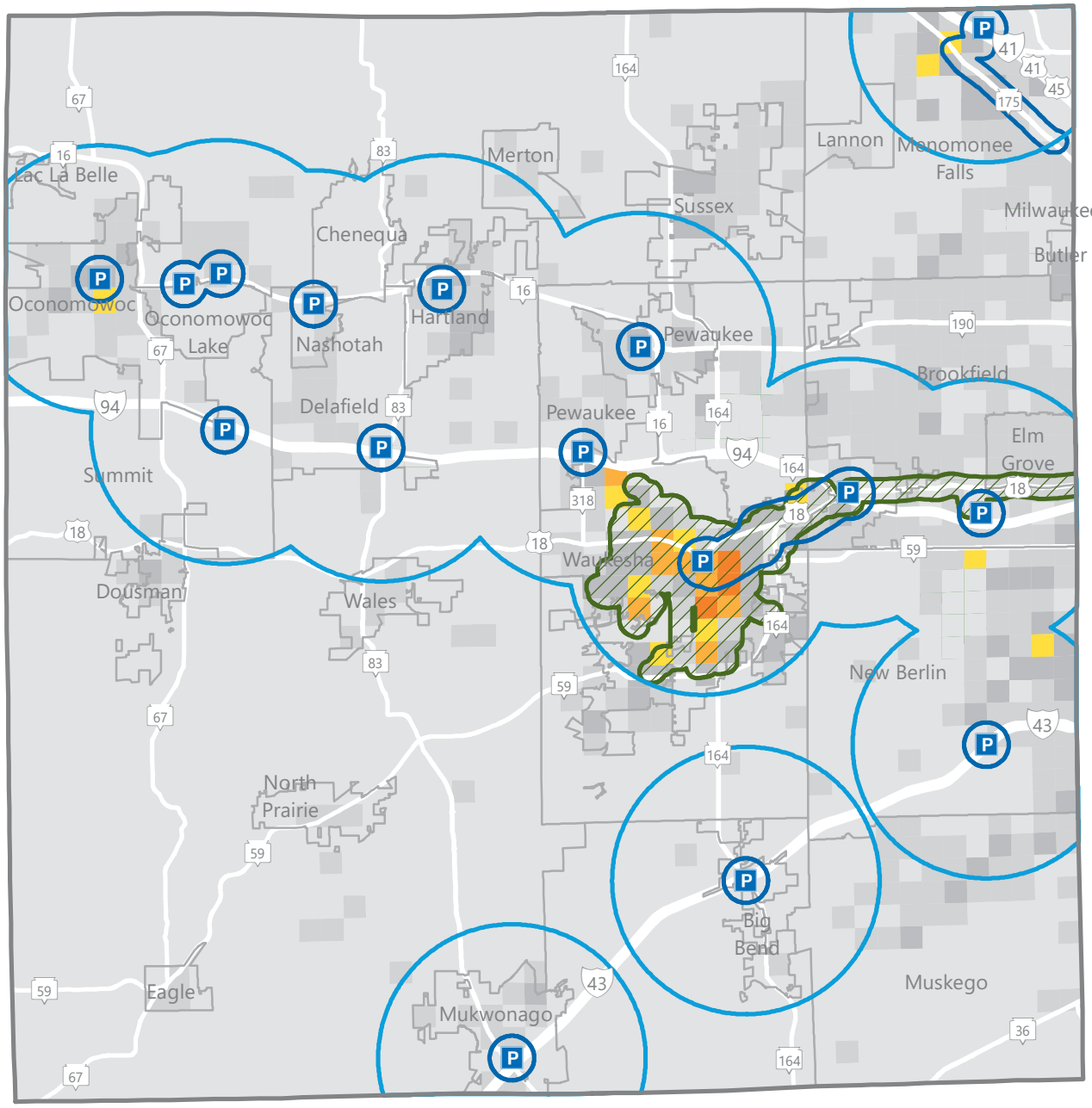
## Table 4.15
## Major Activity Centers Served by Waukesha County Transit Local Service on the Route 1 Extension and the Gold Line Connection

| In Waukesha County | | | | |
|---|---|---|---|---|
| | Within Walking Distance of a Bus Stop Served by Waukesha County Transit | | Within 15 Minutes on a Connecting Local Transit Service | |
| **Major Activity Center Type** | Number | Percent | Number | Percent |
| Major Economic Activity Areas | 2 of 6 | 33.3 | 2 of 6 | 33.3 |
| Institutions of Higher Education | 0 of 3 | -- | 2 of 3 | 66.7 |
| Middle Schools and High Schools | 6 of 15 | 40.0 | 13 of 15 | 86.7 |
| Hospitals, Medical Centers, and Major Clinics | 1 of 27 | 3.7 | 3 of 27 | 11.1 |
| Major Employers | 37 of 332 | 11.1 | 79 of 332 | 23.8 |
| Senior Centers, Senior Meal Sites, and Adult Day Centers | 8 of 23 | 34.8 | 10 of 23 | 43.5 |
| Residential Facilities for Seniors, People with Disabilities, and Low-Income Households | 12 of 136 | 8.8 | 35 of 136 | 25.7 |
| Nursing Homes | 1 of 16 | 6.3 | 4 of 16 | 25.0 |
| Job Resource Centers | 0 of 1 | -- | 0 of 1 | -- |
| Libraries | 1 of 16 | 6.3 | 1 of 16 | 6.3 |
| Governmental and Public Institutional Centers | 0 of 1 | -- | 1 of 1 | 100.0 |
| Community or Regional Park | 3 of 10 | 30.0 | 6 of 10 | 60.0 |
| Cultural Centers | 1 of 5 | 20.0 | 1 of 5 | 20.0 |

*Source: SEWRPC*

of a Commuter Bus route and a one-quarter mile walking distance of a 15-minute ride on a connecting local bus service overlaid on top. As of the 2010 U.S. Census, approximately 38,400 residents (4 percent of all Milwaukee County residents) live within a one-half mile walk from a bus stop served by Waukesha County Commuter Bus routes and 257,800 residents (27 percent of all Milwaukee County residents) live within one quarter-mile walk of a local route that connects to Waukesha County Commuter Bus routes in 15 minutes or less, including Waukesha County Transit's Gold Line connection. Overall, Waukesha County Transit largely fulfills the Population Performance Standard, with a majority of Waukesha County residents within a three-mile drive of a park-ride lot served and a significant number of Milwaukee County residents that can connect to Waukesha County Transit via a local bus route.

## Map 4.12
## Population in Waukesha County Served by Waukesha County Transit




**POPULATION BY QUARTER SECTION (2010)**

| | |
|---|---|
| 0 - 250 | 1,195 - 1,500 |
| 251 - 750 | 1,501 - 2,000 |
| 751 - 1,194 | 2,001 - 2,329 |

**WAUKESHA COUNTY TRANSIT SERVICE**

- ONE-QUARTER TO ONE-HALF MILE FROM BUS ROUTES
- THREE MILE DRIVE RADIUS
- ONE-QUARTER MILE FROM CONNECTING LOCAL BUS ROUTES
- PARK-RIDE LOT

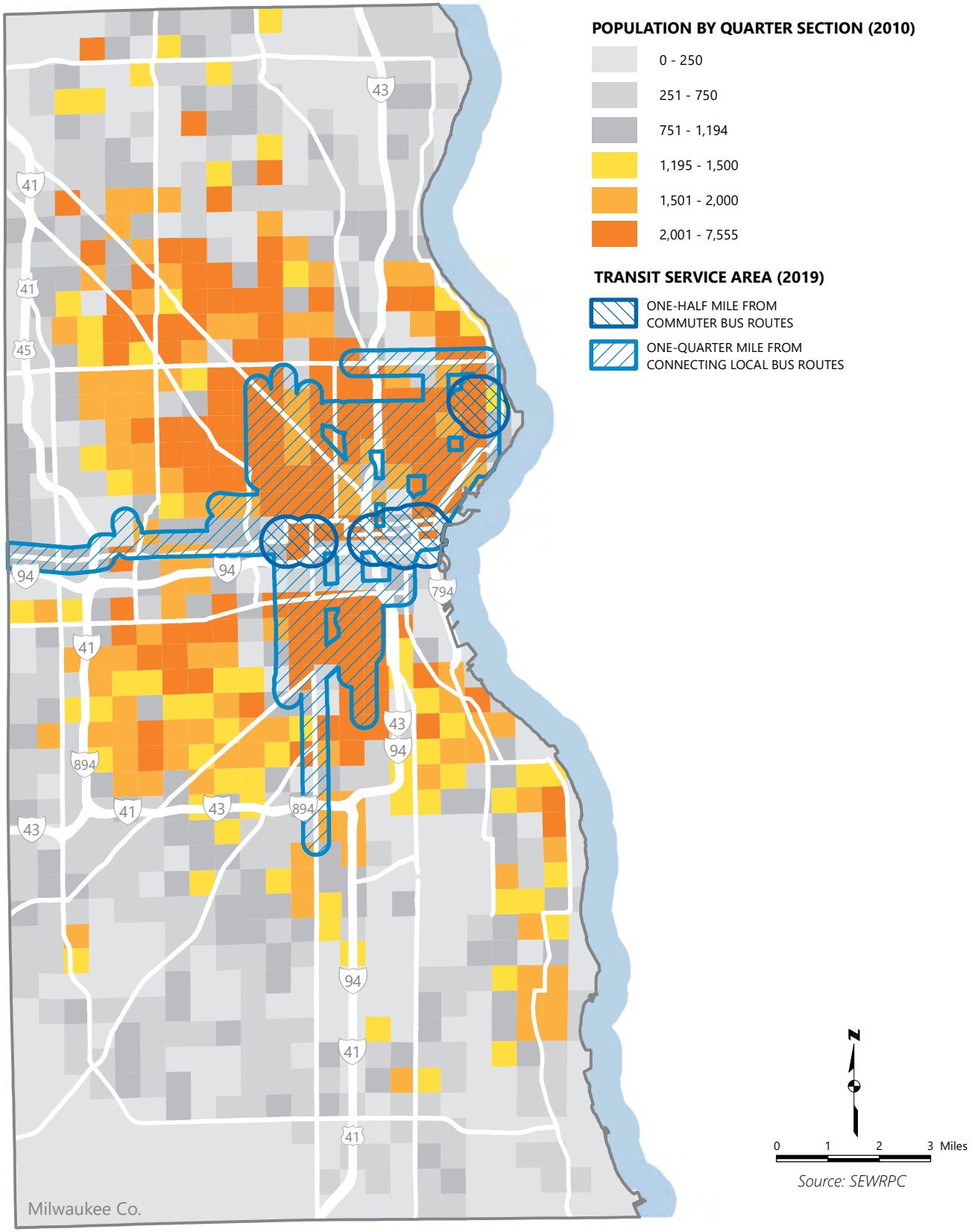
N

0 1 2 3 4 Miles

Note: Population threshold (1,195+) based on the minimum residential density (3 units per gross acre) determined to support transit service as identified in TCRP 165: Transit Capacity and Quality of Service Manual, 3rd Edition (2013). Persons per unit (2.49) based on U.S. Census, American Community Survey, 2013-2017.

*Source: SEWRPC*

## Map 4.13
## Population in Milwaukee County Served by Waukesha County Transit




*Source: SEWRPC*

Areas with High Transit Needs Served

Commission staff developed a transit needs index using population data to identify areas of greatest potential transit needs in Waukesha County, including the Waukesha Metro service area, as shown on Map 4.3. U.S. Census block groups within Waukesha County were ranked according to percent of population falling into each of these "transit dependent" categories: school-age children (ages 10 through 17), seniors (ages 75 and older), persons in low-income households, people with disabilities, and households with no vehicle available. Each block group was then scored according to rank, with those block groups with the lowest percentage of a transit-dependent category given a score of "1," while groups with the highest percentage were given a score of "4." The resulting scores were summed for each block group and created an index ranging from 5 to 20. The transit needs were separated into four levels; low (5 through 8), marginal (9 through 12), moderate (13 through 16), and high (17 through 20). Although this methodology does not quantify the potential transit demand, it does indicate where transit needs may be greatest based on resident population characteristics. Waukesha County provides service to areas with the greatest potential transit needs, including 5 of 22 Census block groups with high transit needs and 17 of 123 Census block groups designated as having moderate transit needs.

***Employment Performance Standard***

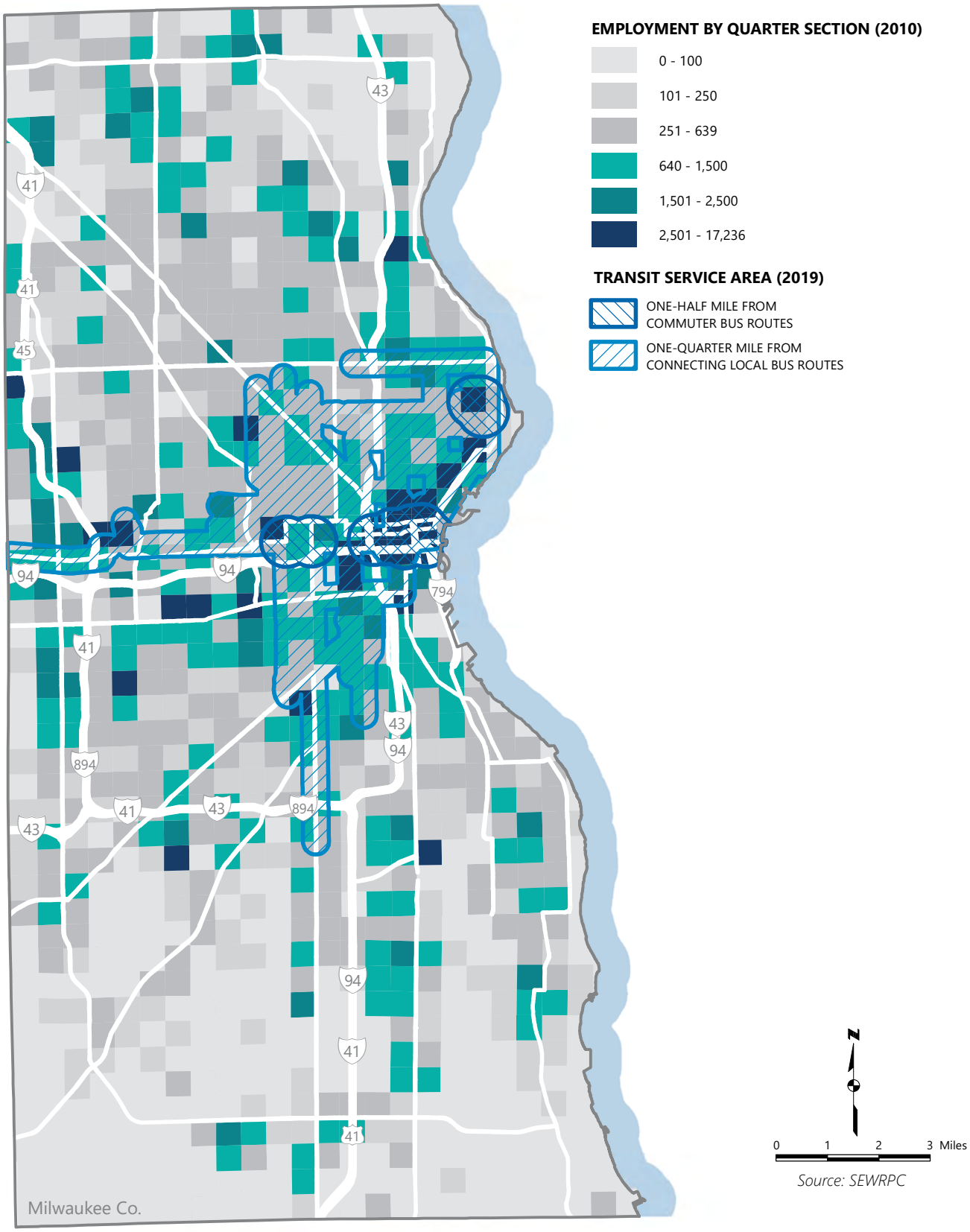
The Employment Performance Standard recommends maximizing the number of jobs accessible by transit. The total employment within walking distance of a Waukesha County Commuter bus stop or a 15-minute ride on a connecting local bus service was measured to determine how well Waukesha County fulfills the Employment Standard. Map 4.14 displays the employment density by quarter section in Milwaukee County with transit service walk access distances overlaid on top. Many of the highest employment density areas in the region are served by Waukesha County Transit with approximately 95,700 jobs (17 percent of all Milwaukee County jobs in 2010) within a one-half mile walk of a bus stop served by Waukesha County Transit. In addition, approximately 210,900 jobs, or 37 percent of all Milwaukee County jobs in 2010, are within a one-quarter mile walk of a local route that connects to Waukesha County routes in 15 minutes or less. This is not intended to indicate that all of the jobs are served, as service hours and frequency on Waukesha County Transit are unlikely to align with every job within walking distance of a bus stop.

To measure access to transit for individuals commuting to a job in Waukesha County, Map 4.15 displays the employment density by quarter-section in Waukesha County, with a half-mile walk radius from Waukesha County bus stops and areas that are within a one-quarter mile walk of a connecting local route operated by Waukesha Metro displayed. Approximately 32,600 jobs (12 percent of all Waukesha County jobs in 2010) are within a one-half mile walk distance of a bus stop served by Waukesha County Transit and approximately 64,700 jobs (24 percent of all Waukesha County jobs in 2010) are within a one-quarter mile walk of a local route that connects to Waukesha County Transit in 15 minutes or less. As with the map of Milwaukee County, this is not intended to indicate that all of those jobs are served, as service hours and frequency on Waukesha County Transit are unlikely to align with every job within that buffer. Although Waukesha County Transit serves many of the highest employment density areas in Milwaukee County, the percentage of Waukesha County jobs served by Waukesha County Transit is relatively low. In addition, only Route 901 offers reverse commute service, which limits the number of jobs served due to the restricted service hours and frequency. The number of jobs accessible in Waukesha County could be increased by potential partnerships with ride-hailing services or providing flexible shuttles to areas with a concentration of jobs. The Gold Line connection provides more frequent all-day service between the City of Waukesha and Milwaukee County along Bluemound Road, although the trip from the Milwaukee Regional Medical Center to the Downtown Transit Center can be lengthy, with trip times over one hour, which can be over twice the travel time by automobile. As a result, Waukesha County Transit partially fulfills the Employment Performance Standard.

***Density Performance Standard***

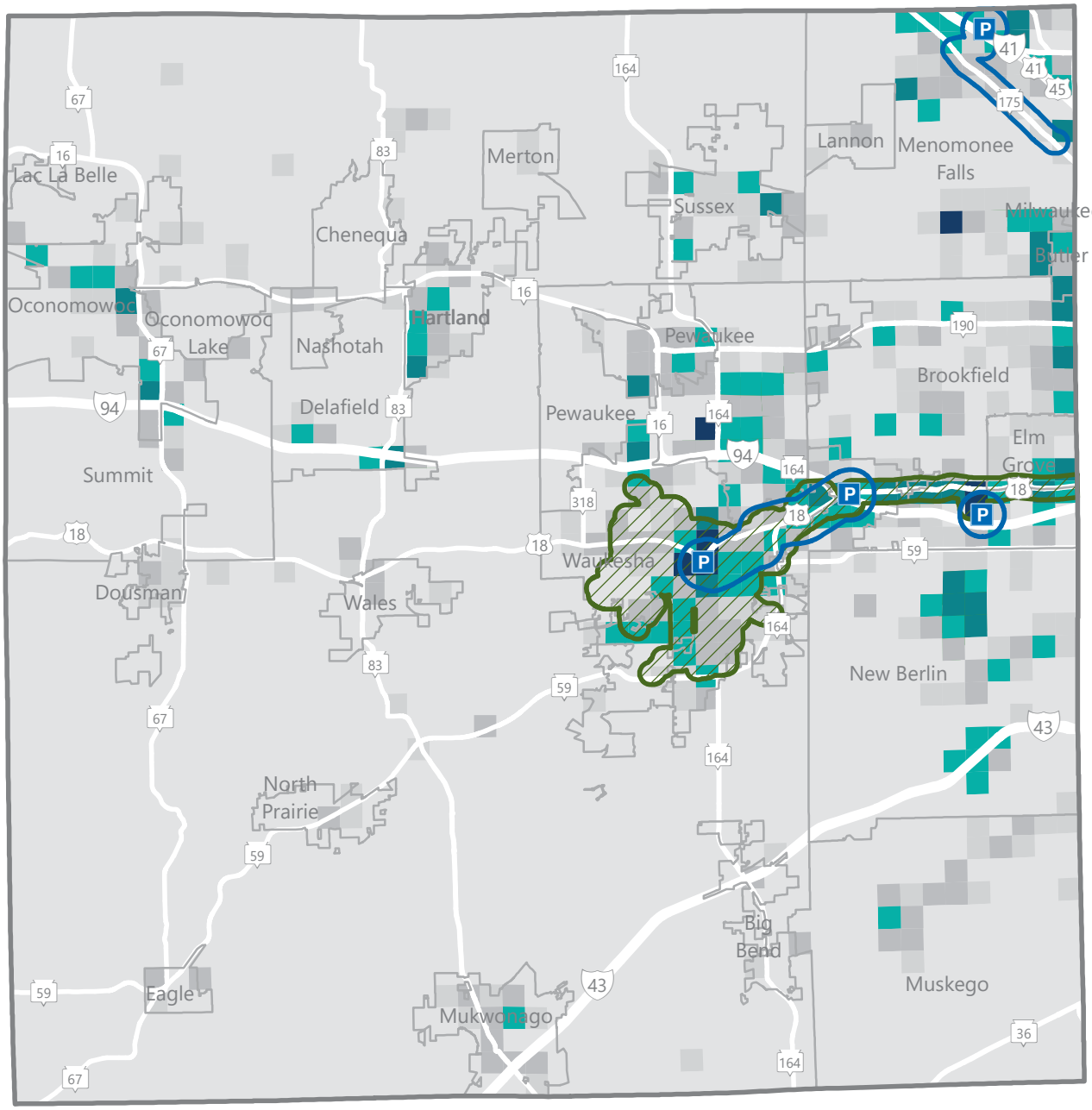
The Density Performance Standard seeks to maximize the transit-supportive land area accessible by public transit. Based on National Standards established by the *Transit Cooperative Research Program Report 165: Transit Capacity and Quality of Service Manual*, land area is considered transit-supportive if it has a density of four jobs per gross acre and a household density of three units per gross acre. The population and employment density was initially identified using quarter section data provided by the U.S. Census American Community Survey and from SEWRPC's 2010 employment survey. The density thresholds were converted to quarter section areas to match the data available, resulting in a minimum of 640 jobs per quarter section and 1,195 people per quarter section.

## Map 4.14
## Employment in Milwaukee County Served by Waukesha County Transit




*Source: SEWRPC*

## Map 4.15
## Employment in Waukesha County Served by Waukesha County Transit




**EMPLOYMENT BY QUARTER SECTION (2010)**

| | |
|---|---|
| 0 - 100 | 640 - 1,500 |
| 101 - 250 | 1,501 - 2,500 |
| 251 - 639 | 2,501 - 5,329 |

**WAUKESHA COUNTY TRANSIT SERVICE**

- ONE-QUARTER TO ONE-HALF MILE FROM BUS ROUTES
- ONE-QUARTER MILE FROM CONNECTING LOCAL BUS ROUTES
- P — PARK-RIDE LOT

Note: Employment threshold (640+) based on the minimum employment density (4 jobs per acre) determined to support transit service as identified in TCRP 165: Transit Capacity and Quality of Service Manual, 3rd Edition (2013).

N

0 1 2 3 4 Miles

*Source: SEWRPC*

The Density Performance Standard described in this section compares quarter sections that could be considered transit supportive based on population and employment densities either individually or combined. Map 4.16 identifies those quarter sections that have employment and population densities that exceed thresholds considered appropriate to support transit service based on National standards.

When combining the existing population and jobs present by quarter section to determine if transit-supportive densities are present, a scoring metric was developed to equate the value of each person or job in terms of generating transit ridership. On a scale of 0 to 100, a point was given to a quarter section for each 11.95 people or 6.4 jobs. A quarter section was then considered transit supporting if it reached 100 or more points. Those quarter sections that scored a total of 100 points or above are displayed on Map 4.16 as either a shade of orange or hatched lines. The differing shades of orange or shades of hatching indicate the population and employment score for each quarter section meeting the jobs plus population transit-supportive threshold. Map 4.16 shows areas that have both high population and employment densities that are not currently served by transit, including locations in the Village of Sussex along STH 164, the City of Menomonee Falls including Kohl's Corporate Headquarters and nearby businesses, and portions of the City of New Berlin that are comprised of manufacturing facilities and higher density housing. Although these locations are not currently served by fixed-route transit, other mobility options could be considered, such as flexible shuttles or partnerships with ride-hailing services, such as Uber or Lyft. Overall, Waukesha County partially fulfills the Density Performance Standard.

**Objective 2: Operating Safely, Reliably, Conveniently, Comfortably, and Efficiently**

Figure 4.13 contains the applicable standards that were used to determine if Waukesha County Transit is providing a service that is safe, reliable, convenient, comfortable, and efficient.

***Route Design and Operating Standard***

Waukesha County Transit routes provide direct alignments with a limited number of turns or duplicative services, and minimizes unnecessary transfers. Waukesha Metro Transit provides a collector-distributor function generally as appropriate at the ends of the routes.

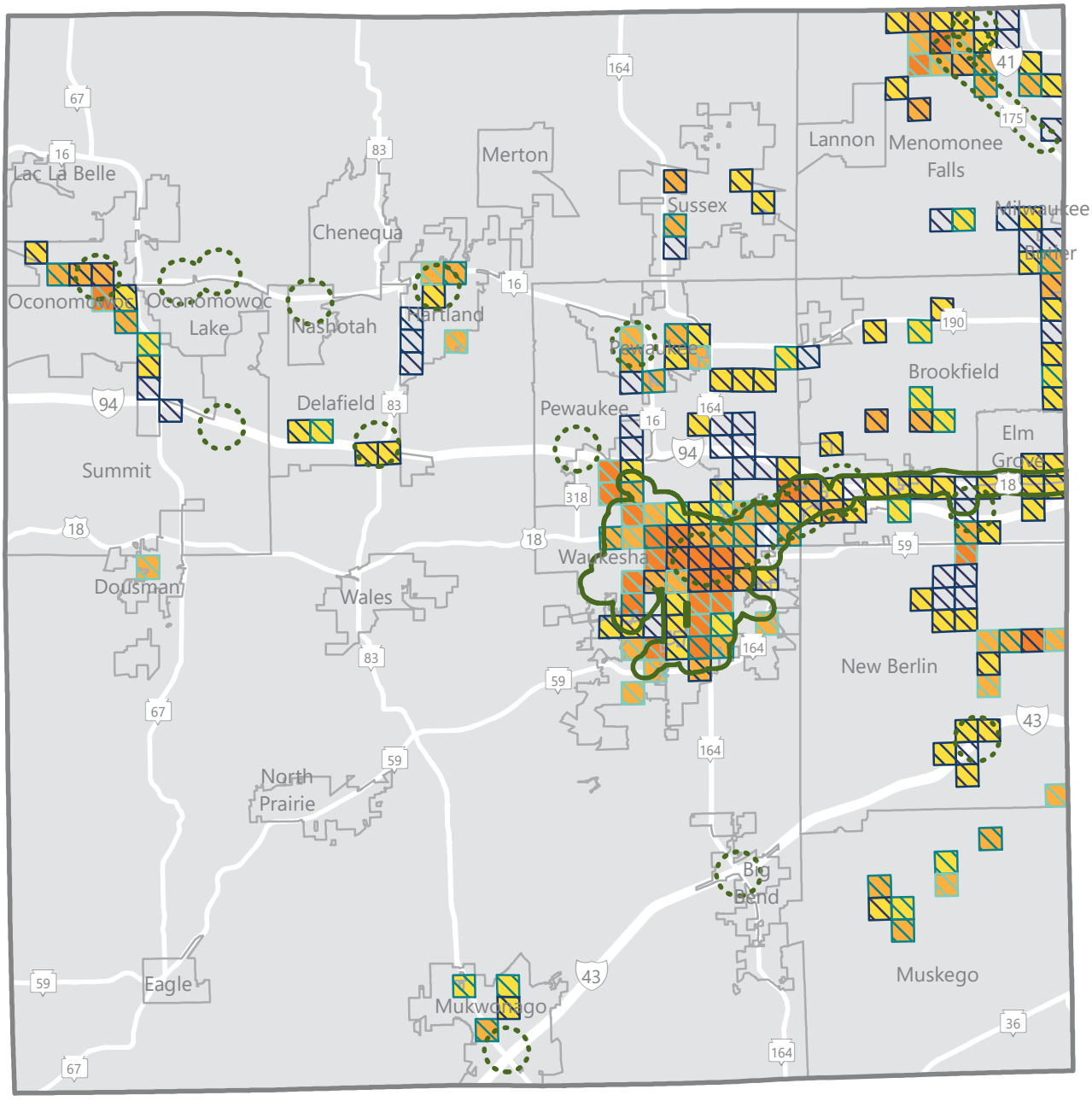
***Bus Stop and Park-Ride Lot Design Standard***

At the request of the Advisory Committee, Commission staff collected and analyzed amenities for 12 bus stop locations served by Waukesha County Transit's 900-series routes. The bus stops served by both Waukesha Metro Transit and Waukesha County Transit are included in the evaluation for Waukesha Metro Transit. Data collected included the presence of signage, a bus pad, curb ramps, and detectable warning surfaces. The inventory also considered the presence of lighting, bus shelters, and if there was noticeable damage to any amenities at the site. The inventory results indicate that some of the 12 bus stop locations served only by Waukesha County Transit are missing signage and curb ramps, as recommended in the bus stop design standard. The bus stop deficiencies include seven bus stop locations requiring signage, two requiring bus pads, nine locations needing detectable warning surfaces, and three locations needing nearby lighting. Table 4.16 summarizes the number and percentage of Waukesha County Transit bus stop locations with deficiencies, including example photos of bus stops without the amenity.

Locations that currently do not include signage include the park-ride lots at STH 16 and CTH P in the Village of Oconomowoc Lake and at STH 16 and CTH C in the Village of Nashotah. In addition, the following locations do not include signage stops: at the intersection of E. Wisconsin Avenue and Shady Lane in the Town of Oconomowoc, stops at the intersection of Capitol Drive and Goodwin Avenue in the Village of Hartland, and the parking lot in the Village of Pewaukee. Signage for bus service can notify current and potential future passengers that commuter service is available and therefore signage improvements are encouraged, along with other improvements to improve the access, comfort, and safety of transit passengers.

The park-ride lots served by Waukesha County Transit are appropriately spaced, well-located, and easy to access by driving, largely due to their accessibility by arterials with quick access to IH 94 and STH 16. However, based on the inventory of bus stop locations served by Waukesha County Transit, some deficiencies exist that reduce the convenience, comfort, and safety of passengers. As a result, Waukesha County Transit partially fulfills the Bus Stop and Park-Ride Lot Design Standard. The County could pursue Federal Transit Administration Enhanced Mobility for Seniors and Individuals with Disabilities Program (Section 5310)

## Map 4.16
## Waukesha County Relative Population Plus Employment Score for Transit Supportive Land Uses by Quarter Section and Existing Transit Service Areas




**POPULATION SCORE**

- 1 - 49
- 50 - 99
- 100 - 195

**EMPLOYMENT SCORE**

- 10 - 49
- 50 - 99
- 100 - 833

**TRANSIT SERVICE AREA**

- LOCAL TRANSIT (ONE-QUARTER MILE FROM BUS ROUTES)
- COMMUTER ROUTES (ONE-HALF MILE FROM BUS ROUTES)

Note: Population + Employment Density Score was calculated by identifying a minimum transit threshold for both population and employment and equalizing them on a weighted scoring scale. Any quarter section scoring 100 or above meets the minimum threshold for transit service. Only quarter sections scoring 100 or above are shown, and the range of weighted scores are provided in the legend.

N

0 1 2 3 4 Miles

*Source: SEWRPC*

## Figure 4.13
## Objective 2 and Associated Standards Applicable to the Evaluation of the Waukesha County Transit System

### Objective 2

**Provide efficient, safe,[a] reliable, convenient, and comfortable transit services in the City of Waukesha**

### Associated Public Transit Principle

The benefits to the entire public of a transit service are directly related to the level of utilization—measured by ridership—of that service. Ridership is influenced by the level of access the public has to services that are reliable and provide for quick, convenient, comfortable, and safe travel. Riders view transit services with these attributes as an effective and attractive alternative to the private automobile.

### Design and Operating Standards

**1. Route Design**

Extend commuter bus routes as needed or pair them with a local shuttle to perform a collection-distribution function at the ends of the route. Public transit routes should have direct alignments with a limited number of turns and should be arranged to minimize duplication of services and unnecessary transfers.

**2. Bus Stop and Park-Ride Lot Design**

Clearly mark bus stops and park-ride lots with easily recognizable signs or shelters and locate them so as to minimize the walking or driving distance over an accessible path to and from residential areas and major activity centers, and to facilitate connections with other transit services where appropriate. For local routes, place stops approximately every three blocks and provide accessible paths and crosswalks to bus stops.[b] For express transit routes, place stops at intersecting transit routes, signalized intersections, and major activity centers. Place park-ride lots at least one mile apart on commuter bus routes. Within business parks, stop spacing may need to differ from standard local route stop spacing based on the spacing between businesses and the presence or lack of sidewalks and crosswalks.

**3. Passenger Demand**

The maximum load factor for each route, measured as the ratio of passengers to seats at that point where passenger loads are highest, should not exceed the following:

| Service Type | Peak Periods | All Other Times |
|---|---|---|
| Local | 1.25 | 1.00 |
| Commuter | 1.00 | 1.00 |

**4. Service Frequency and Availability**

Operate all fixed-route transit services, as noted in the table below.

| | Maximum Headway (minutes) | |
|---|---|---|
| Service Type | Weekday Peak Periods | Off-Peak Periods/ Weekends/Holidays |
| Rapid | 15 | 15 |
| Commuter | 30 | 120 |
| Express | 15 | 30 |
| Local/Shuttle | 30 | 60 |

**5. Service Travel Speeds**

Operate transit services such that average travel speeds are not less than 10 miles per hour for local fixed-route services, and not less than 25 miles per hour for commuter bus services.

### Performance Standards and Associated Performance Measures

**1. Ridership and Service Effectiveness**

Maximize ridership on and the effectiveness of transit services. This is measured using passengers per capita, total passengers per vehicle hour, total passengers per vehicle mile, and passenger miles per vehicle mile, which will be compared to similar transit systems.

Transit services with service effectiveness measures more than 20 percent below the median of the peer comparison group, with less than 10 passengers per revenue vehicle hour, or less than one passenger per revenue vehicle mile should be reviewed for potential changes to their routes, runs, service areas, and service periods.

**2. Travel Time**

Keep travel times on transit services reasonable in comparison to travel time by automobiles for similar trips. This standard is measured using the ratio of transit to automobile distance and the ratio of transit to automobile travel time.

[a] *The Federal Transit Administration published the Public Transportation Agency Safety Rule (49 CFR part 673) on July 19, 2018, requiring transit operators to develop safety plans, including safety performance measures by July 20, 2020. Waukesha Metro and Waukesha County Transit have good safety records and are in compliance with the Safety Rule.*

[b] *This standard encourages that accessible sidewalks and crosswalks be provided to bus stops and that all pedestrian facilities be designed and constructed in accordance with the Federal American with Disabilities Act (ADA) and its implementing regulations.*

*Source: SEWRPC*

## Table 4.16
## Waukesha County Transit Bus Stop Deficiencies Summary

| Number of Bus Stop Locations with Deficiency | Percentage of Bus Stop Locations with Deficiency | Definition | Photo of Deficiency |
|---|---|---|---|
| | | No Signage | |
| 7 | 58.3 | Missing signage that indicates where the bus will stop |  *Village Parking Lot* *(Village of Pewaukee)* |
| | | No Bus Pad | |
| 2 | 16.7 | No paved waiting area with access to and from the stop |  *Collins and Cross Parking Lot* *(City of Oconomowoc)* |
| | | No Detectable Warning Surface | |
| 9 | 75.0 | Walking surface with small truncated domes to provide a tactile cue for pedestrian with visual impairments |  *STH 16 and CTH C* *(Village of Nashotah)* |

**Table continued on next page.**

**Table 4.16 (Continued)**

| Number of Bus Stop Locations with Deficiency | Percentage of Bus Stop Locations with Deficiency | Definition | Photo of Deficiency |
|---|---|---|---|
| No Nearby Lighting | | | |
| 3 | 25.0 | Bus stops without nearby light poles and lacking light sources that could provide adequate ambient lighting |  *STH 16 and CTH P (Village of Oconomowoc Lake)* |

*Source: Waukesha County Transit and SEWRPC*

funding, which would reimburse 80 percent of the cost of construction of many of the missing bus stop amenities. Additional information on specific improvement recommendations and costs can be found in Chapter 5, Recommended Transit Services.

***Passenger Demand***

This standard recommends that the average ratio of peak passengers to seats on the Waukesha County Transit Commuter Routes not exceed 1.00. The vehicles used on the 900 series commuter bus routes have 46 seats. During the sample data provided by Waukesha Metro for dates in April 2019 and March 2018, the peak load on any route and any run was 31, which occurred on the first morning eastbound Route 905.

Passenger data provided by Waukesha Metro indicates that passenger loads for the Route 1 Extension between Goerke's Corners Park & Ride Lot and the Brookfield Square Mall do not exceed the maximum standard of 1.25 during peak operating hours or 1.00 during all other operating times. For the portion of the Gold Line connection operating in Waukesha County, the stop at the Brookfield Square Mall has the highest amount of boardings and alightings, while the other stops along Bluemound Road in Waukesha County have significantly less ridership. The vehicles operated by MCTS for the Gold Line connection have 32 seats. Based on boarding and alighting data by stop collected by MCTS in the of Fall 2018, there were approximately 71 boardings and alightings (64 boardings and 7 alightings) during the peak afternoon commute period. As a result, passenger loads likely exceed the maximum standard of 1.25 during the afternoon peak at the Brookfield Square Mall transfer point. In summary, the 900-series routes meet the Passenger Demand Standard, while the Gold Line connection likely exceeds the standard during the afternoon peak commute times. Therefore, Waukesha County Transit largely fulfills the Passenger Demand Standard.

***Service Frequency and Availability Operating Standard***

Fulfilling the Service Frequency and Availability Standard requires that service be provided every 30 minutes during weekday peak periods. Waukesha County Transit service meets this standard for the 900 series routes. In addition, commuter bus routes 901 and 905 exceed this standard for trips arriving and departing from the Goerke's Corners Park & Ride Lot, with frequencies of 20 minutes during weekday peak periods. Route 904 provides one trip in the morning peak travel period and one trip in the afternoon peak travel period. MCTS Route 79 also meets this standard, with service approximately every 30 during the peak periods.

The Gold Line connection operates seven days a week, with 15 minute frequencies during peak commute times, and frequencies between 15 and 30 minutes during all other times. The Route 1 extension operates seven days a week and provides frequencies of 30 minutes during all service times. Therefore, Waukesha County Transit fulfills the Service Frequency and Availably Standard.

***Service Travel Speeds Operating Standard***

The Service Travel Speeds Standard requires that commuter bus services achieve average travel speeds not less than 25 miles per hour over the duration of the route. As currently scheduled, all Waukesha County 900-series routes meet or exceed this standard, with the exception of Route 901, which has an approximate speed of 20 miles per hour during the peak morning run at 6:35 a.m. The average speed for all Waukesha County 900-series routes is approximately 27 miles per hour.

The MCTS Financial and Statistical Report for October 2019 includes average speeds for the portions of Route 79 and the Gold Line operated in Waukesha County. Based on these data, Route 79 had an average speed of approximately 20 miles per hour and the Gold Line connection had an average speed of 22 miles per hour. The Route 1 extension between Goerke's Corners Park & Ride Lot and the Brookfield Square Mall has an average speed of approximately 24 miles per hour. As a result, Waukesha County fulfills the Service Travel Speed Operating Standard.

***Ridership and Service Effectiveness Performance Standard***

The Ridership and Service Effectiveness Standard uses four performance measures (passengers per capita, passengers per revenue vehicle hour, passengers per revenue vehicle mile, and passenger miles per revenue vehicle mile) to compare the service effectiveness of Waukesha County to seven peer transit systems from around the Nation. If the service effectiveness measures are more than 20 percent below the median of the peer comparison group, this standard encourages modifying routes, runs, service area, or service periods. Figure 4.14 shows the results of this comparison of Waukesha County Transit to its peers by displaying the range of the peer group's performance, the median of the peer group's performance, the range of performance that meets the standard, and the performance of Waukesha County Transit for each measure. The data for each peer system is presented in Table 4.17.

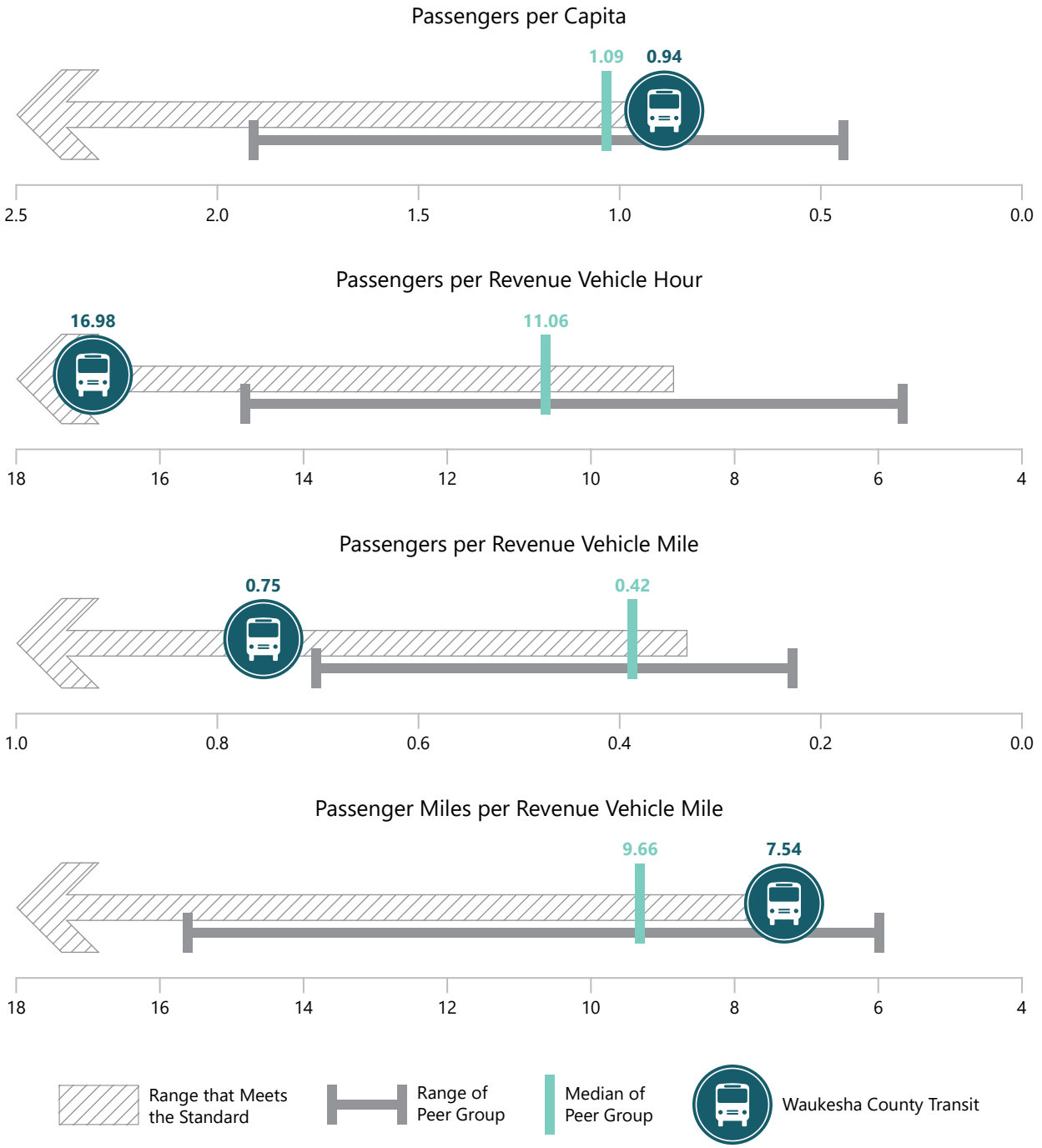
Figure 4.14 indicates that Waukesha County Transit is outside the range that meets the standard for one of the four performance measures, but meets the remaining standards. Passenger miles per revenue vehicle miles serves as a proxy for the average number of seats filled on a vehicle over the course of its revenue trip. Some of the runs have few riders boarding at bus stops prior to Goerke's Corners, which results in a low number of passengers on board for a relatively long distance of the trip. Passengers per capita is dependent upon the attractiveness of a transit system's service to the residents within its service area. This attractiveness can be influenced by many factors, some within a transit system's control (such as frequency of service or fare levels) and some outside a system's control (such as land use density and community demographics). Waukesha County is just within the acceptable range for passengers per capita, which indicates that the transit system provides relatively good coverage but that there are opportunities for improvement that could make the transit system more attractive, such as greater service frequencies. Waukesha County performs better than its peers for passengers per revenue vehicle hour and passengers per revenue vehicle mile, which may be the result of lower levels of congestion on segments of the IH 94 and STH 16 in Waukesha County and the robust performance of the local routes within the Waukesha County Transit System. In general, Waukesha County largely fulfills this standard, meeting the standard under three of the four associated measures.

***Travel Time Performance Standard***

The Travel Time Performance Standard encourages that travel times be kept reasonable in comparison to travel times by automobiles for similar trips. Table 4.18 compares average trip travel times between transit trips and automobile trips during the peak-period travel, and shows the ratios between transit travel times and automobile travel times are generally reasonable. However, a few trips exceed a ratio of 2.0, which is generally beyond what many riders are willing to accept when determining whether to use a transit service. Reducing this ratio on those trips that exceed 2.00 would likely require that Waukesha County Transit have a reliable way to avoid congestion during peak periods.

Table 4.18 also includes the combined travel time along the Bluemound Road corridor between the Goerke's Corners Park & Ride Lot and 124th Street. The combined Route 1 extension and Gold Line connection meet the Travel Time Performance Standard with a ratio between transit travel times and automobile travel times of 1.50. However, the transit travel time includes an average transfer time of nine minutes at the Brookfield Square transfer point, while maximum transfer times can be as much as 29 minutes during the evening hours, making transit travel less attractive to potential riders. Overall, Waukesha County Transit services largely fulfills the Travel Time Performance Standard.

**Figure 4.14**
**Ridership and Service Effectiveness Performance Standard: Comparison of Waukesha County Transit to Peer Group for Associated Performance Measures**




*Source: National Transit Database, Waukesha County Transit, and SEWRPC*

## Table 4.17
## Waukesha County Transit and Peer Group Data for the Ridership and Service Effectiveness Performance Standard

| | Performance Measures | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Passengers per Capita | | | Passengers per Revenue Vehicle Hour | | | Passengers per Revenue Vehicle Mile | | | Passenger Miles per Revenue Vehicle Mile | | |
| **Peer System and Metropolitan Area** | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change |
| Johnson County Transit (Kansas City, MO) | 1.36 | 1.09 | -5.40% | 10.02 | 7.35 | -7.40% | 0.43 | 0.33 | -6.42% | 8.30 | 6.11 | -7.32% |
| Yuba-Sutter Transit Authority (Sacramento, CA) | 1.32 | 0.92 | -8.65% | 18.18 | 15.50 | -3.84% | 0.49 | 0.42 | -4.13% | 20.24 | 16.37 | -5.13% |
| Laketran (Cleveland, OH) | 2.18 | 2.02 | -1.97% | 11.32 | 9.48 | -4.28% | 0.64 | 0.55 | -3.88% | 7.68 | 6.48 | -4.07% |
| Gwinnett County Transit (Atlanta, GA) | 2.26 | 1.54 | -9.14% | 18.03 | 14.33 | -5.39% | 0.86 | 0.75 | -3.25% | 18.55 | 9.66 | -14.14% |
| Racine-Kenosha Commuter Bus (Racine, WI) | 0.70 | 0.47 | -9.70% | 11.01 | 5.81 | -13.87% | 0.37 | 0.25 | -9.22% | 9.49 | 6.21 | -10.05% |
| Ozaukee County Express (Milwaukee, WI) | 1.35 | 1.19 | -2.34% | 16.58 | 13.77 | -3.87% | 0.64 | 0.53 | -3.82% | 12.39 | 11.45 | -1.78% |
| Washington County Commuter Express (Milwaukee, WI) | 0.88 | 0.60 | -8.92% | 12.81 | 11.06 | -3.34% | 0.47 | 0.38 | -5.29% | 14.52 | 11.74 | -4.99% |
| Waukesha Metro Transit (Milwaukee, WI) | 1.12 | 0.94 | -4.34% | 19.96 | 16.98 | -3.92% | 0.92 | 0.75 | -4.90% | 9.80 | 7.54 | -6.30% |

*Source: National Transit Database, U.S. Bureau of the Census, Waukesha County Transit, and SEWRPC*

## Table 4.18
## Travel Time Comparison Between Waukesha County Transit Routes and Automobiles

| Operator | Route Number | Trip Origin | Trip Destination | One-Way Travel Time (minutes)[a] | | | |
|---|---|---|---|---|---|---|---|
| | | | | Transit | Automobile | Difference (Transit to Automobile) | Ratio (Transit to Automobile) |
| Waukesha County Transit | 901 | Downtown Waukesha Transit Center | Wisconsin Avenue & 35th Street | 43 | 34 | 9 | 1.26 |
| | | | Wisconsin Avenue & Cass Street | 55 | 39 | 16 | 1.41 |
| | | | UW-Milwaukee Campus | 47 | 35 | 12 | 1.34 |
| | | Wisconsin Avenue & 34th Street | Downtown Waukesha Transit Center | 35 | 29 | 6 | 1.21 |
| | | Wisconsin Avenue & Cass Street | | 53 | 32 | 21 | 1.66 |
| | | UW-Milwaukee Campus | | 68 | 38 | 30 | 1.79 |
| | 904 | Collins & Cross Parking Lot | Wisconsin Avenue & Cass Street | 72 | 35 | 37 | 2.06 |
| | | Wisconsin Avenue & Cass Street | Collins & Cross Parking Lot | 76 | 45 | 31 | 1.69 |
| | 905 | Nagawaukee Park & Ride Lot | Wisconsin Avenue & 10th Street | 47 | 28 | 19 | 1.68 |
| | | | Wisconsin Avenue & Cass Street | 60 | 30 | 30 | 2.00 |
| | | Wisconsin Avenue & Cass Street | Nagawaukee Park & Ride Lot | 64 | 40 | 24 | 1.60 |
| | | Wisconsin Avenue & 9th Street | | 52 | 36 | 16 | 1.44 |
| | 906 | Mukwonago I-43 & STH 83 Park & Ride Lot | Michigan Street & Vel R. Phillips Avenue | 55 | 34 | 21 | 1.62 |
| | | Wells & 6th Street | Mukwonago I-43 & STH 83 Park & Ride Lot | 55 | 40 | 15 | 1.38 |
| Milwaukee County Transit System and Waukesha Metro Transit System | 79 | Pilgrim Road Park & Ride Lot | Wisconsin Avenue & Cass Street | 63 | 32 | 31 | 1.97 |
| | | Watertown Plank Park & Ride Lot | | 30 | 15 | 15 | 2.00 |
| | Route 1 Extension and Gold Line Connection[b] | Goerke's Corners Park & Ride Lot | 124th Street & Bluemound Road | 30 | 20 | 10 | 1.50 |
| | | | Systemwide Average | 53 | 33 | 20 | 1.62 |

[a] *Based on average morning and afternoon peak-period travel times between points identified.*

[b] *Includes an additional nine minutes, which is the average transfer time between the Route 1 Extension and the Gold Line Connection at Brookfield Square Mall*

*Source: Waukesha County Transit, Milwaukee County Transit, and SEWRPC*

**Objective 3: Utilizing Public Resources Cost-Effectively**

Objective 3 recognizes that public funds are limited, and must be used efficiently. In order to determine if public funds are being spent well, the following analyses compare Waukesha County Transit to its peer group using a number of performance measures. The applicable standards and performance measures used to measure how efficiently Waukesha County Transit is using public funds are shown in Figure 4.15.

***Fare Structure and Design Standard***

The Fare Structure Standard recommends premium fares for premium services and discounts for priority users, such as seniors or people with disabilities. Waukesha County Transit fulfills this standard, with $3.50 base fare if the trip begins or ends east of the Meadowbrook Park & Ride Lot, and $4.25 if the trip begins or ends west of the Meadowbrook Park & Ride Lot. The fares are within the range of similar commuter bus services in the Region. In addition, Waukesha County Transit offers half-priced fares for seniors and people with disabilities. Frequent riders can also purchase a commuter book at a 10 percent discount. Adult cash fares are $2.00 for the Route 1 extension and $3.50 for Route 79. The higher base fare charged for the 900-series transit services and Route 79 reflect premium services, with additional amenities and higher service speeds. Therefore, Waukesha County Transit fulfills the Fare Structure and Design Standard.

***Operating Expenses Performance Standard***

By comparing the annual percent change between 2013 and 2017 in operating expenses per revenue vehicle mile, operating expenses per revenue vehicle hour, operating expenses per total vehicle mile, operating expenses per total vehicle hour, and operating assistance per passenger, the Operating Expenses Performance Standard ensures that the growth in operating costs is comparable to that of peer systems. In order to fulfill the standard, none of the annual percent increases in the five performance measures should exceed the median percentage increases experienced by the peer group. Figure 4.16 compares the annual percent change for each measure between 2013 and 2017 for the range of the peer group's performance, the range of the performance that meets the standard, the median of the peer group's performance, and the performance of Waukesha County Transit. Table 4.19 provides the detailed data used to develop Figure 4.16.

Waukesha County Transit generally performs well for the standards that compare growth in operating expenses per various measures of amounts of service provided. Specifically, the average annual operating expenses per revenue vehicle mile, total vehicle mile, and total vehicle hour meet the corresponding standard, with the growth rate of operating expenses per unit of service for Waukesha County Transit less than the median of the peer systems. Waukesha County does not meet the standard comparing operating expenses per revenue vehicle hour. However, the services measured in this standard are dictated by the cost of services contained within the County's operating contracts with its transit providers, and therefore are not easily addressed through transit service changes.

Waukesha County Transit meets the standard comparing the annual percent change in operating assistance per passenger, with the annual percent increasing below those of the peer systems. However, the peer systems included as part of the analysis have experienced even more significant annual increases in operating assistance per passenger than Waukesha County, largely due to reductions in ridership in 2015 and 2016. Overall, Waukesha County Transit performs relatively well on this standard, with generally stable operating costs per unit of service between 2013 and 2017.

***Cost Effectiveness Performance Standard***

The Cost Effectiveness Standard recommends that the operating cost per passenger and operating cost per passenger mile should not be greater than 20 percent above the median of the peer group, and that the farebox recovery ratio should not be more than 20 percent below the median of the peer group. If a transit system is substandard under any of these performance measures, it may indicate that changes to routes, runs, service areas, and service periods need to be considered. Figure 4.17 shows the range of the peer group's performance, the median of the peer group's performance, the range of performance that meets the standard, and the performance of Waukesha County Transit for these measures. Table 4.20 provides the detailed data used to develop Figure 4.17.

## Figure 4.15
## Objective 3 and Associated Standards Applicable to the Evaluation of Waukesha County Transit

| Objective 3 |
|---|
| **Meet all other objectives at the lowest possible cost. Given limited public funds, this objective seeks to permit elected officials the flexibility to balance the standards associated with Objectives 1 and 2 with the level of public funding required to fully meet those standards.** |

| Associated Public Transit Principle |
|---|
| Given limited public funds, the cost of providing transit at a desired service level should be minimized and revenue gained from the service should be maximized to maintain the financial stability of services. |

| Design and Operating Standards |
|---|
| **1. Fare Structure**<br>Charge premium fares for premium services, and discounted fares for priority population groups and frequent riders. |

| Performance Standards and Associated Performance Measures | |
|---|---|
| **1. Operating Expenses**<br>Minimize the operating expenses per total and revenue vehicle mile, the operating expenses per total and revenue vehicle hour, and the operating assistance per passenger. Annual increases in such costs should not exceed the median percentage increases experienced by comparable transit systems. | **2. Cost Effectiveness**<br>Review transit services with substandard cost effectiveness for potential changes to their routes, runs, service areas, and service periods. Cost effectiveness is considered substandard when the operating expenses per passenger, or operating expenses per passenger mile are more than 20 percent above, or the farebox recovery ratio is more than 20 percent below, the median for comparable transit systems. |

*Source: SEWRPC*

Waukesha County Transit fulfills the Cost Effectiveness Standard for two out of the three performance measures, including the operating expenses per passenger and the farebox recovery ratio. The operating expenses per passenger mile of $1.01 does not meet the standard, which as mentioned previously, is largely a function of the cost per unit of service negotiated as part of the contracts with transit operators. In 2017, Waukesha County Transit's farebox recovery ratio of 18 percent was the same as the median of the peer group, meeting the standard. Overall, Waukesha County Transit largely fulfills the Cost Effectiveness Standard, but has experienced declines in ridership, combined with fixed costs as part of the operating contract, that have impacted its overall performance.

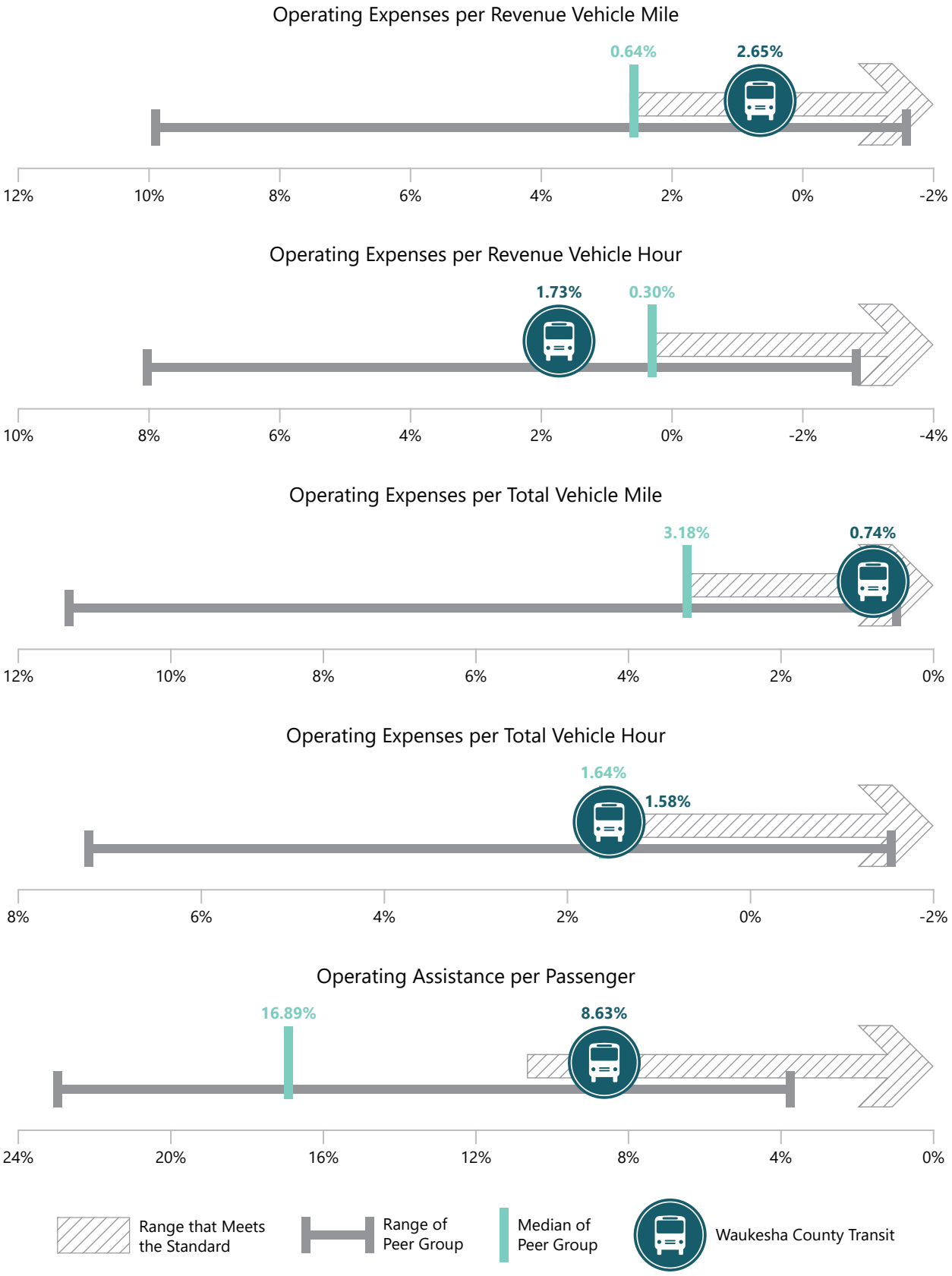
### *Route Performance Evaluation*

This section of the evaluation looks at the ridership and financial performance of the Waukesha County Transit System's bus routes in order to identify the routes with the lowest overall performance based on route operating data, including total boarding passengers; passengers per revenue vehicle-hour and per revenue vehicle-mile; total operating cost and operating assistance per passenger; and farebox recovery rate.

Table 4.21 and Figures 4.18 and 4.19 display the estimated service and cost effectiveness measures for the routes of the transit system. The performance measures presented in the table and figures are based upon Waukesha County operating statistics for 2018.

Waukesha County has target service effectiveness levels for its bus routes specifying at least 10 passengers per revenue vehicle hour and at least 1.0 passenger per revenue vehicle mile, as shown in Figure 4.13. In addition, the County's Cost Effectiveness Standard recommends that the operating cost per passenger and operating cost per passenger mile should be not greater than 20 percent above the median, and that the farebox recovery ratio should not be more than 20 percent below the median, as shown in Figure 4.15. If a transit system is substandard under any of these performance measures, it may indicate that changes to routes, runs, service areas, and service periods need to be considered.

**Figure 4.16**
**Operating Expenses Performance Standard: Comparison of Waukesha County Transit to Peer Group for Associated Performance Measures (Percent Annual Change)**



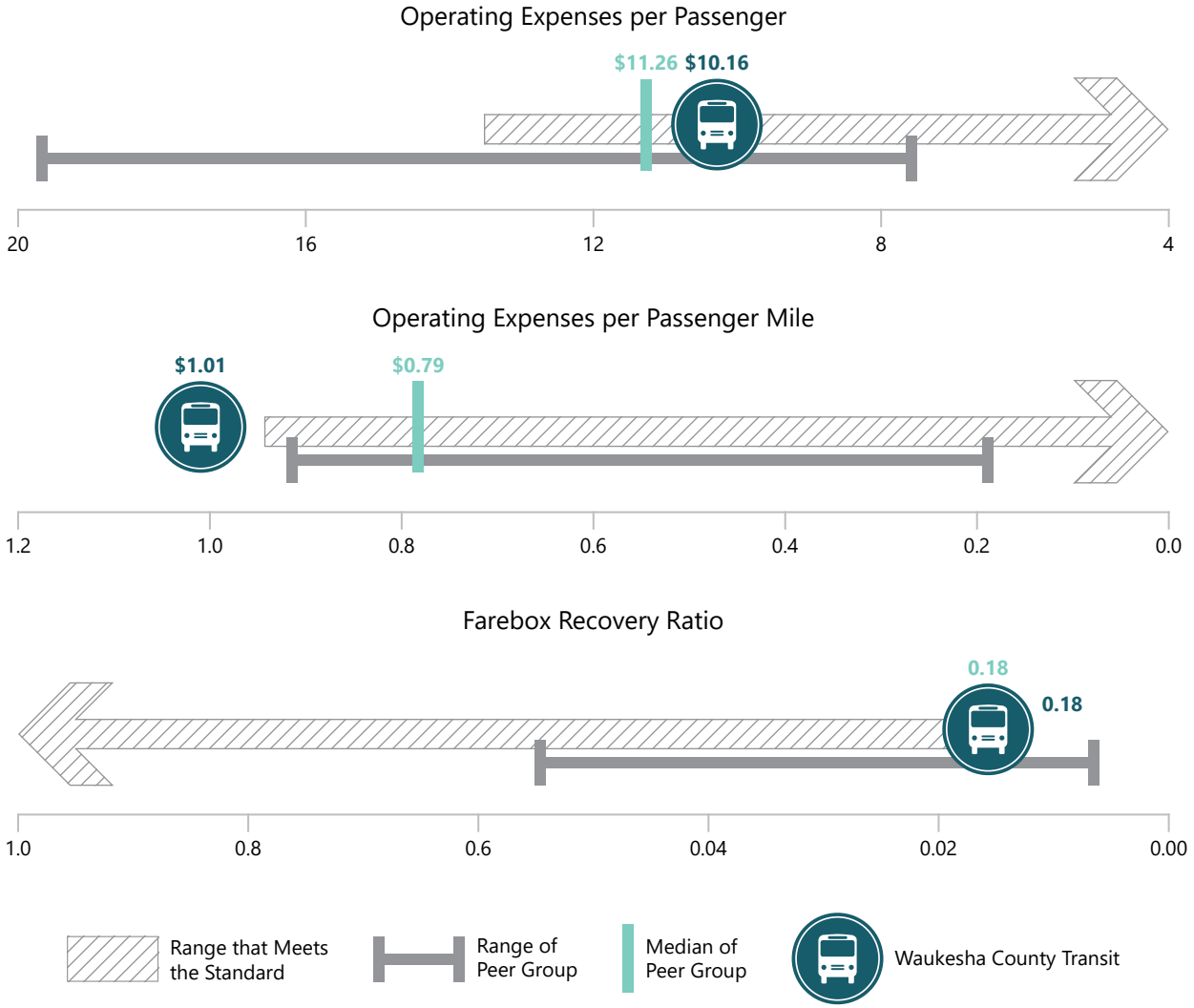

*Source: National Transit Database, Waukesha County Transit, and SEWRPC*

## Table 4.19
## Waukesha County Transit and Peer Group Data for the Operating Expenses Performance Standard

| Peer System and Metropolitan Area | Performance Measures | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Operating Expenses per Revenue Vehicle Mile | | | Operating Expenses per Revenue Vehicle Hour | | | Operating Expenses per Total Vehicle Mile | | | Operating Expenses per Total Vehicle Hour | | | Operating Assistance per Passenger | | |
| | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change |
| Johnson County Transit (Kansas City, MO) | $5.26 | $5.28 | 0.29% | $121.86 | $117.01 | -0.84% | $3.74 | $3.79 | 11.28% | $91.20 | $89.28 | -0.32% | $9.70 | $14.50 | 11.32% |
| Yuba-Sutter Transit Authority (Sacramento, CA) | $2.80 | $3.15 | 2.98% | $103.29 | $117.33 | 3.25% | $1.86 | $2.04 | 2.38% | $65.29 | $73.54 | 3.05% | $1.36 | $3.09 | 23.08% |
| Laketran (Cleveland, OH) | $5.79 | $5.94 | 0.72% | $101.63 | $102.54 | 0.30% | $4.02 | $4.37 | 2.12% | $79.17 | $84.26 | 1.64% | $7.18 | $8.99 | 6.01% |
| Gwinnett County Transit (Atlanta, GA) | $5.95 | $8.27 | 9.89% | $124.22 | $158.44 | 7.32% | $4.50 | $2.86 | 9.95% | $99.23 | $128.72 | 7.32% | $4.13 | $9.03 | 22.35% |
| Racine-Kenosha Commuter Bus (Racine, WI) | $4.39 | $4.88 | 2.65% | $132.17 | $114.20 | -2.88% | $4.21 | $4.77 | 3.18% | $118.29 | $110.55 | -1.50% | $8.52 | $16.62 | 18.33% |
| Ozaukee County Express (Milwaukee, WI) | $6.42 | $5.98 | -1.59% | $167.45 | $155.12 | -1.19% | $4.12 | $4.18 | 0.44% | $117.27 | $114.90 | -0.42% | $7.75 | $8.75 | 3.89% |
| Washington County Commuter Express (Milwaukee, WI) | $4.41 | $5.45 | 5.80% | $119.77 | $159.68 | 8.03% | $2.28 | $2.78 | 5.31% | $71.13 | $88.74 | 6.35% | $6.02 | $11.19 | 16.89% |
| Waukesha County Transit (Milwaukee, WI) | $7.46 | $7.64 | 0.64% | $161.76 | $172.59 | 1.73% | $5.38 | $5.52 | 0.74% | $118.09 | 125.20 | 1.58% | $6.74 | $8.97 | 8.63% |

*Source: National Transit Database, Waukesha County Transit, and SEWRPC*

**Figure 4.17**
**Cost Effectiveness Performance Standard: Comparison of Waukesha County Transit to Peer Group for Associated Performance Measure**




*Source: National Transit Database, Waukesha County Transit, and SEWRPC*

For each of the performance measures used in the evaluation, routes that have service effectiveness or cost efficiency measures that do not meet the target levels specified in the service effectiveness goals for the transit system are identified as below average performers with red text. The following observations may be drawn from the information in Table 4.21 and Figures 4.18 and 4.19:

- Routes 901/904/905 fail to meet the majority of the service effectiveness and cost effectiveness performance measures
- Route 906 meets the passengers per revenue vehicle hour measures but does not meet the remaining service effectiveness or cost effectiveness measures
- Route 79 does not meet the passengers per revenue vehicle mile standard but meets all other measures
- The Route 1 extension and Gold Line connection exceed both the service effectiveness and cost effectiveness measures

## Table 4.20
## Waukesha County Transit and Peer Group Data for the Cost Effectiveness Performance Standard

| Peer System and Metropolitan Area | Performance Measures | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Operating Expenses per Passenger | | | Operating Expenses per Passenger Mile | | | Farebox Recovery Ratio | | |
| | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change | 2013 | 2017 | Average Annual Change |
| Johnson County Transit (Kansas City, MO) | $12.16 | $15.91 | 7.30% | $0.63 | $0.86 | 8.47% | 0.20 | 0.09 | -16.43% |
| Yuba-Sutter Transit Authority (Sacramento, CA) | $5.68 | $7.57 | 7.54% | $0.14 | $0.19 | 8.60% | 0.76 | 0.59 | -6.06% |
| Laketran (Cleveland, OH) | $8.98 | $10.82 | 4.89% | $0.75 | $0.92 | 5.30% | 0.20 | 0.17 | -3.94% |
| Gwinnett County Transit (Atlanta, GA) | $6.89 | $11.06 | 13.21% | $0.32 | $0.86 | 29.52% | 0.40 | 0.18 | -17.44% |
| Belle Urban Systems (Racine, WI) | $12.01 | $19.67 | 13.21% | $0.46 | $0.79 | 14.19% | 0.29 | 0.15 | -14.39% |
| Ozaukee County Express (Milwaukee, WI) | $10.10 | $11.26 | 3.25% | $0.52 | $0.52 | 0.47% | 0.23 | 0.22 | -0.17% |
| Washington County Commuter Express (Milwaukee, WI) | $9.35 | $14.44 | 11.56% | $0.30 | $0.46 | 11.23% | 0.36 | 0.22 | -10.71% |
| Waukesha County Transit (Milwaukee, WI) | $8.10 | $10.16 | 6.05% | $0.76 | $1.01 | 7.58% | 0.25 | 0.18 | -7.82% |

*Source: National Transit Database, Waukesha County Transit, and SEWRPC*

## Table 4.21
## Average Weekday Performance Characteristics for Waukesha County Commuter Bus Routes

| Route Number | Revenue Vehicle Hours[a] | Revenue Vehicle Miles | Boarding Passengers | Service Effectiveness Measures | | Operating Cost ($) | Operating Assistance ($) | Cost Effectiveness Measures | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Passengers per Revenue Vehicle Hour | Passengers per Revenue Vehicle Mile | | | Operating Cost per Passenger ($) | Operating Assistance per Passenger ($) | Farebox Recovery Rate (%) |
| 901/904/905 | 45.7 | 1,037.5 | 357.5 | 7.8 | 0.3 | 7,103.13 | 5,963.12 | 19.87 | 16.68 | 0.16 |
| 906 | 5.7 | 198.0 | 80.6 | 14.1 | 0.4 | 1,904.67 | 1,625.39 | 23.63 | 20.17 | 0.15 |
| 79 | 8.2 | 186.5 | 121.8 | 14.9 | 0.7 | 1,374.88 | 1,054.64 | 11.28 | 8.66 | 0.23 |
| Route 1 Extension[a] | 22.7 | 267.8 | 436.4 | 19.2 | 1.6 | 403.43 | 403.43 | 0.92 | 0.92 | -- |
| Gold Line Extension | 25.8 | 493.2 | 863.4 | 33.5 | 1.8 | 3,152.60 | 2,082.04 | 3.65 | 2.41 | 0.34 |
| Bus system Total/Average | 108.1 | 2,183.0 | 1,859.8 | 17.9 | 1.0 | 2,787.74 | 2,225.73 | 11.87 | 9.77 | 0.22 |
| Minimum/Maximum Acceptable Level[b,c] | N/A | N/A | N/A | 10.0 | 1.0 | N/A | N/A | 13.54 | 10.39 | 0.16 |

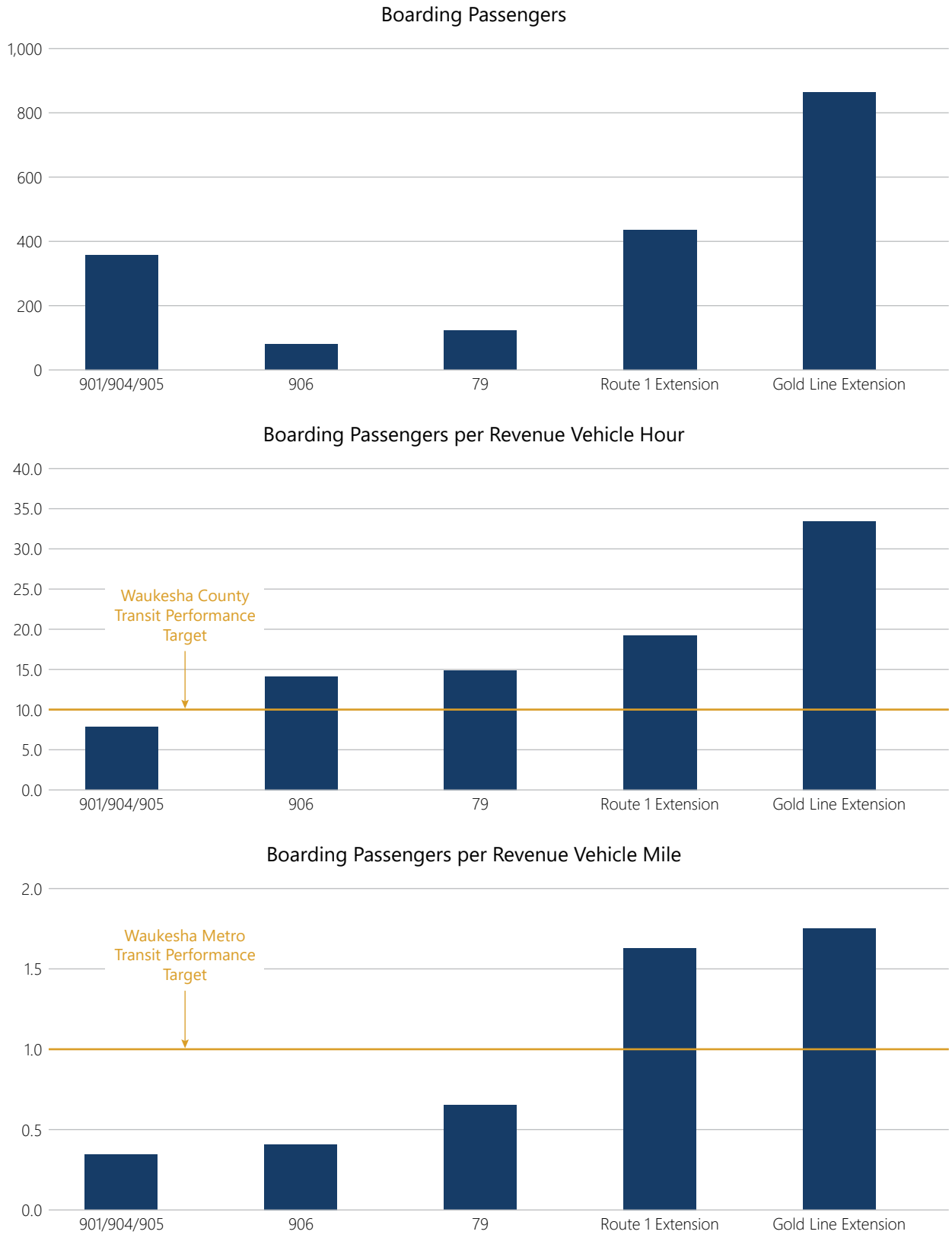
[a] *Waukesha County only pays the local share for the Route 1 extension and does not receive a farebox revenue credit.*

[b] *Waukesha County Transit has target service effectiveness levels for its bus routes that specify 10 passengers per revenue vehicle hour and at least 1.0 passenger per revenue mile.*

[c] *The target performance level specified in the transit service standards presented in Figure 4.19 for cost effectiveness measures is 20 percent above the systemwide median for all routes. The target performance level specified in Figure 4.19 for farebox recovery is 20 percent below the systemwide median for all routes. Red text for these measures indicates that a route does not meet the target for that particular measure.*

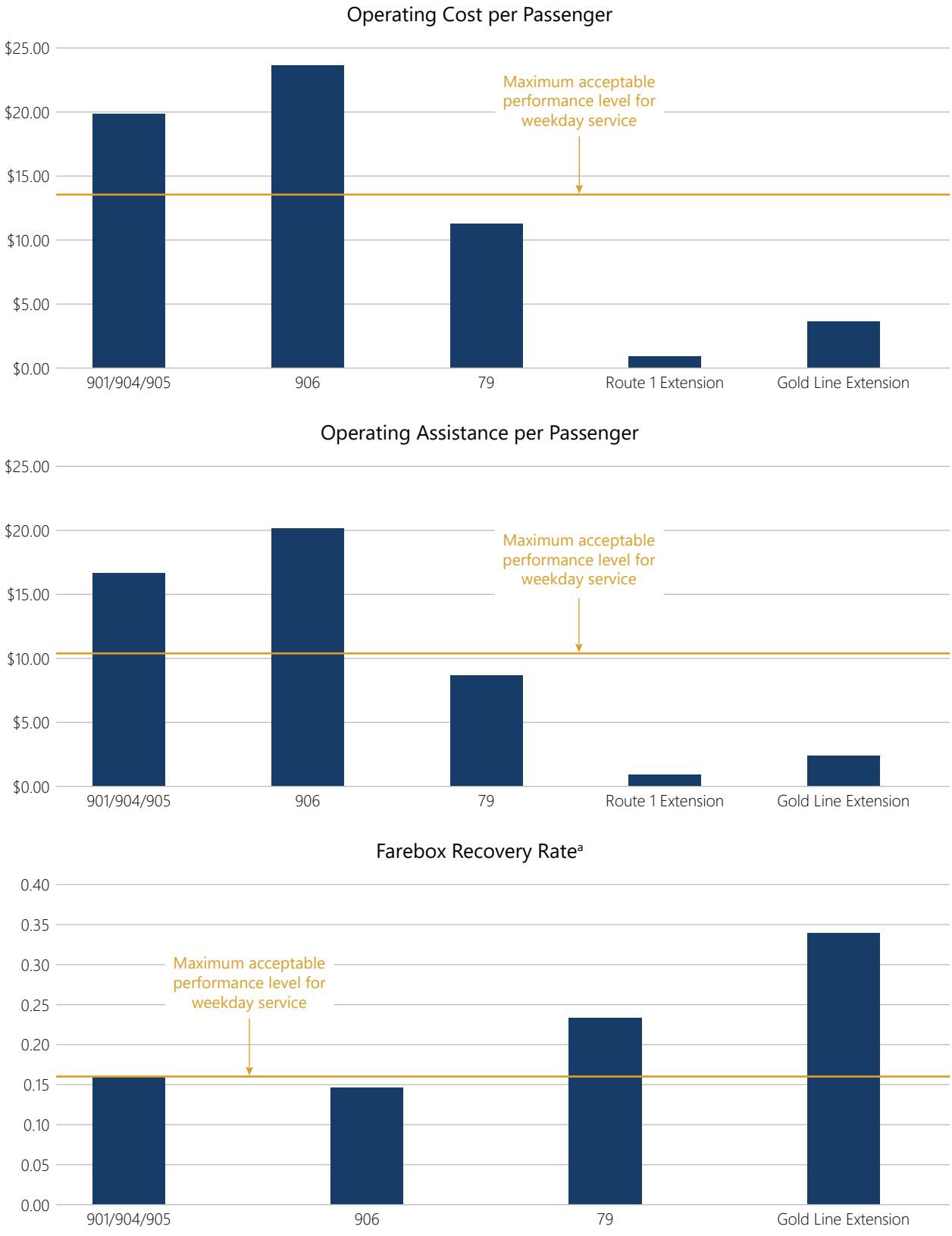
*Source: Waukesha County Transit and SEWRPC*

**Figure 4.18**
**Service Effectiveness Measures for Waukesha County Transit Routes**




*Source: Waukesha County Transit and SEWRPC*

**Figure 4.19**
**Cost Effectiveness Measures for Waukesha County Transit Routes**




[a]*Waukesha County only pays the local share for the Route 1 extension and does not receive a farebox revenue credit.*

*Source: Waukesha County Transit and SEWRPC*

- The 900-series routes do not meet the standard for any of the three cost effectiveness measures, including the operating cost per passenger, operating assistance per passenger, and the farebox recovery rate, whereas Route 79 and the Gold Line Extension meet the cost effectiveness measures

Given the poor performance of the 900-series commuter bus routes for both service effectiveness and cost effectiveness, these four routes merit further study to determine if service changes could improve their performance.

## 4.5 CONCLUSION

This chapter's evaluation of Waukesha Metro and Waukesha County Transit services indicates potential areas for service changes to help the systems better fulfill the objectives and standards laid out in Chapter 3 of this report. Improvements to routes, runs, service areas, and service periods could increase Waukesha Metro's and Waukesha County Transit's performance under various standards. In addition, the number of jobs accessible in Waukesha County could be increased through potential partnerships with ride-hailing services or providing flexible shuttles to areas with a concentration of jobs. Chapter 5 of this report will present potential service improvements and analyze their costs and influence on the performance of each transit system.

# RECOMMENDED TRANSIT SERVICES 5

*Credit: Waukesha Metro Transit*

## 5.1 INTRODUCTION

This chapter discusses transit service recommendations for each decision-making entity for the Waukesha Metro Transit System and the Waukesha County Transit System to consider implementing to improve services. These recommendations have been designed to improve the performance of each transit system based on the evaluation of the transit system's performance completed in Chapter 4 of this report, and in careful consideration of the comments and ideas received from the Advisory Committee, Waukesha County businesses, transit riders, non-profit organizations that serve clients that use transit, students and parents/guardians in the Waukesha Public School District, and the public related to this effort.

Future expenses, revenues, and ridership of the Waukesha Metro Transit System and the Waukesha County Transit System were analyzed to provide a "no-change" option that will serve as the base scenario against which potential service changes will be compared. Each section includes a description of the recommendation, a discussion of advantages or disadvantages of a particular recommendation, and where applicable, a table containing the expected operating expenses, revenues, and ridership for the duration of this short-range Transit Development Plan, and an annual average for the five-year timeframe. This chapter is organized into three elements. The first element discusses recommendations for the fixed-route transit services operated by the City of Waukesha and Waukesha County. The second element provides recommendations related to on-demand or flexible transportation services that could replace or extend existing fixed-route bus services. The third element describes recommendations to paratransit services in the City of Waukesha or Waukesha County intended to increase efficiencies or expand the individuals served. Table 5.1 summarizes each recommendation and the implementing agency to assist the City of Waukesha and Waukesha County as they consider their potential roles under each potential option.

## Table 5.1
## Roles with Regard to Implementing Recommendations and Options for the Waukesha Area Transit Development Plan

| Recommendations and Options | City of Waukesha | Waukesha County | Both |
|---|---|---|---|
| 5.2 Fixed-Route Transit Service Element | | | |
| Recommendation 5.2.1: Implement Transit Enhancements on Metro Route 1 | | | X |
| Recommendation 5.2.2: Restructure Waukesha Metro Routes | X | | |
| Service Option 5.2.2A: Route 9 Routing and Destination Options | X | | |
| Service Option 5.2.2B: Route 15 Routing Options | X | | |
| Recommendation 5.2.3: Combine Routes 904 and 905, with Runs Terminating at Goerke's Corners and the City of Delafield | | X | |
| Service Option 5.2.3A: Eliminate Stops on the 904/905 West of Goerke's Corners Park-Ride Lot | | X | |
| Recommendation 5.2.4: Reduce Frequency on Route 901 | | X | |
| Recommendation 5.2.5: Implement an Enhanced Fare Payment System | | | X |
| Recommendation 5.2.6: Consider Fare Policy Changes | | | X |
| Recommendation 5.2.7: Implement Prioritized Improvements to Waukesha Metro Bus Stops | X | | |
| Recommendation 5.2.8: Continue Exploring Alternative Bus Propulsion Systems and Sizes for Future Purchases | X | | |
| Recommendation 5.2.9: Pursue Coordinated Transportation Solutions with Regional Transit Operators | | | X |
| Recommendation 5.2.10: Develop an Enhanced Marketing and Travel Training Program | | | X |
| 5.3 On-Demand Transportation Service Element | | | |
| Recommendation 5.3.1: Implement Employment-Related On-Demand Transportation Solutions | | | X |
| Recommendation 5.3.2: Replace Poorly Performing Waukesha Metro Segments or Times of Day with On-Demand Transportation Services | X | | |
| Recommendation 5.3.3: Develop Supplemental On-Demand Paratransit and Non-Emergency Medical Transportation Options | | | X |
| Recommendation 5.3.4: Develop Mobility Hubs | | | X |
| 5.4 Paratransit and Specialized Transportation Service Element | | | |
| Recommendation 5.4.1: Continue collaboration between the Aging and Disability Resource Center of Waukesha County, Waukesha Metro, and Waukesha County Transit on Paratransit and Specialized Transportation Services | | | X |
| Service Option 5.4.1A: Provide County-Wide Shared-Ride Taxi Service | | X | |

*Source: SEWRPC*

## 5.2 FIXED-ROUTE TRANSIT SERVICE ELEMENT

**Recommendation 5.2.1: Implement Transit Enhancements on Metro Route 1**

As part of this planning process, the City of Waukesha and the City of Brookfield requested that Commission staff develop a more in-depth analysis of potential transit enhancements from downtown Waukesha to the Milwaukee Regional Medical Center (MRMC). The purpose of the analysis was to generate discussion and provide details that help the communities determine if and how to move forward with transit enhancements or bus rapid transit (BRT) along the corridor, including the extent of improvements, the potential benefits of such improvements, potential funding sources, and next steps. Waukesha Metro Route 1 provides an important intercounty connection, linking passengers between Milwaukee and Waukesha Counties to access jobs and services along the route and with connecting services provided by Waukesha Metro and the Milwaukee County Transit System (MCTS). The following discussion summarizes the analysis conducted and next steps in the planning process.

As currently planned, the existing Waukesha Metro Route 1 will be extended to serve the MRMC beginning in 2023, to match the anticipated start of revenue service for Milwaukee County's East-West BRT (E-W BRT). At that time, Milwaukee County plans to replace the current GoldLine service with the E-W BRT service, which would result in a loss of service between the MRMC and Brookfield Square without the planned extension of Waukesha Metro Route 1. It is expected that if any of the improvements included in this document are pursued, they would be implemented after the planned extension of Route 1 in early 2023.

The analysis considered three service concepts covering the range of likely potential improvements that could be considered if an investment is made in the transit service in this corridor, although these alternatives are not the only paths forward. The three alternatives considered, not including a no build option, were (1) Enhanced Local Service, (2) Corridor BRT, and (3) Full BRT, which are summarized in Figure 5.1, Potential Transit Service Concepts.

Commission staff reviewed the features included in each alternative, the potential alignments associated with each alternative, and the people and jobs served along each alignment. The three potential alignments considered as part of this analysis are shown in Figure 5.2. The existing routing, which was included as the No Build option, would continue to serve Westbrook Shopping Center and residential areas north of East Moreland Boulevard. The alignment on Moreland Boulevard, which could accommodate the Enhanced Local Service and Corridor BRT service concepts, could provide a more direct route, removing low-ridership segments north of Moreland Boulevard. The third alignment considered routing along Main Street, which could accommodate the Corridor BRT or Fixed-Guideway/Full BRT service concepts. This alignment would provide the most direct route, further increasing potential travel time savings for passengers. The performance evaluation, which is summarized below by transit service concept, indicated that additional transit investments could result in more jobs and individuals served and create conditions that improve the development potential along the transit corridor. Through subsequent discussions with City of Waukesha staff, it has been determined that Main Street would be the most desirable alignment.

***The Enhanced Local Service***

Under this option, it is anticipated that additional transit supportive features, such as pedestrian improvements, station amenities, and improved frequencies, would increase the distance that individuals are willing to walk to the bus service. As a result, this option is expected to increase access to additional jobs in the corridor from approximately 54,000 jobs under the No Build option to 63,000 jobs under the Enhanced Local Service option. Similarly, the number of people considered served by this option would increase to approximately 26,000 from 19,000 under the No Build concept. This option is anticipated to utilize Moreland Boulevard in portions of the City of Waukesha.

***Corridor Bus Rapid Transit***

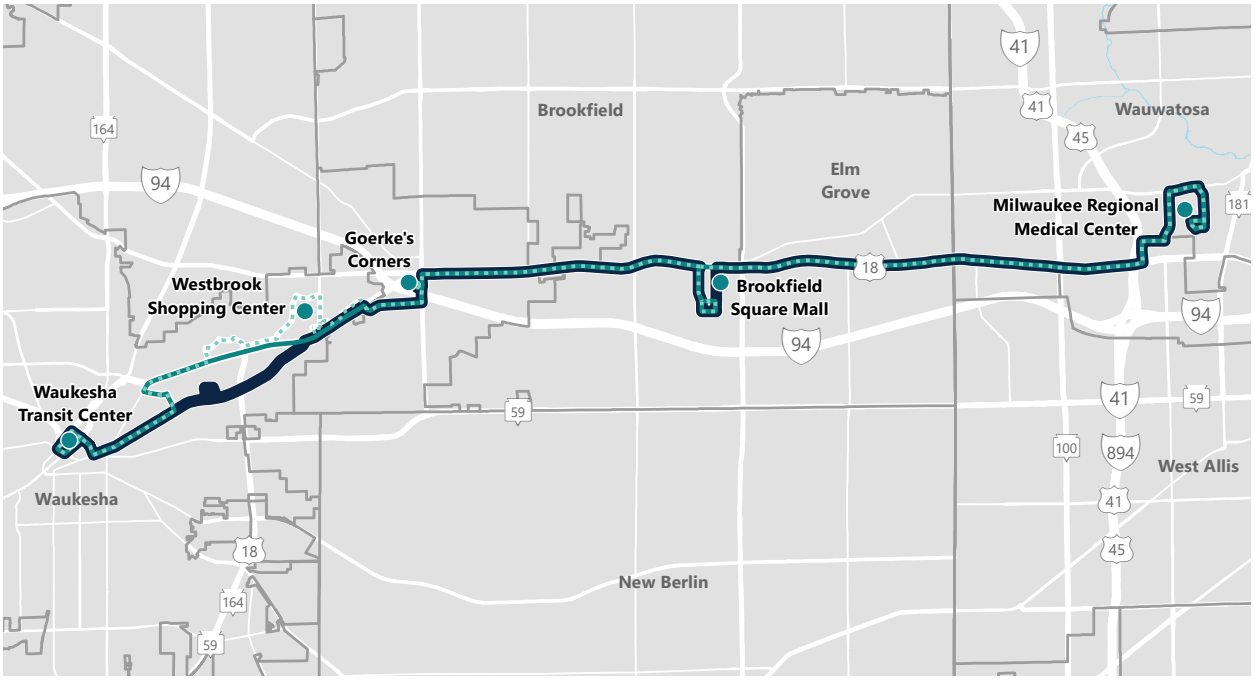
This option was analyzed under two alignments in the City of Waukesha; Moreland Boulevard, which provides similar routing as the existing alignment except for the elimination of some low-ridership segments north of Moreland Boulevard, and Main Street, which offers a more direct routing that would offer greater travel time savings for passengers. Under the Corridor BRT option, it is anticipated that bus stops would be located approximately every one-quarter to one-half mile, there would be additional dedicated transit lanes for

**Figure 5.1**
**Potential Transit Service Concepts for the Bluemound Road Corridor**

| Service Concept | General Characteristics |
|---|---|
|  <br>No Build | • Stops approximately every 0.125 mile<br>• Minor bus stop improvements as needed<br>• Similar operating characteristics as current route |
|  <br>***Alternative 1:*** Enhanced Local Service | • Stops approximately every 0.125 to 0.25 mile<br>• Transit and pedestrian improvements conducted when WisDOT or local governments schedule roadwork<br>• Potential pedestrian enhancements could include crosswalks, bulbouts at intersections, pedestrian refuge islands, and improved lighting |
|  <br>***Alternative 2:*** Corridor BRT | • Stops between every 0.25 and 0.5 mile<br>• Greater emphasis on pedestrian improvements<br>• Corridor BRT means defined stations, traffic signal priority for buses, robust amenities, all day transit service with headways between 15-20 minutes, and limited stop service<br>• Could offer some dedicated lanes for buses, but less than 50 percent of route would have dedicated lanes for buses |
|  <br>***Alternative 3:*** Fixed-Guideway/Full BRT | • Stops approximately every 0.5 to 1 mile<br>• 50 percent or more of route required to have dedicated lanes for buses<br>• Fixed-Guideway BRT means additional improvements such as level boarding platforms, enhanced stations at key locations including real-time arrival information, off-bus fare payment, branded vehicles |

*Source: (Photos from top to bottom) SEWRPC, Pace Suburban Bus, Flickr User Oran Viriyincy, and The Rapid*

**Figure 5.2**
**Route 1 Alignment Options**




| Potential Service Concept | Potential Alignments |
|---|---|
| No Build | *Existing* |
| Enhanced Local Service | *Moreland Boulevard* |
| Corridor BRT | *Moreland Boulevard* |
| | *Main Street* |
| Fixed-Guideway/Full BRT | *Main Street* |

*Source: Waukesha Metro Transit, MCTS, and SEWRPC*

faster service, and high-quality transit stations would be added along the route. The results of the analysis show that there are a similar number of jobs and people served by each alignment, with the number of jobs served estimated to be 63,000 and the number of people served estimated to be approximately 25,000.

***Full Bus Rapid Transit***

The Full BRT option would be expected to include additional improvements such as level boarding platforms, enhanced stations at key locations including real-time arrival information, off-bus fare payment, branded vehicles, bus stops approximately one-half to one mile apart, and additional dedicated transit lanes. Implementing a more robust transit service would expand the extent of areas considered served, thereby increasing the number of jobs served to approximately 72,000 and the number of people served to 35,000.

Based on recent discussions with all of the local governments along the corridor, a feasibility study will be conducted to study potential station locations, pedestrian amenities, and the extent of additional dedicated lanes. Waukesha County, the City of Waukesha, and other local governments in the corridor have requested or indicated their support for the Commission staff to prepare the feasibility study. In addition to the potential enhancements, the future study would estimate ridership, costs, benefits, funding sources, and timing of possible enhancements. Public involvement would occur as part of the feasibility study process.

Depending on the transit enhancements selected, there are a range of Federal funding sources available for transit improvements, including the Federal Transit Administration (FTA) Capital Investment Grant (CIG) Program, FTA Section 5337 State of Good Repair Grant Program, FTA Section 5307 Urbanized Area Formula Program, and Federal Highway Administration (FHWA) Congestion Mitigation and Air Quality (CMAQ) Program. It is anticipated that the feasibility study will also consider options for implementation and identify which funding sources would be most applicable for each of the various implementation approaches.

**Recommendation 5.2.2: Restructure Waukesha Metro Routes**

Chapter 4, Evaluation of the Existing Transit System, identified several Waukesha Metro Transit routes with segments that had low productivity based on passenger activity per trip and per mile. Based on the route productivity analysis, it was recommended that changes be considered for unproductive route segments, particularly if the unproductive segments include circuitous route alignments that increase travel time and make transit travel less attractive. Routes that included segments considered to be least productive per scheduled bus trips included Route 1, Route 6, and Route 8. The routes that included segments considered to be least productive per mile included Route 1, Route 5, Route 6, Route 7, Route 9, and Route 15.

The Advisory Committee recommended that Commission staff review and consider route changes based on the productivity assessment. In addition, the Advisory Committee requested staff consider the presence of individuals with high transit needs, with an emphasis on seniors, persons in low-income households, people with disabilities, and households with no vehicle available. Therefore, the intent of the proposed routing changes is to enhance the attractiveness of using transit by identifying more direct routes and reducing travel time while ensuring transit service to those areas with high transit needs.

However, due to the impact of the COVID-19 pandemic on travel behavior, particularly transit ridership, it is also a challenging time to be proposing substantial changes to a transit system. The COVID-19 pandemic has impacted all elements of daily life, including the commute to work, with Waukesha Metro ridership about 55 percent of pre-pandemic levels in 2021. As safer at home orders were issued in March 2020, many employees began working from home. In response, to protect drivers and passengers, bus capacity was limited to 10 people per bus, which reduced the number of individuals served. This shift in commuting patterns continues to impact transit system ridership nationally and regionally, as some previous riders are no longer commuting to jobs daily. Ridership is slowly returning but has not recovered to 2019 ridership levels. For example, Waukesha Metro monthly ridership between September 2020 and September 2021 increased by approximately 4 percent, from approximately 27,000 passengers to 28,000 passengers. However, this is below the monthly ridership in 2019, which was approximately 46,000.

Given this context, the system included in this recommendation focuses on smaller-scale route changes in response the performance evaluation conducted as part of this planning process, with some somewhat-larger changes associated with the already-planned improvements to Route 1. Waukesha Metro is pursuing the purchase of automatic passenger counters (APCs), which will enable Metro to ascertain the number of boardings and alightings by route and bus stop on a more-continuous basis. This more informed picture of ridership trends could be used to develop more substantial fixed-route changes in the future. This section of the chapter offers planning level suggestions for monitoring route performance over the timeframe of this plan, particularly as more refined ridership data becomes available.

***Weekday Route Changes***

To prepare this proposed route restructuring, Commission staff reviewed the current Waukesha Metro routes utilizing the direction provided by the Advisory Committee and coordinated closely with Waukesha Metro staff to develop route updates for consideration as shown in Table 5.2. The route updates are envisioned to occur in two phases, with the first round of potential updates occurring in coordination with revisions to the Route 1 to serve the Milwaukee Regional Medical Center (MRMC) beginning in spring 2023, to match

## Table 5.2
## Proposed Metro Route Changes

| Route Number | Proposed Changes | Potential Implementation Year | Days of Operation | Hours of Service (Approximate) |
|---|---|---|---|---|
| 1 | Extends to Milwaukee Regional Medical Center<br>Serve Main Street in City of Waukesha<br>More direct service along Moreland Boulevard<br>Removed service to Avalon Drive and Ruben Drive | 2023 | M-F and Saturday, Sunday | M-F 5:15 a.m. - 11:55 p.m.<br>Saturday 6:10 a.m. - 11:44 p.m.<br>Sunday 7:05 a.m.- 10:14 a.m. |
| 2 | Shortened route to a 30 minute round trip<br>Includes service to Woodman's Market | 2023 | M-F | M-F 6:00 a.m. - 7:00 p.m. |
| 3 | Updated routing serves Westbrook Shopping area, including Target<br>Serves areas in downtown Waukesha along Corrina Boulevard, Baxter Street, and White Rock Avenue<br>Serves Horning Middle School | 2023 | M-F | M-F 6:00 a.m. - 7:00 p.m. |
| 2/3 | Saturday service to Woodman's Market, Westbrook Shopping Center, and Target | 2023 | Saturday | Saturday: 8:00 a.m. - 7:45 p.m. |
| 15 | Includes service to Roberta Avenue and East Avenue (north and south of Sunset Drive), which was previously served by Route 3<br>Removes service on Corrina Boulevard, which is now served by Route 3<br>Serves Navajo Lane rather than Chippewa Drive<br>Serves South High School<br>Could offer truncated route by not serving areas north of Sunset Drive (Tenny Avenue, Roberta Avenue, and East Avenue) | 2023 | M-F and Saturday | M-F 6:30 a.m. - 6:30 p.m.<br>Saturday 8:15 a.m. - 6:45p.m. |
| 4 | Minor routing changes around the downtown Transit Center | 2024 | M-F and Saturday, Sunday | M-F 6:00 a.m. - 9:30 p.m.<br>Saturday 8:00 a.m. - 9:00 p.m.<br>Sunday 8:00 a.m. - 7:00 p.m. |
| 5 | Serves the Shoppes at Fox River<br>Does not serve areas south of Sunset Drive | 2024 | M-F and Saturday, Sunday | M-F 6:30 a.m. - 6:30 p.m.<br>Saturday 8:00 a.m. - 8:30 p.m.<br>Sunday 8:00 a.m. - 5:00 p.m. |
| 6 | Does not serve the Shoppes at Fox River<br>No longer serves Motor Avenue, Cambridge Avenue, or Macarthur Road<br>Runs along North Avenue to/from the Transit Center<br>Continues school service to West High School | 2024 | M-F | M-F 6:00 a.m. - 9:30 p.m.<br>Saturday 8:00 a.m. - 8:30 p.m.<br>Sunday 8:00 a.m. - 5:00 p.m. |
| 7 | Does not serve areas west of Grandview Boulevard due to low ridership<br>Continues school service to Butler Middle School and North High School<br>Adds service on Cambridge Avenue, previously served by Route 6 | 2024 | M-F | M-F 6:30 a.m. - 7:00 p.m. |
| 7/8 | Weekday evening service to UWM-Waukesha<br>Weekend service on Summit Avenue, Michigan Avenue, Grandview Avenue, and Memorial Hospital | 2024 | M-F Evenings Saturday and Sunday | M-F 7:00 p.m. - 9:00 p.m.<br>Saturday 8:30 a.m. - 7:00 p.m.<br>Sunday 9:30 a.m. - 7:00 p.m. |
| 8 | No significant route changes<br>Continues school service | 2024 | M-F | M-F 5:30 a.m. - 9:00 p.m. |
| 9 | Removes service on Irving Place due to low ridership<br>Will continue to serve WCTC, and GE Campus.<br>Future stop routing to the DMV will be explored | 2024 | M-F | M-F 6:00 a.m. - 9:00 p.m. |
| 9 Weekend | Serves Silvernail Road, University Avenue, and Pebble Valley Road on weekends | 2024 | Saturday | Saturday 9:00 a.m. - 6:00 p.m. |

*Source: SEWRPC*

the anticipated start of revenue service for Milwaukee County's E-W BRT. At that time, Milwaukee County plans to replace the current GoldLine service with the E-W BRT service. To accommodate these changes, the Waukesha Metro Route 1 is anticipated to increase service frequency, hours of service, and length of the route to connect to the E-W BRT. The proposed Route 1 alignment will serve Main Street in the City of Waukesha and continue east on Moreland Boulevard. This Route 1 alignment will trim service to the destinations north and west of the Westbrook Shopping Center. However, in response to the proposed changes to Route 1, nearby routes (Route 2, Route 3, and Route 15) are proposed to be updated concurrently to provide coverage to these neighborhoods, businesses, and important destinations. It is anticipated that the remaining Waukesha Metro routes (4, 5, 6, 7, 8, and 9) will be updated in subsequent years, potentially as soon as 2024, pending public input. Given the increased service planned for Route 1, Table 5.3 includes significantly higher revenue miles and service hours in 2023 and 2027. The recommended weekday route changes are illustrated on Map 5.1.

Based on the input received from the Advisory Committee, the populations served under the proposed weekday route changes were analyzed to ensure that individuals with high transit needs continued to be served, which includes the following categories: school-age children (ages 10 through 17), seniors (ages 75 and older), persons in low-income households, people with disabilities, and households with no vehicle available. The results indicate that all seven of the Census block groups with high transit needs within the City of Waukesha continue to be served with the proposed weekday route changes, while 28 of the 35 block groups with moderate transit needs within the City would be served, a reduction of four block groups. The block groups no longer considered served are primarily a result of proposed changes to Route 7 and Route 5, which would shorten the extent of the routes. Specifically, the proposed changes to Route 7 would eliminate weekday transit service west of Grandview Boulevard and the proposed changes to Route 5 would eliminate weekday transit service south of Sunset Drive. Given these potential impacts to individuals with moderate transit needs, it is anticipated that Waukesha Metro continue to monitor recent ridership levels in these locations prior to implementing the route changes. Transit service to Census blocks with high concentrations of minority residents was also analyzed and the results indicate that the proposed changes to Waukesha Metro would not impact those areas comprised of the highest concentrations of minority people, which includes Census blocks that comprise 200 or more minority people.

***Weekend Route Changes***

The changes to weekend routes would continue service between downtown Waukesha and major trip generators such as Brookfield Square, Woodman's Market, Westbrook Shopping Center, the Shoppes at Fox River, and retail establishments along Grandview Boulevard and Silvernail Road. As shown in Table 5.2, Saturday service would be provided on Routes 1, 2/3, 4, 5, 7/8, 9, and 15 and Sunday service would be provided on Routes 1, 4, 5, and 7/8. Similar to the weekday route changes, the weekend changes could be implemented in a phased approach, with Routes 1, 2/3, and 15 proposed to occur in 2023 and Routes 4, 5, 7/8, and 9 proposed to occur in 2024. The recommended weekend routing would combine Routes 2 and 3 into one route that serves destinations such as Woodman's Market, Westbrook Shopping Center, and Target. The recommended changes would also continue to operate Route 7/8, with service on weekday evenings, Saturday, and Sunday to serve residential areas on the western side of the City and Waukesha Memorial Hospital. The recommended weekend route changes are illustrated on Map 5.2.

***Service Option 5.2.2A: Route 9 Routing and Destination Options***

Within the proposed system change described previously, service options for Route 9 and Route 15 are shown on Map 5.3. Specifically, Route 9 currently serves the Waukesha County Technical College (WCTC), GE Healthcare, and the Ingleside Hotel. The recommended routing considers removing service to Ingleside Hotel due to low ridership, and includes routing options that would serve the Department of Motor Vehicles (DMV), GE Healthcare, and WCTC (shown as options 1, 2, and 3). Based on public input, which requested that participants rank their preference for these destination options, service to the DMV and WCTC was identified as most preferred, with GE Healthcare also receiving some preference. Future discussions with WisDOT will be needed to identify the potential routing and an accessible bus stop location near the DMV. Therefore, Map 5.1 shows service to WCTC and GE Healthcare, but specific routing to the DMV is not currently shown pending future discussions.

**Table 5.3**
**Projected Changes in Annual Operating Expenses, Revenues, and Ridership Resulting from Route Updates for the Waukesha Metro Transit Service: 2023-2027**

| | Actual | Projected | | |
|---|---|---|---|---|
| **Charateristics** | 2019 | 2023 | 2027 | Average |
| Services Provided | | | | |
| Revenue Vehicle Miles | 641,200 | 871,800 | 834,000 | 852,900 |
| Revenue Vehicle Hours | 54,500 | 57,300 | 49,300 | 53,300 |
| Passenger Trips | | | | |
| Revenue Passengers | 498,092 | 390,000 | 396,200 | 393,100 |
| Boarding Passengers | 577,696 | 452,300 | 459,500 | 455,900 |
| Boarding Passengers per Revenue Vehicle Mile | 0.90 | 0.45 | 0.48 | 0.46 |
| Boarding Passengers per Revenue Vehicle Hour | 10.60 | 6.81 | 8.04 | 7.42 |
| Expenses and Revenues | | | | |
| Operating Expenses[a] | $4,906,125 | $6,088,795 | $5,775,081 | $5,931,938 |
| Farebox Revenues[a] | $751,243 | $842,700 | $849,600 | $846,150 |
| Percent of Expenses | | | | |
| Recovered Through Revenues | 15.31 | 13.84 | 14.71 | 14.28 |
| Operating Assistance | | | | |
| Federal[a] | $741,396 | $1,503,200 | $1,865,600 | $1,684,400 |
| State[a] | $2,286,269 | $1,195,200 | $1,483,200 | $1,339,200 |
| Local[a] | $1,127,217 | $2,547,695 | $1,576,681 | $2,062,188 |
| Total[a] | $4,154,882 | $5,246,095 | $4,925,481 | $5,085,788 |
| Per Boarding Passenger | | | | |
| Operating Expenses[a] | $8.49 | $13.46 | $12.57 | $13.02 |
| Farebox Revenue[a] | $1.30 | $1.86 | $1.85 | $1.86 |
| Total Operating Assistance[a] | $7.19 | $11.60 | $10.72 | $11.16 |

Note: The estimated operating assistance levels are anticipated to change based on future State biennial budgets and Federal infrastructure bills.

[a] *Expenses and revenues are expressed in estimated year-of-expenditure dollars.*

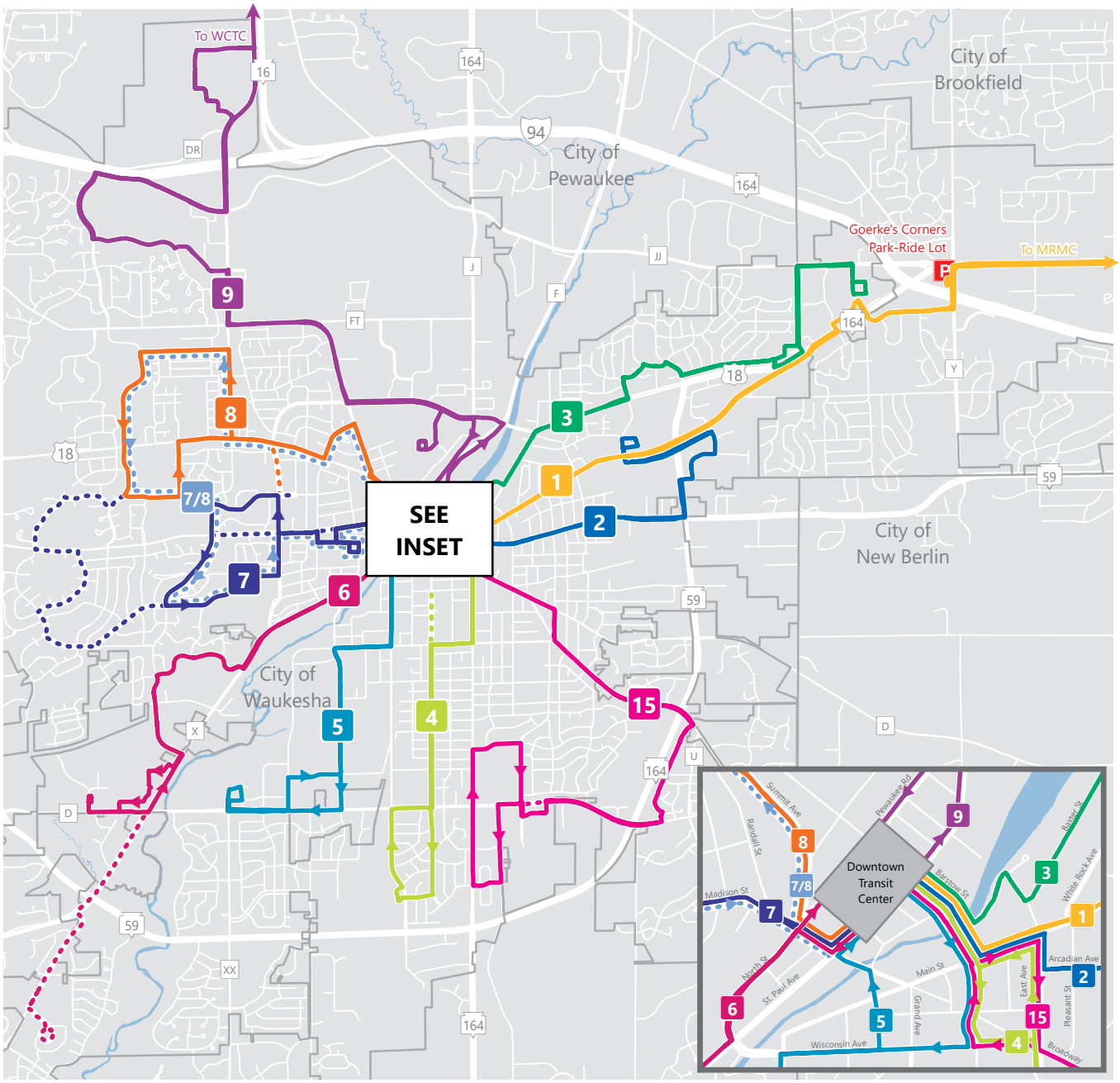
*Source: SEWRPC*

### *Service Option 5.2.2B: Route 15 Routing Options*

The options associated with the draft Route 15 included whether to serve destinations along Roberta Avenue and Tenny Avenue, north of Sunset Drive as part of the regular service (shown as option 1 on Map 5.3), or only locations south of Sunset Avenue (shown as option 2). Under option 2, it is anticipated that there would continue to be limited transit service to Waukesha South High School during the school year. Based on public input, where participants were asked to identify which locations should have regular transit service, there was preference indicated for locations north of Sunset Drive (Roberta Avenue and Tenny Avenue), with additional interest in serving locations south of Sunset Drive (Big Bend Road, E. Rivera Drive, and S. East Avenue). Therefore, Route 15 is recommended to serve locations both north and south of Sunset Drive, as shown on Maps 5.1 and 5.2.

Potential cost and ridership estimates resulting from these route changes are summarized in Table 5.3. These estimates assume that operating expenses per service hour will grow at a rate of 2.5 percent each year, and that the percentage of operating expenses covered by a combination of Federal and State funds will remain at approximately 55 percent. The State and Federal funding levels are anticipated to change in the next State biennial budget (2023-2025) and future Federal infrastructure bills. The State has initiated the 2023-2025 biennial budget process in June 2022, with a signed budget anticipated by July 2023. The Infrastructure Investment and Jobs Act authorized funding increases for public transit over five years through Federal Fiscal Year 2026. The route changes would result in a reduction in revenue hours over the no-change projections due to some routes shortening their trips, or revised routing. Since the changes could be implemented in stages, the result of the complete route update is shown under the year 2027. It was assumed that ridership would increase by about 1.5 percent over the no-change projections in the years that route changes are implemented based on experiences from other route changes nationally. However, given the current context of pandemic-related impacts on travel patterns, any forecasts of ridership within this TDP are tentative and have a high degree of uncertainty. Operating expenses are projected to decrease in 2027 due to reductions in revenue hours.

## Map 5.1
## Draft Recommended Waukesha Metro Transit Weekday Routes




**RECOMMENDED WEEKDAY ROUTES***

- REGULAR SERVICE
- LIMITED SERVICE
- 1 WAUKESHA/BROOKFIELD
- 2 ARCADIAN
- 3 HARTWELL
- 4 GRAND
- 5 PRAIRIE
- 6 ST. PAUL
- 7 MADISON
- 7/8 MADISON/SUMMIT
- 8 SUMMIT
- 9 NORTHVIEW
- 15 RACINE AVENUE

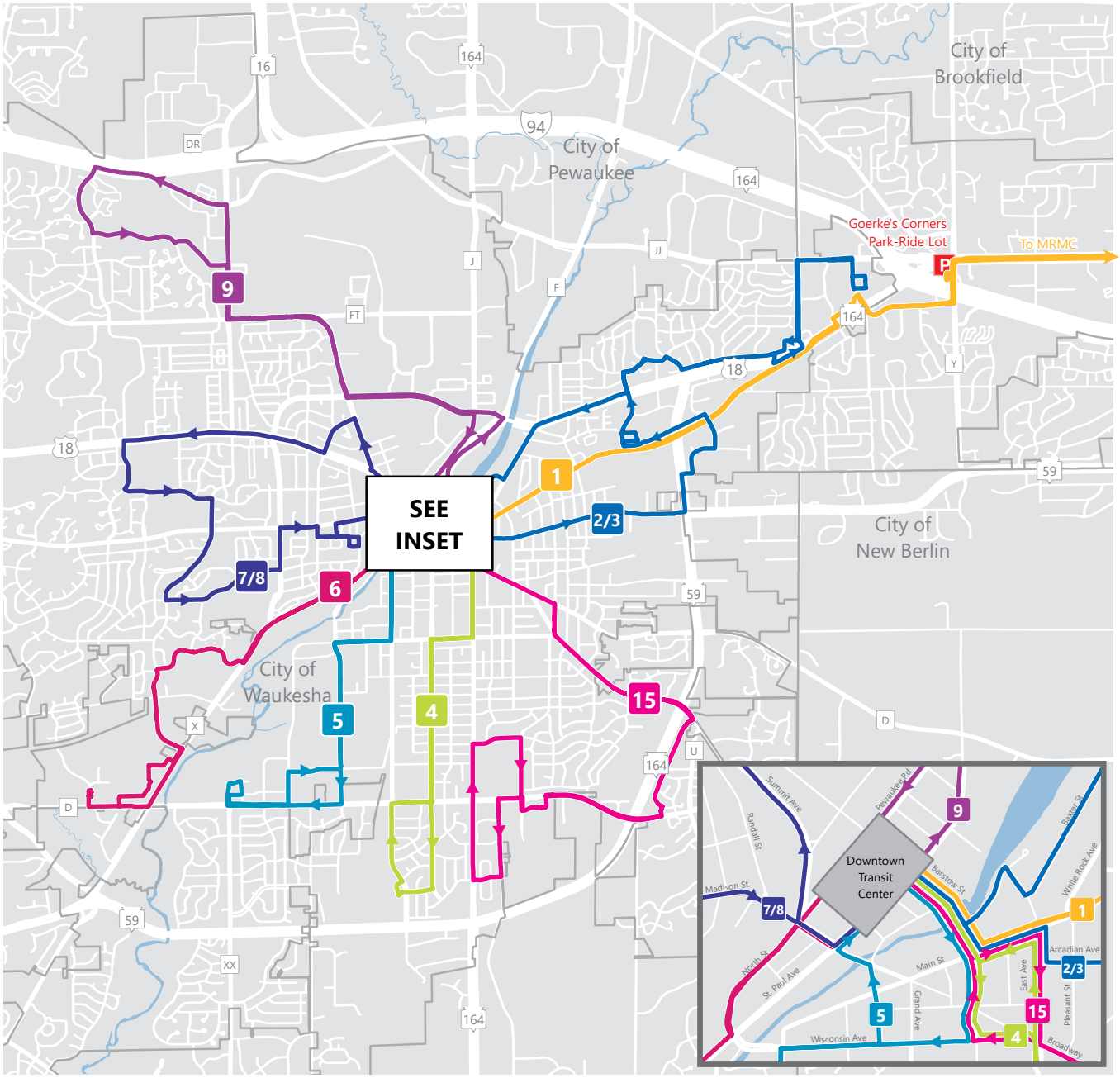
N

0 0.25 0.5 0.75 1 Miles

*Source: Waukesha Metro Transit and SEWRPC*

Note: All routes listed above, except for Route 7/8, provide service on weekday mornings.

## Map 5.2
## Draft Recommended Waukesha Metro Transit Weekend Routes




**RECOMMENDED WEEKEND ROUTES**

- REGULAR SERVICE
- 1 WAUKESHA/BROOKFIELD*
- 2/3 ARCADIAN/HARTWELL
- 4 GRAND*
- 5 PRAIRIE*
- 6 ST. PAUL*
- 7/8 MADISON/SUMMIT*
- 9 NORTHVIEW
- 15 RACINE AVENUE

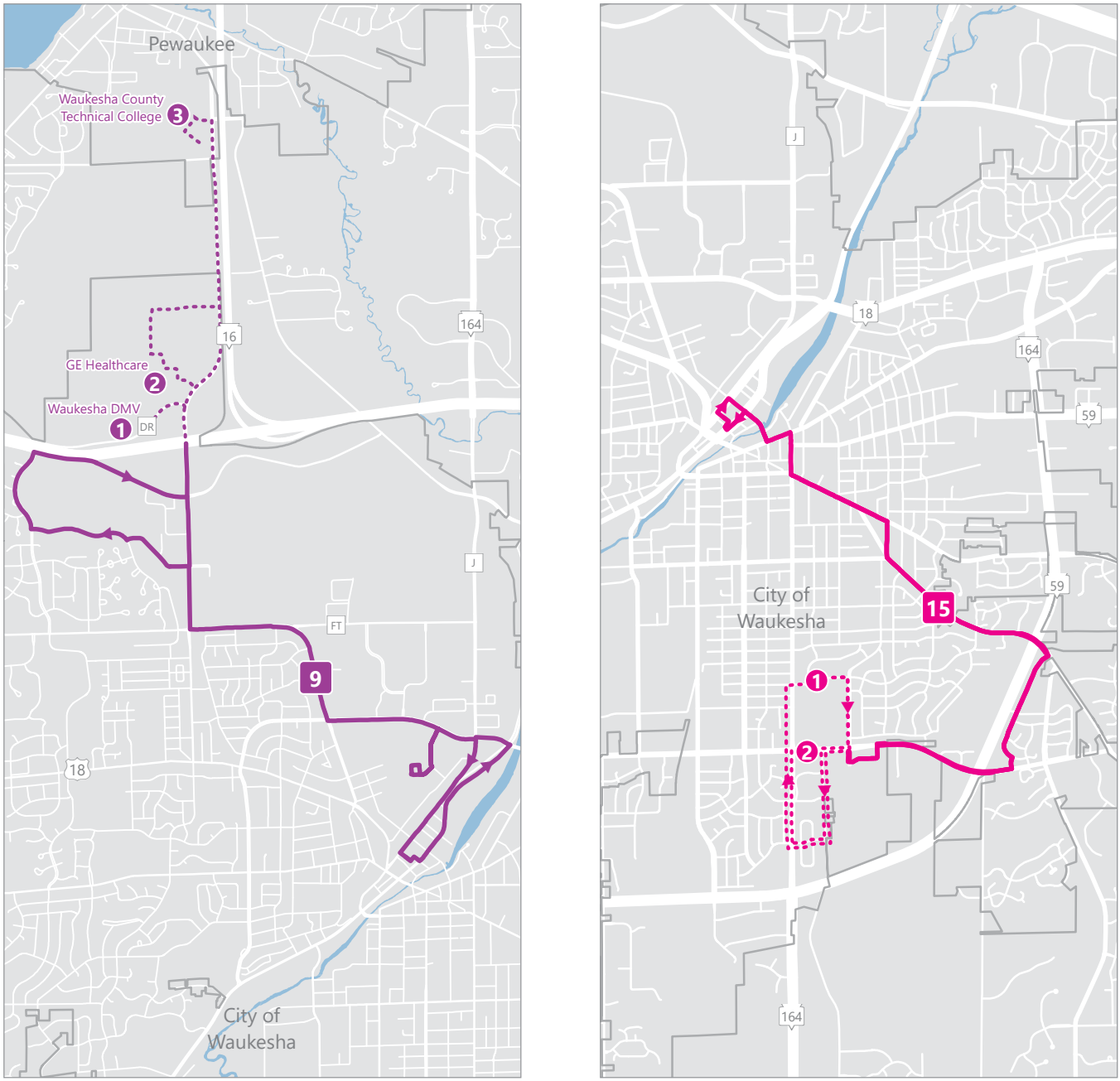
N

0 0.25 0.5 0.75 1 Miles

*Source: Waukesha Metro Transit and SEWRPC*

Note: All routes listed above provide service on Saturday.
Routes with an asterisk (*) also provide service on Sunday.

## Map 5.3
## Potential Waukesha Metro Transit Route 9 and Route 15 Service Options




**ALTERNATIVE ROUTE 9 - NORTHVIEW**

- 9 REGULAR SERVICE
- 1 ROUTING OPTIONS

**ALTERNATIVE ROUTE 15 - RACINE AVENUE**

- 15 REGULAR SERVICE
- 1 ROUTING OPTIONS

N

0 0.2 0.4 0.6 0.8 Miles

*Source: Waukesha Metro Transit and SEWRPC*

The consideration of these proposed changes to Waukesha Metro routes is assisted by providing similar estimates of continuing to operate the existing system as-is for the timeframe covered under this plan. In addition, the City of Waukesha may choose to not make any changes to Waukesha Metro routes during that time. Estimates for the no change scenario are shown in Table 5.4. As with the estimates for the proposed changes scenario, these estimates assume that operating expenses per service hour will grow at a rate of 2.5 percent each year, and that the percentage of operating expenses covered by a combination of Federal and State funds will remain at approximately 55 percent.

***Options for Future Waukesha Metro Route Changes***

Given the uncertainty surrounding transit ridership going forward, changes to Waukesha Metro routes in years 2024 through 2027 could be grouped into two options based on ridership scenarios. Waukesha Metro plans to purchase new automatic passenger counters in 2023, which will provide more accurate boarding and alighting data to inform future route changes. The first option could be considered under a low ridership scenario where ridership does not return to 2019 levels. As envisioned, this option would straighten and remove routes or segments of routes based on analyses of productivity using either the per mile or per scheduled trip performance measures. Given that this scenario assumes that ridership does not rebound within the timeframe of this plan, it focuses investments on those segments and locations that generate the most ridership to emphasize frequency of service over geographic coverage. Under the low ridership scenario, more significant route changes, such as removal of fixed-route service and replacement with on-demand service, could be considered along segments located in areas with the following characteristics as identified in the performance evaluation of this plan:

- Areas that are below the minimum threshold for transit supportive land uses based on population density. Based on national guidance, this threshold is 1,195 people per quarter section or four units per gross acre.

- Areas that are below the minimum threshold for transit supportive land uses based on job density. National guidance indicates the job density threshold is 640 jobs per quarter section or four jobs per acre.

- Areas that have low performing segments. Based on the route productivity analysis conducted as part of this plan, low performing segments are considered to have under four weekday boardings and alightings per scheduled bus trip per segment or under 25 weekday boardings and alightings per mile.

The second option assumes that ridership returns to 2019 levels within the timeframe of this plan, and proposes more moderate route changes, emphasizing coverage over frequency. Under this scenario, the segments that were considered moderately productive in either the per mile or per scheduled trip analyses would continue to be served by fixed-route transit to provide coverage within the City of Waukesha. It is recommended that any proposed route revisions include a review of how changes would impact areas with high transit needs, access to major activity centers, pedestrian access to and from the bus stop, and steep terrain that can reduce access. Under this option, Waukesha Metro may consider continuing fixed-route service in areas that have lower population and job densities. The route changes under the higher ridership scenario would place an even greater emphasis on service coverage regardless of population and employment densities. However, Waukesha Metro may determine that route changes are needed due to segment performance as additional boarding and alighting data become available. Therefore, under this higher ridership scenario Waukesha Metro could consider route updates along segments located in areas with the following characteristics:

- Areas that have low performing segments. Based on the route productivity analysis conducted as part of this plan, low performing segments are considered to have under four weekday boardings and alightings per scheduled bus trip per segment or under 25 weekday boardings and alightings per mile.

Should Waukesha Metro consider additional changes beyond the route changes detailed in this plan, Commission staff are available to assist with an analysis of the route revisions in the future using recent demographic and ridership data.

**Table 5.4**
**Projected Annual Operating Expenses, Revenues, and Ridership for the Waukesha Metro Transit Service: 2023-2027**

| | Actual | Projected | | |
|---|---|---|---|---|
| **Charateristics** | 2019 | 2023 | 2027 | Average |
| Services Provided | | | | |
| Revenue Vehicle Miles | 641,200 | 641,200 | 641,200 | 641,200 |
| Revenue Vehicle Hours | 54,500 | 54,500 | 54,500 | 54,500 |
| Passenger Trips | | | | |
| Revenue Passengers | 498,100 | 383,900 | 464,500 | 439,900 |
| Boarding Passengers | 577,700 | 445,200 | 538,700 | 510,200 |
| Boarding Passengers per Revenue Vehicle Mile | 0.90 | 0.69 | 0.84 | 0.80 |
| Boarding Passengers per Revenue Vehicle Hour | 10.60 | 8.17 | 9.88 | 9.36 |
| Expenses and Revenues | | | | |
| Operating Expenses[a] | $4,906,100 | $5,791,300 | $6,384,200 | $6,084,100 |
| Farebox Revenues[a] | $751,200 | $829,500 | $1,011,900 | $953,900 |
| Percent of Expenses | | | | |
| Recovered Through Revenues | 15.31 | 14.32 | 15.85 | 15.66 |
| Operating Assistance | | | | |
| Federal[a] | $741,400 | $805,000 | $887,400 | $845,700 |
| State[a] | $2,286,300 | $885,900 | $976,600 | $930,700 |
| Local[a] | $1,127,200 | $3,270,900 | $3,508,200 | $3,353,800 |
| Total[a] | $4,154,900 | $4,961,800 | $5,372,300 | $5,130,200 |
| Per Boarding Passenger | | | | |
| Operating Expenses[a] | $8.49 | $13.01 | $11.85 | $11.92 |
| Farebox Revenue[a] | $1.30 | $1.86 | $1.88 | $1.87 |
| Total Operating Assistance[a] | $7.19 | $11.15 | $9.97 | $10.06 |

Note: The estimated operating assistance levels are anticipated to change based on future State biennial budgets and Federal infrastructure bills.

[a] *Expenses and revenues are expressed in estimated year-of-expenditure dollars.*

*Source: SEWRPC*

### Recommendation 5.2.3: Combine Route 904 and 905, with Runs Terminating at Goerke's Corners and the City of Delafield

This section includes commuter service recommendations and service options for consideration, which were developed in the context of declining ridership trends, which existed even prior to the COVID-19 pandemic. Prior to the pandemic, commuter bus ridership was declining due to retirements among the historical ridership base, changing commuting patterns, and relatively low fuel prices. Commuter bus ridership then significantly declined even further due to the pandemic as many office-based employees worked from home. This resulted in year 2021 ridership levels on the 900 series routes being about 80 percent below pre-pandemic levels. Throughout the pandemic, return to work plans shifted as cases surged at various points, resulting in further uncertainty around future travel patterns and transit ridership. Nationally, the pandemic has shifted the long-term outlook for in-person work as many employers consider permanent remote work and hybrid work options, further impacting demand for traditional commuter bus services.

With these trends in mind, the following commuter bus recommendations and service options consider a lower level of fixed-route service, combining certain routes, considering partnerships with other transportation providers to serve key areas, and potential on-demand transportation services to offer first/last-mile transportation in Waukesha County. The projections of ridership, operating costs, and operating assistance were based on the Waukesha County Commuter route schedules operating in August 2021. For comparison, if the County should choose to continue the current commuter services, the projected annual operating expenses, revenues, and ridership are shown in Table 5.5. For purposes of this table, 2021 ridership levels were assumed to remain the same in future years and operating expenses were increased three percent each year based on current contracts. It should be noted that while service reductions are considered for the 900-series services in Waukesha County, portions of this plan consider enhancements to Waukesha County services provided along the Bluemound Corridor (Route 1 Extension, GoldLine Extension) to provide a greater service frequency in a corridor that is the best performing route, serving as the main connector to Milwaukee County.

**Table 5.5**
**Projected Annual Operating Expenses, Revenues, and Ridership for the Waukesha County Transit Service: 2023-2027**

| | Actual | Projected | | |
|---|---|---|---|---|
| **Charateristics** | 2019 | 2023 | 2027 | Average |
| Services Provided | | | | |
| Revenue Vehicle Miles | 464,800 | 276,400 | 276,400 | 276,400 |
| Revenue Vehicle Hours | 26,200 | 13,100 | 13,100 | 13,100 |
| Revenue Passengers | | | | |
| Total | 426,600 | 158,800 | 158,800 | 158,800 |
| Passengers per Revenue Vehicle Mile | 0.92 | 0.57 | 0.57 | 0.57 |
| Passengers per Revenue Vehicle Hour | 16.27 | 12.11 | 12.11 | 12.11 |
| Expenses and Revenues | | | | |
| Operating Expenses[a] | $3,948,000 | $2,334,700 | $2,627,800 | $2,481,300 |
| Farebox Revenues[a] | $644,600 | $177,400 | $177,400 | $177,400 |
| Percent of Expenses | | | | |
| Recovered Through Revenues | 6.12 | 7.60 | 6.75 | 7.18 |
| Operating Assistance | | | | |
| Federal[a] | $818,700 | $715,400 | $805,100 | $760,300 |
| State[a] | $1,453,800 | $568,700 | $640,200 | $604,500 |
| Local[a] | $1,031,000 | $873,200 | $1,005,000 | $939,100 |
| Total[a] | $3,303,400 | $2,157,300 | $2,450,300 | $2,303,800 |
| Per Trip Data | | | | |
| Operating Expenses[a] | $9.25 | $14.70 | $16.55 | $15.62 |
| Farebox Revenue[a] | $1.51 | $1.12 | $1.12 | $1.12 |
| Total Operating Assistance[a] | $7.74 | $13.58 | $15.43 | $14.51 |

Note: The estimated operating assistance levels are anticipated to change based on future State biennial budgets and Federal infrastructure bills.

[a] *Expenses and revenues are expressed in estimated year-of-expenditure dollars.*

*Source: SEWRPC*

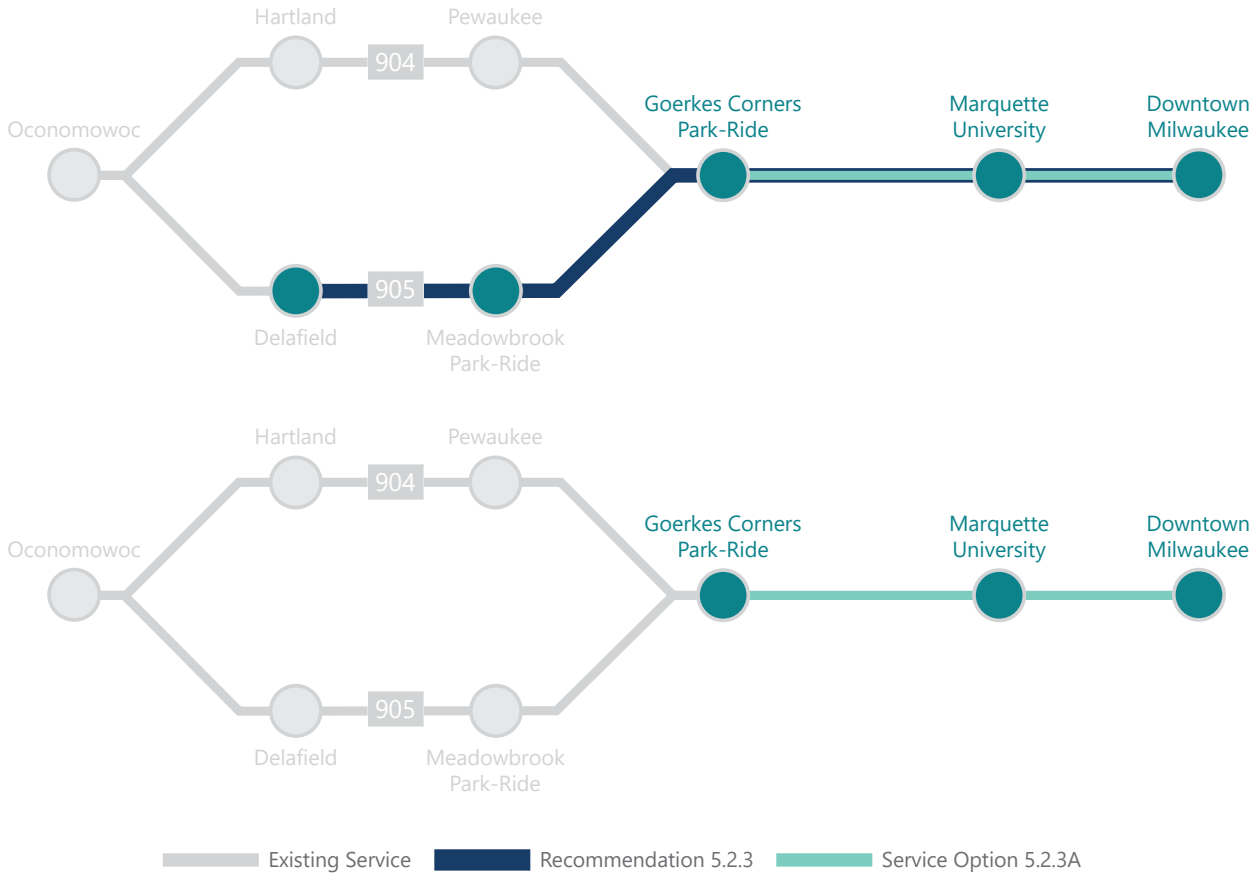
Should the County seek to retain commuter bus service to portions of western Waukesha County, this recommendation envisions that four runs would continue to serve the Nagawaukee Park-Ride Lot in the City of Delafield. This recommendation is illustrated in Figure 5.3. For those runs serving the Nagawaukee Park-Ride Lot, two would operate during the peak morning commute and two would operate during the peak evening commute. Under this recommendation, the Route 904 would no longer be in service, with the runs to and from Delafield becoming Route 905. These changes would reduce the total operating expenses by approximately $160,000 per year in 2027 and reduce total operating assistance by approximately $150,000 per year in 2027, as shown in Table 5.6. It is estimated that about 9,500 fewer passengers (based on pre-pandemic trends) would utilize the services.

### *Service Option 5.2.3A: Eliminate Stops on Routes 904 and 905 West of Goerke's Corners Park-Ride Lot*

If ridership declines significantly, Waukesha County could consider eliminating stops west of the Goerke's Corners Park-Ride Lot for Routes 904 and 905. Based on reviews of boardings and alightings, Commission staff determined that the majority of passengers on Routes 904 and 905 access the service at Goerke's Corners (82 percent and 63 percent of route ridership, respectively). Therefore, this option would allow the majority of passengers to continue similar travel patterns while reducing operating expenses. This proposed change is illustrated in Figure 5.3.

Under this scenario, Route 901 would continue operating to the downtown Waukesha Transit Center. As shown in Table 5.6, this option would reduce operating expenses by approximately $218,000 per year in 2027 and reduce total operating assistance by approximately $203,000 per year in 2027. However, it is estimated that this option would reduce total passengers by approximately 13,200 per year (based on pre-pandemic trends) as it offers less service to the western portions of the County. Based on public input, there was support to continue commuter service west of Goerke's Corners Park-Ride Lot. Therefore, this service option is provided should ridership decline significantly in the future.

## Figure 5.3
## Potential Service Changes for Routes 904 and 905




*Source: SEWRPC*

## Table 5.6
## Comparison of Projected Decreases in Annual Operating Expenses, Revenues, and Ridership for Each Commuter Route Reduction: 2027

| Charateristics | Recommendation 5.2.3: Combine Routes 904 and 905 to Goerke's Corners and City of Delafield | Service option 5.2.3A: Eliminate All Stops West of Goerke's Corners on Routes 904 and 905 | Recommendation 5.2.4: Reduce 901 Frequency |
|---|---|---|---|
| Services Provided | | | |
| Revenue Vehicle Hours | -800 | -1,100 | -800 |
| Revenue Passengers | | | |
| Total Passengers | -9,500 | -13,200 | -9,800 |
| Passengers per Revenue Vehicle Hour | 11.88 | 12.00 | 12.25 |
| Expenses and Revenues | | | |
| Operating Expenses[a] | -$156,700 | -$218,000 | -$161,700 |
| Farebox Revenues[a] | -$10,600 | -$14,700 | -$10,900 |
| Operating Assistance | | | |
| Local[a] | -$59,900 | -$83,400 | -$61,900 |
| Total[a] | -$146,100 | -$203,300 | -$150,800 |
| Per Trip Data | | | |
| Total Operating Assistance[a] | 15.38 | 15.40 | 15.39 |

[a] *Expenses and revenues are expressed in estimated year-of-expenditure dollars.*

*Source: SEWRPC*

**Recommendation 5.2.4: Reduce Frequency on Route 901**

This recommendation would reduce service on the Route 901 by eliminating two eastbound and two westbound runs as illustrated in Figure 5.4. The two eastbound runs that would be eliminated provide morning service, which would result in a total of four eastbound routes remaining. The two westbound routes include one morning route from downtown Milwaukee to Waukesha and one afternoon route from UW-Milwaukee to Waukesha. These changes to westbound service would result in one remaining run serving as a "reverse commute" run from downtown Milwaukee to Waukesha and no mid-afternoon service between UW-Milwaukee and Waukesha. However, the East-West BRT and the Waukesha Metro Route 1 will provide frequent, all-day service that will assist passengers requiring this trip and therefore, the impacts to access will be somewhat limited. As shown in Table 5.6, it is estimated that this recommendation would reduce total operating expenses by approximately $162,000 per year in 2027 and reduce total operating assistance by approximately $151,000 per year in 2027. It is estimated that annual ridership would decrease by approximately 9,800 passengers (based on pre-pandemic trends) due to the reduction in service to downtown Waukesha. Waukesha County could also consider continuing service on the two eastbound and two westbound runs, but end the trips at Goerke's Corners Park-Ride Lot, as illustrated as service option 5.2.4A in Figure 5.4. However, the increase span of service and frequency on the Waukesha Metro Route 1 would allow passengers to continue westbound to downtown Waukesha, which could mitigate this estimated loss of ridership.

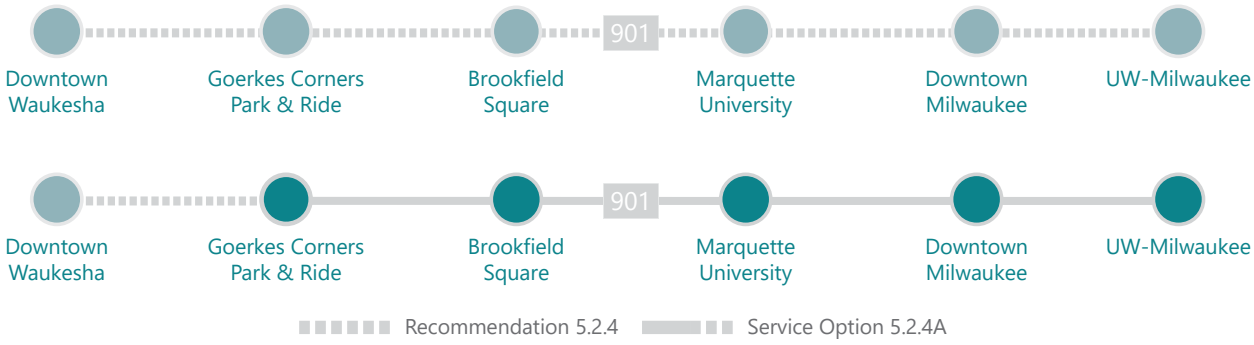
Potential impacts to County paratransit services and passengers should be considered when making changes to Waukesha County Transit service. Based on FTA guidance in FTA Circular 4710.1, commuter bus service is not required to provide complementary paratransit service. Under this guidance, commuter bus service is defined as transit service limited to predominantly one direction during peak periods with limited stops along extended lengths. Therefore, eliminating the bi-directional transit service along the Route 901 between UW-Milwaukee and the City of Waukesha would likely reduce the need to offer complementary paratransit service along the Route 901, further reducing the cost to Waukesha County by approximately $150,000 per year, which was the annual operating expenses for County paratransit services in 2019. If complementary paratransit service is no longer operated along Roue 901, current County paratransit passengers would no longer have direct transportation between the City of Waukesha and destinations in Milwaukee County. Rather, County paratransit passengers would be required to transfer to another wheelchair accessible vehicle operated by MCTS or request a ride through the RideLine program if the trip is for medical purposes. Based on the most recent ridership information provided by Waukesha County Transit, there are less than ten passengers that utilize Waukesha County paratransit services to access destinations in Milwaukee County.

These potential service changes could be considered separately or in combination with each other. In addition, Waukesha County could explore partnerships to leverage transportation services with regional transit operators, as described in a following recommendation.

**Recommendation 5.2.5: Implement an Enhanced Fare Payment System**

An enhanced fare payment system could offer the opportunity to support seamless regional connectivity for commuters traveling between Waukesha County and Milwaukee County. For example, in early 2022, MCTS announced that it will implement a new fare collection system. The new system includes multiple payment options, including cash and smartcards, but is built around a smartphone app named WisGO, which is intended to provide a comprehensive mobility platform for Milwaukee County, and the region. Such smartphone apps for transit can make accessing information about the transit system substantially easier for those using or relying on mobile devices. In addition, many transit systems have integrated services like trip planning, real-time bus arrival information, and fare payment into their smartphone apps. Extending these conveniences to Waukesha Metro riders would provide an enhanced rider experience. Should Waukesha Metro pursue integrating with MCTS's fare payment system, items such as aligning fare policies and prices among transit agencies; ensuring connectivity with Waukesha Metro's automatic vehicle location system; considering how fares are divided among operators for cross-county trips; and identifying hardware needs such as fare purchasing equipment would all need to be considered and addressed. MCTS is providing Waukesha Metro with fare validators on all buses, which will allow for more opportunities for intercounty travel.

**Figure 5.4**
**Potential Service Changes for Route 901**




*Source: SEWRPC*

The integration of various transportation services and payment (e.g., transit, bikeshare, rideshare, etc.) into a single mobility service accessible on demand is called Mobility as a Service (MaaS). The intent of a MaaS program is to offer users the best value proposition by helping them meet their mobility needs. MaaS has been implemented internationally and at some U.S. transit agencies. Specifically, the Dallas Area Rapid Transit system and Portland's TriMet are developing apps for trip planning that are moving them toward a more robust MaaS program. The feasibility of implementing Maas in Wisconsin was studied in 2020, and the case study identified potential limitations related to limited smartphone availability, funding limitations, and an aging population. However, continued collaboration between stakeholders and tailored services that meet the needs of passengers could help address these challenges.[11] These innovations will evolve and provide opportunities to enhance the passenger experience and encourage ridership.[12] As these technologies continue to be implemented in the region, Waukesha Metro should continue to discuss options with MCTS to provide seamless transfers to their services, starting with the Route 1 extension between MRMC and the downtown Waukesha Transit Center.

### Recommendation 5.2.6: Consider Fare Policy Changes

#### *Fare Capping*

Fare increases may be considered by Waukesha Metro once funds provided through the Department of Transportation's COVID-19 relief programs are depleted. However, the potential need for fare increases to keep pace with inflation should be balanced with opportunities to promote ridership. One opportunity that Waukesha Metro could explore is fare capping, which establishes a fare threshold for frequent transit riders by upgrading their transit pass to a higher-level, such as a daily, weekly, monthly, or annual pass, once a certain fare limit is met. Fare capping is implemented concurrently with the adoption of advanced fare-payment technologies that can count how many times a rider uses the system within specific time spans. Fare capping has been shown to benefit riders that may not be able to afford a weekly or monthly pass while incentivizing riders to use the mobile or card payment options, which reduce the cost associated with handling cash. Early indicators show that fare capping can result in a loss of revenue and therefore Waukesha Metro would need to consider how the potential loss of revenue would be covered. If transitioning to a mobile app or card system, Waukesha Metro should also consider how those who do not have a bank account could pay their fare. In some locations, this is remedied by offering kiosks in which they can pay with cash to reload a transit card. Fare capping as a practice is continuing to evolve, with MCTS implementing fare capping measures in 2023, more information will be available including the impacts to ridership, administrative costs, and how to best communicate the changes to passengers.[13]

[11] *Liu, Yu, Trisha, and Beimborn. Exploring the Feasibility of Mobility as a Service in Small and Rural Communities: Lessons from a Case Study. Journal of Urban Planning and Development, Volume 146 Issue 3, September 2020.*

[12] *National Academies of Sciences, Engineering, and Medicine 2021. The Role of Transit, Shared Modes, and Public Policy in the New Mobility Landscape. Washington DC: The National Academies Press. doi.org/10.17226/26053.*

[13] *National Academies of Sciences, Engineering, and Medicine 2022. Fare Capping: Balancing Revenue and Equity Impacts. Washington, DC: The National Academies Press. doi.org/10.17226/26510.*

***Fare-Free Transit System***

In response to the COVID-19 pandemic, many transit systems, including Waukesha Metro, eliminated fare collection for a temporary period. Waukesha Metro didn't collect fares between the spring of 2020 and August 29, 2020, to address safety concerns associated with driver and passenger interactions. Like Waukesha Metro, most agencies resumed fare collection once some initial precautionary measures were lifted and safety measures, such as shields for drivers, were implemented. Other agencies, such as RideKC in Kansas City, Missouri, expanded their free fare program for veterans, students, and some clients of social services to all passengers on an ongoing basis. In certain cases, transit operators viewed the suspension of fares as a potential opportunity to enhance social equity, improve operations, and boost ridership. Within this context, the Advisory Committee indicated that this planning effort should include an analysis of eliminating fares on Waukesha Metro.

When considering the potential financial impact of eliminating fares, two factors to review are the farebox recovery ratio, or the percentage of farebox revenue compared to operating expenses, and the costs associated with collecting fares. Since collecting fares requires infrastructure and staff time, in cases where the farebox ratio is low, it may be advantageous to consider eliminating fares. For purposes of comparison, the median farebox ratio for bus systems considered in the peer review as part of the cost effectiveness performance standard in Chapter 4 was 12 percent, which is lower than Waukesha Metro's 2018 farebox recovery ratio of 17 percent. However, due to COVID-related ridership decreases and the temporary suspension of fares during a portion of 2020, the farebox recovery ratio has declined to 8.5 percent and 11.0 percent in 2020 and 2021, respectively.

Waukesha Metro staff indicated that the operational costs associated with processing cash payments is relatively low, given that about 30 to 40 percent of fares are paid with cash and the process can be done efficiently. It is estimated that processing the cash payments requires approximately 100 staff hours per year, which is approximately $2,000 based on the average hourly rate of $19.00/hour for accounting staff. Waukesha Metro pays about $1,000 per year for maintenance of the farebox system. Therefore, the annual costs associated with fare collection are approximately 0.5 percent of the operating expenses for Waukesha Metro, which is slightly less than national averages, which are between one and three percent. Due to the high cost of replacing farebox systems, it is undertaken approximately every 15 years. The last farebox replacement process occurred in 2013, and therefore it is likely that the next farebox replacement process would occur beyond the timeframe of this transit development plan. However, for purposes of this analysis, it is estimated that the cost of replacing fareboxes on Waukesha Metro's fleet would be $550,000, with an additional cost of approximately $70,000 for ticket vending machines.

Although the current costs for maintaining and processing fare payments is relatively low for Waukesha Metro, there are numerous benefits that transit agencies have experienced when implementing a fare-free service. For example, fare-free public transit service has resulted in increases in ridership, such as a 43 percent increase in Corvallis, Oregon; 58 percent increase in Asheville, North Carolina; and 86 percent increase in Topeka, Kansas. Some less tangible benefits of a fare-free transit program that have been observed include creating a sense of community pride, recognition by state and local organizations as a great place to live, and introducing young people to transit.[14]

Transit systems that have proposed fare-free systems have encountered additional needs related to maintenance and security, potentially adding to the expense of operating the system. These challenges may include homeless individuals remaining on vehicles, which is a concern among transit operators nationally and not a challenge that transit agencies can solve alone. Potential actions include partnering with social service agencies, training staff in conflict resolution, and ongoing community outreach about homelessness.[15] In addition, to fulfill requirements under the American with Disabilities Act, which requires that fares for complementary paratransit cannot exceed twice the base adult fare, Waukesha Metro would be required to provide fare-free paratransit service, which would put additional pressure on the transit system budget.

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[14] *National Academies of Sciences, Engineering, and Medicine 2012. Implementation and Outcomes of Fare-Free Transit Systems. Washington, DC: The National Academies Press. doi.org/10.17226/22753.*

[15] *National Academy of Sciences, 2016, Transit Agency Practices in Interacting with People Who Are Homeless, A Synthesis of Practice 121.*

Reports documenting past fare-free experiments indicate that between 5 to 30 percent of the additional trips were made by people switching from other motorized modes. Most new trips were made by people who would have otherwise walked or used a bicycle or would not have made the trip if there was a fare to pay. Based on research conducted by the Transit Cooperative Research Program (TCRP), a disproportionate number of new trips were made by existing riders, and seniors who were much more sensitive to transit pricing than automobile users. However, more recent implementation of fare-free public transit indicate that choice riders are more likely to use the service and take advantage of the free fares.

Alternative Fare-Free Programs

Other transit agencies have tested pilot programs by initially focusing on one demographic or region. In Washington, D.C., the Washington Metropolitan Area Transit Authority's pilot program focused on eliminating transfer fees between rail and buses for low-income residents and will be implemented for the entire population if successful.[16]

Some public transit agencies such as King County Metro Transit in Seattle, Washington, offer a fare-free zone in portions of their downtown districts, although they are reconsidering its continuation owing to budget pressures. In the case of King County, anyone may have unlimited rides on bus or train services without paying a fare within certain geographic boundaries, but they must pay a fare if they intend to stay on the vehicle after it leaves the boundaries of the fare-free zone.

In the case of RideKC, the City of Kansas City, Missouri passed a resolution in December 2019 which allowed the agency to offer free fare for veterans, students, and some clients of social services, such as domestic shelters. They continued their fare-free service into the pandemic and never saw ridership fall below 60 percent of the pre-pandemic level. The free fares are planned to continue through 2023, with Kansas City budgeting $4.8 million specifically for the transit authority to cover revenue lost.

Possible Sources of Revenue

Typical sources of replacement revenue if fares are eliminated include local sales tax, payroll tax, real estate transfer taxes, parking fees, fees paid by university students as part of their tuition, a contract with a public school or other public or private employer, federal or state grants, nonprofit organizations, or other sources including donations. A number of these revenue sources, such as fees, financial aids, or contributions by a private provider, are not available to transit operators in Wisconsin due to limitations in *State Statutes*. Revenues from such sources take the place of the revenue a public transit system would otherwise collect from passengers.

Should the transit system move towards a no-fare system, a pilot program targeting small groups or service zones is recommended to analyze the stability of the program and ensure its success. For example, a fare free program could be piloted with certain rider groups such as seniors or youth to study how the change impacts ridership, customer satisfaction, and system performance. In addition, certain areas, such as the core downtown area, could be fare free to promote mobility between downtown businesses and services.

**Recommendation 5.2.7: Implement Prioritized Improvements to Waukesha Metro Bus Stops**

At the request of Waukesha Area Transit Development Plan Advisory Committee, Commission staff collected and analyzed bus stop data for 589 stop locations served by Waukesha Metro and Waukesha County Transit, during June through September 2020. Data collected included the presence of pedestrian accommodations, bus pads, curb ramps, bus shelters, and amenities. Recent studies have indicated that better bus stop amenities expand transit ridership, with shelters having the most significant positive effect on ridership.[17] For example, bus stop improvements made by the Utah Transit Authority were associated with an increase in overall bus ridership and a decrease in ADA paratransit demand (Kim, Bartholomew, and Ewing, 2018).[18]

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[16] *Bergal, J. (2021, October 1). Can Zero-fare transit work? American Planning Association. www.planning.org/planning/2021/fall/can-zero-fare-transit-work.*

[17] *Talbott, M. R. (2011). Bus Stop Amenities and their Relationship with Ridership: A Transportation Equity Approach. University of North Carolina at Greensboro.*

[18] *Kim, J. Y.; Bartholomew, K.; and Ewing, R. (2018). Impacts of bus stop improvements (Report No. UT-18.04).Utah Department of Transportation Research Division, Salt Lake City, UT. rosap.ntl.bts.gov/view/dot/35670.*

The information gathered identified locations in need of bus stop improvements, indicating that some Waukesha Metro Transit bus stops are missing amenities or are not located near accessible paths, as recommended in the bus stop design standard. There are currently 5 stops without signs, 78 stops without a bus pad, 92 stops without a curb ramp, and 50 stops without nearby sidewalk.

Table 5.7 includes a list of amenities that are recommended for improvement, with the first tier representing the highest priority. The first tier of improvements includes bus stops that require a sign or bus pad, which is estimated to cost approximately $17,000. The second tier of bus stop improvements include amenities to improve pedestrian access such as connecting sidewalk, curb ramps, and detectable warning surfaces, which total approximately $724,000. Prioritizing the first two tiers will assist Waukesha Metro in meeting a recommendation from the Wisconsin Department of Transportation to "establish a yearly budget allocation for continued accessibility improvements until all bus stops are ADA-compliant."[19] Tiers three and four include providing lighting, benches, and shelters as needed. Waukesha Metro will continue to provide lighting, benches, and shelters in appropriate locations based on industry design standards outlined in TCRP Report 19, Guidance for the Location and Design of Bus Stops[20] and the National Association of City Transportation Officials Urban Street Design Guide[21] for bus stops, where appropriate. These resources identify when each bus stop amenity should be considered based on existing conditions such as traffic counts, speed, bus volume, and curb and lane measurements. Bus stop locations where benches could be added include stops that are frequently used by seniors or people with disabilities, bus stops that have evidence of patrons sitting or standing on nearby structures or property, and locations that have adequate width and compatible amenities including a concrete pad, landscaping, and lighting. Shelters may be advisable for locations that have significant passenger boardings or transfers, and usage by seniors or people with disabilities.

Waukesha Metro may consider additional prioritization strategies in the future as outlined in the TCRP Report, "Transit Agency Relationships and Initiatives to Improve Bus Stops and Pedestrian Access," which identified two transit agencies with innovative prioritization methods.[22] The first method, implemented by Via Metropolitan Transit in San Antonio, Texas, based the prioritization of bus stop improvements on categories such as average daily boardings, number of routes served by the bus stop, presence of any of the following facilities within 800 feet: medical facility, educational facility, senior housing or social gathering location, grocery store, or large multi-family housing. The second prioritization method implemented by the Utah Transit Authority included considering bus stop improvements based on the total annual bus ramp deployments, safety elements such as lack of a sidewalk or lighting, and proximity to an educational facility or library. As boarding and alighting data become more available, factors from both methods could be integrated into Waukesha Metro's future prioritization methods. In addition, Commission staff are available to assist with future updates to the bus stop inventory and a more expansive review of ADA compliance in the City of Waukesha, such as measuring connecting sidewalk and curb ramp slopes, and reviewing any needed updates to detectable warning surfaces.

**Recommendation 5.2.8: Continue Exploring Alternative Bus Propulsion Systems and Sizes for Future Purchases**

Commission staff identified and compared several bus types, sizes, and fuel types for potential use by Waukesha Metro Transit to inform this recommendation. Table 5.8 compares the standard 35-foot long diesel buses and 25-27-foot medium duty diesel cutaways used by Waukesha Metro Transit to three different propulsion systems: diesel-electric hybrid, electric, and hydrogen fuel cell. A summary of each propulsion system is provided below.

[19] *2018 Transit System Management Performance Review for Waukesha Metro Transit, Wisconsin Department of Transportation, May 2019.*

[20] *Transit Cooperative Research Program, Report 19, Guidelines for the Location and Design of Bus Stops, 1996.*

[21] *National Association of City Transportation Officials 2013. Urban Street Design Guide. nacto.org/publication/urban-street-design-guide.*

[22] *National Academies of Sciences, Engineering, and Medicine 2021. Transit Agency Relationships and Initiatives to Improve Bus Stops and Pedestrian Access. Washington, DC: doi.org/10.17226/26166.*

**Table 5.7**
**Prioritized Improvements and Estimated Costs for Bus Stops Served by Waukesha Metro Transit**

| Type of Improvement | Number of Locations | Cost ($)[a] | Total Estimated Cost ($) |
|---|---|---|---|
| Tier 1 | | | |
| Bus sign installation | 5 signs and poles | Sign (60), pole (40) | 800 |
| Bus pad | 78 pads | 210 | 16,380 |
| | | Subtotal | 17,180 |
| Tier 2 | | | |
| Sidewalk[b] | 3,534 linear feet | 35 | 123,690 |
| Curb ramps | 92 ramps | 4,400[c] | 404,800 |
| Detectable Warning Surface | 245 curbs | 800 | 196,000 |
| | | Subtotal | 724,490 |
| Tier 3 | | | |
| Light poles | 134 light poles | 1,500[d] | 201,000 |
| Tier 4 | | | |
| Shelters | Provided based on demand and nearby demographics | 10,000[e] | N/A |
| Benches | Provided based on demand and nearby demographics | 1,000 | N/A |

[a] *Estimated improvement costs used to calculate total costs were provided by the City of Waukesha and Waukesha Metro Transit.*

[b] *The installation of sidewalk where it has not previously existed is completed at the expense of the adjoining property owners. The City of Waukesha Community Development and Public Works Department created a sidewalk plan that prioritizes installation of new sidewalk. Proximity to transit was included in the prioritization.*

[c] *Commission staff estimated two curb ramps at each location. These are conservative cost estimates which could be refined with further analyses.*

[d] *A range of likely light pole costs were provided by City of Waukesha staff. Commission staff used the highest likely cost for these estimates, which assumes no existing nearby utilities.*

[e] *A range of likely bus shelter costs were provided by City of Waukesha staff. Commission staff used the highest likely cost for installing a shelter.*

*Source: Citv of Waukesha and SEWRPC*

### *Vehicle Fuel Type Options*

Diesel

Waukesha Metro currently operates diesel buses that comply with U.S. Environmental Protection Agency rules for emissions. Waukesha Metro staff are familiar with the performance, maintenance needs, and costs of diesel buses. As of June 29, 2022, the fuel cost per mile was approximately $1.35, which varies depending on the cost of diesel fuel. Fuel efficiency for Waukesha Metro's current flee is approximately 5.1 miles per gallon.

Approximately 43 percent of public transit buses in revenue service in the United States are powered by diesel, 20 percent are hybrids, and 30 percent are powered by compressed natural gas. Diesel fleet vehicles are readily available and are well established in the transit industry.[23] The minimum life of a diesel bus is 12 years at which time transit agencies are eligible to receive replacement bus funding from the Federal Transit Administration. Waukesha Metro plans to replace buses when they reach the 12-year benchmark, with consideration of vehicle condition and available funding. Bus purchases have typically occurred in groups of two to five buses at a time. Waukesha Metro has completed needed fleet replacements in 2022 and no new replacements are planned until 2027. Therefore, it is unlikely that major changes to the fleet's propulsion systems will occur before the next replacement cycle begins. The alternative vehicle propulsion systems described below are intended to offer Waukesha Metro Transit options for consideration when new fleet vehicles are purchased and identify some performance issues to track as other transit operators utilize these various fleet options.

[23] *American Public Transportation Association, 2020 Public Transportation Vehicle Database, www.apta.com/research-technical-resources/transit-statistics/vehicle-database.*

## Table 5.8
## Comparison of Alternative Bus Types and Sizes for Waukesha Metro Transit

| | Diesel (Existing Fleet) | | Potential Propulsion System | | |
|---|---|---|---|---|---|
| | Large, Heavy-Duty | Medium-Duty | Diesel-Electric Hybrid | Battery Electric | Hydrogen Fuel Cell |
| |  |  |  |   |   |
| **Vehicle Characteristics** | | | *Gillig Hybrid Electric* | *Nova Bus LFSe+* | *New Flyer XHE40* |
| Typical Vehicle Size | 35 or 40 feet | 25-27 feet | 40 feet | 30-40 feet | 40 feet |
| Number of Seats | 30-40 | 19-22 | 43 | 30-40 | 30-40 |
| Minimum Useful Life[a] | 12 years | 4 years | 12 years | 12 years | 12 years |
| Total Capital Cost[b] | $470,000 – $650,000 | $157,000 | $800,000 | $620,000 – $1,500,000 | $1,000,000 |
| Local Share of Capital Cost | $94,000 – $130,000 | $31,400 | $160,000 | $124,000 – $300,000 | $200,000 |
| Fuel/Energy Efficiency | 5.1 MPDGE[c] | 5.5 – 6.5 mpg | 5.5 MPDGE[c] | 15.5 MPDGE[c] | 8.8 MPDGE[c] |
| Fuel Cost | $5.52/diesel gallon[d] | $4.68/gasoline gallon[d] | $5.52/diesel gallon[d] | $0.14kWh[e] | $4.00 - $9.00/kg[f] |
| Special Considerations | • Environmental Protection Agency rules that took effect in 2007 require all heavy-duty diesel-engine vehicles to comply with strict standards that reduce emissions by 90 percent. Subsequent EPA rules starting with the 2014 model year for transit buses, will continue to reduce emissions and fuel consumption. | | • Uses approximately 7 to 44 percent less fuel than diesel buses[g]<br>• Batteries typically must be replaced at least once during the 12-year life of a hybrid bus<br>• Hybrid buses tend to have lower noise levels than diesel buses | • Bus performance can be greatly affected by extreme hot and cold. In cold weather, cabin heating can utilize a significant amount of battery energy.<br>• Mid-life battery replacements are approximately $56,000-$170,000<br>• Variability of electricity costs will vary based on time of day<br>• Range of 130-150 miles per charge, indefinite range with in-route charging[h] | • Lack of sufficient hydrogen delivery infrastructure currently limits its viability<br>• Range of 200-300 miles per charge<br>• Fuel efficiency varies depending on climate, route topography, and passenger load. |

[a] *FTA Circular 5010.1E, Award Management Requirements, revised July 16, 2018.*

[b] *Capital cost estimates were based on average actual bus purchases in the "2020 Public Transportation Vehicle Database" published by the American Public Transportation Association. For all bus types, much of the variation in bus purchase price can be attributed to equipment included in the bus build (e.g., fareboxes, passenger counters, message signs, and radios), with the size of the bus generally having a minimal effect on bus purchase price.*

[c] *AC Transit, Zero Emission Transit Bus Technology Analysis, December 2021.*

[d] *Diesel and regular gasoline fuel cost estimates were derived from the average Wisconsin gas prices on June 29, 2022 prepared by the American Automobile Association (AAA).*

[e] *U.S. Department of Energy, Alternative Fuels Data Center, afdc.energy.gov/fuels/prices.html, national average price between October 1 and October 15, 2021.*

[f] *TCRP Research Report 219, Guidebook for Deploying Zero-Emission Transit Buses, 2021*

[g] *M.J. Bradley & Associates Comparison of Modern CNG, Diesel and Diesel Hybrid-Electric Transit Buses.*

[h] *Information derived from "Battery Electric Bus and Bus Facilities Analysis" prepared by M.J. Bradley & Associates for the Milwaukee County Transit System, January 2020.*

*Source: SEWRPC*

Diesel-Electric Hybrid

Hybrid electric vehicles are powered by an internal combustion engine and an electric drive motor, which uses energy stored in batteries. Diesel-electric hybrids generate electricity for the electric motor, and in some cases can also power the vehicle directly. By utilizing an electric motor to deliver partial or complete power during acceleration, hybrid electric vehicles are typically equipped with a small, more efficient combustion engine. These vehicles also utilize regenerative braking, capturing the energy normally lost during braking by using the electric motor as a generator and storing the recaptured energy in the battery.[24]

Hybrid buses have comparable performance to their non-hybrid counterparts, with lower maintenance costs and increased fuel efficiency. Transit agencies have reported that acceleration in hybrid-electric buses is smoother and faster due to the increased low-end torque characteristics of electric motors. There are also reductions in noise, with hybrid buses offering a quieter ride when compared to conventional diesel buses. Currently, hybrid buses are more expensive than conventional diesel buses. According to the APTA vehicle database, hybrid buses are more expensive than conventional diesel buses, with 35-foot diesel buses currently priced between $500,000 and $600,000 and diesel hybrid buses ranging from $600,000 to $700,000. The majority of diesel hybrid buses in the database were 40-foot buses. The price variation in hybrids is likely due to the order volumes and individual specifications of transit agencies.

Battery Electric Buses

Battery electric buses (BEBs) replace the combustion engine and transmission with an electric motor and battery. BEBs are in operation at approximately 50 U.S. transit agencies as of 2019, with additional BEBs on order. It is anticipated that approximately six percent of U.S. transit agencies will be operating BEBs in the next three years. Nearly all bus manufacturers produce a BEB option and the market for electric buses will likely remain fluid with additional charging options from manufacturers. Since BEBs use electricity, there could be a cost savings associated with the use of electricity instead of diesel fuel. In addition, there are no tailpipe emissions, benefiting residents near bus routes and the environment. The cost of BEBs varies by manufacturer and features, ranging between $620,000 and $1,500,000, compared to the cost of diesel buses, which range from $500,000 to $600,000. BEBs are being deployed by MCTS and the City of Racine/RYDE transit system. Milwaukee County is deploying 15 BEBs as part of the E-W BRT project, scheduled to begin revenue service in 2023. Milwaukee County plans to study the performance of the initial 15 BEBs prior to expanding the electric fleet. In 2018, the City of Racine received approximately $6.2 million from the Volkswagen Transit Capital Assistance Grant program to purchase six BEBs and the related charging and maintenance infrastructure. In 2020, the City of Racine was awarded approximately $3.2 million through the Federal Transit Administration's Low or No Emission Vehicle Program and purchased three battery electric vehicles, which entered revenue service in spring 2022. The vehicles will assist the City with meeting their goals to lower their carbon footprint and reduce the amount of funds needed to operate the system.

Battery electric buses can be charged at a depot or in-route. Depot charging uses a direct current charger, with the bus plugging in via an electrical cord. Depot charging is typically done overnight, as a full charge on a level 2 (240 volt) charger requires approximately six to eight hours. Wireless charging is also becoming available, which involves transmitting energy via magnetic fields through a device embedded in or installed on the floor of the depot. Buses that are only depot charged have lower range in miles and service hours compared to hybrid or diesel buses due to limitations on the size of batteries that can be installed on the bus.[25] Based on a report developed for MCTS, the reliable range at mid-life for a bus designed to only depot charge is estimated to be 100 to 130 miles per charge. The distance each charge provides varies based on traffic, passenger loading, driver behavior, and weather conditions. Some manufacturers offer the option of a diesel-powered heater to supplement the electric heating system, which is necessary in colder climates like Wisconsin.

Alternatively, battery electric buses that are designed for in-route charging typically have slightly smaller battery packs and rely on adding power periodically while the buses are in service throughout the day, rather than buses charging only overnight. The chargers, which are typically overhead conductive chargers using level 3 (720 volt) charging, could be installed at the termini of a route. Given that Waukesha Metro

[24] *U.S. Department of Energy, Alternative Fuels Data Center, Hybrid Electric Vehicles. afdc.energy.gov/vehicles/electric_basics_hev.html.*

[25] *National Academies of Sciences, Engineering, and Medicine 2018. Battery Electric Buses State of the Practice. Washington, DC: The National Academies Press. doi.org/10.17226/25061.*

operates on a pulse system, it may be most efficient to install the in-route chargers at the Transit Center. The time required for each in-route charging stop varies between 5 to 15 minutes, which could occur each time the bus reaches a charger. Waukesha Metro would need to ensure adequate charging time is allocated for those runs on longer distance routes, such as Route 1 and Route 9. Current layover times could accommodate some charging, although some additional layover time or more frequent charging may be needed particularly in the winter when the bus is heated with battery energy.

Given the known challenges of utilizing BEBs in cold climates and the capital investment needed to purchase the vehicles and charging equipment, Waukesha Metro may choose to delay purchasing electric vehicles at this time. However, Waukesha Metro should continue to monitor regional and national performance of BEBs over the next five years to determine if the investment is advisable. Waukesha Metro is scheduled to begin the next cycle of replacing transit vehicles in 2027. At that time, more information will be available from peer transit agencies operating BEB in our region's climate and the technology is anticipated to evolve significantly such that BEBs may be included in future fleet purchases beyond the timeframe of this plan.

Hydrogen Fuel Cell Buses

Fuel cell electric buses utilize onboard hydrogen storage, a fuel cell system, and batteries. The fuel cell uses hydrogen to produce electricity, with waste products of heat and water. The electricity charges the batteries, which power the bus. To further improve efficiency, the waste heat can be used to heat the cabin. Hydrogen fueling infrastructure operates similarly to diesel and CNG fueling stations. At a minimum, hydrogen fueling requires compressors, cooling, and a dispenser, which can consume a considerable amount of energy. If producing hydrogen on site, energy consumption becomes more significant.[26] The average range for transit service is between 200 and 320 miles, with fuel consumption varying depending on climate, route topography, and passenger loads.

Hydrogen fuel cell buses are currently produced by two manufacturers, limiting their production volumes and increasing capital costs for buses. The fueling infrastructure is expensive and fuel costs can be high and inconsistent. Six transit operators in the U.S. currently have hydrogen fuel cell buses in their fleet. In 2021, the Champaign-Urbana Mass Transit District deployed two 60-foot fuel cell buses and refueling infrastructure that utilizes a solar array to produce hydrogen.[27] As the technology continues to evolve and more transit operators deploy new propulsion systems, hydrogen fuel cell buses could be an option to consider in the future as they offer sufficient range and can require fewer impacts to existing operating facilities to enable them to operate.

In summary, Commission staff reviewed literature and surveyed implementation of alternative fuels regionally and nationally. Based on this research, Commission staff identified the following conclusions:

- As more transit systems make the transition to alternative fuels including battery electric buses, new information about costs, local operations in cold weather, maintenance protocols, vehicle range, and infrastructure needs will become more readily available

- Waukesha Metro will need to consider the costs of vehicles, maintenance, training, infrastructure needs, and performance of any new propulsion system as the next fleet replacement cycle begins prior to 2027

***Vehicle Size Options***

The Advisory Committee also discussed exploring the use of different-sized vehicles for Waukesha Metro services, including those available for fixed-route, paratransit, and potential on-demand services. Waukesha Metro currently uses heavy-duty 35-foot transit buses for fixed-route services and medium duty vehicles for paratransit services. Thirty-five-foot buses are the shortest buses typically available in the United States that meet Metro's needs for longevity. Generally speaking, there has not been productive movement within the industry to make a reliable and long-lasting 30-foot vehicle available. There are times of day when ridership requires the higher capacity, particularly on Routes 1, 4, 9, and for group/school trips. In addition, the cost

[26] *National Academies of Sciences, Engineering, and Medicine 2021. Guidebook for Deploying Zero-Emission Transit Buses. Washington, DC: The National Academies Press. doi.org/10.17226/25842.*

[27] *MTD, Zero Emission Technology, mtd.org/inside/projects/zero-emission-technology.*

difference between a 30-foot bus and 35-foot bus is approximately $5,500, with minimal differences in fuel efficiency. Therefore, it is recommended that Waukesha Metro continue to use buses similar to the existing size for fixed-route services.

On-demand services in other parts of the Nation often use minivans, passenger vans, or cutaway vans, which are generally smaller than transit buses but larger than the passenger vehicles commonly used by ride-sourcing services, such as Uber or Lyft. Waukesha Metro currently uses medium duty vehicles with a passenger capacity of 22 individuals for their paratransit services. In addition, Waukesha Metro two Ford Transit vehicles (E-350) that are currently utilized as a paratransit and Supervisor vehicle, which could provide on-demand services. Examples of vehicles and their approximate passenger capacities are included in Table 5.9. The current paratransit vehicle fleet includes six vehicles, which were purchased within the last two years. As these vehicles are replaced, Waukesha Metro could consider a range of vehicles that may have greater fuel efficiency and are smaller to accommodate potential on-demand transportation services while continuing to provide paratransit services.

### Recommendation 5.2.9: Pursue Coordinated Transportation Solutions with Regional Transit Operators

#### *Coordination with Regional Transit Operators*

At the time of writing this chapter, service on the Route 79, which includes commuter service from the Village of Menomonee Falls, was suspended by MCTS. It is likely that the Route 79 will not continue due to the low ridership experienced during service in 2021 and continued driver shortages. As part of the reconfiguration of commuter bus services, Waukesha County has an opportunity to collaborate with transit operators in Washington County and Milwaukee County to provide coverage for Waukesha County residents to major destinations and employers while leveraging each operators' services. This coordination may also include connections at the Watertown Plank Park-Ride Lot or on the campus of the Milwaukee Regional Medical Center, which would allow passengers to access locations in Waukesha County along the Route 1, connect to the East-West BRT to access downtown Milwaukee, and to access destinations served by the Washington County Commuter Express.

### Recommendation 5.2.10: Develop an Enhanced Marketing and Travel Training Program

#### *Enhanced Marketing and Travel Training*

As part of the focused outreach conducted between February and April 2020, Commission staff, in close coordination with the Waukesha Public School District, administered an online survey to approximately 12,000 families and students to gather feedback on transit use, challenges, and ideas for improvement.

Responses to the survey of Waukesha Public Schools parents, guardians, and students indicated that there is an opportunity to develop materials that summarize the practices in place to ensure the safety of all riders, including those students that utilize Waukesha Metro. The service was perceived by some respondents to be unsafe or that there was a lack of awareness about safety protocols in place. As a result of survey responses and due to a general need to highlight safety measures in place due to the COVID-19 pandemic, Waukesha Metro staff and Waukesha Public Schools staff coordinated to develop outreach materials provided prior to the start of the 2021-2022 school year. In addition to providing general information about Metro routes that provide service to each school, these materials indicated the measures in place to ensure safety on the bus including that security cameras with audio are on all Metro buses, security cameras at the Waukesha Metro Transit Center are actively monitored, a Metro security guard patrols the Transit Center, and a supervisor is always on staff to assist drivers throughout the day. Waukesha Metro has a travel trainer on staff to provide training and assistance planning a trip for those who may need additional information about riding Waukesha Metro, for both the Waukesha Public School District and the general public.

Similar marketing materials and outreach could be expanded to senior housing and affordable housing, such as Saratoga Heights, in coordination with Waukesha Metro Transit, Eras, and the Aging and Disability Resource Center of Waukesha County. The assistance could include individual or group travel training and materials describing the range of transportation services available. The outreach could leverage on-going travel training conducted by Eras Senior Network's Bus Buddy Program for potential users of the fixed-route transit services and provide complementary training to seniors and adults with disabilities who are interested in learning how to navigate public transit. A recent report conducted by the TCRP highlighted several key features of successful travel training programs that may be relevant including: creating strong program

## Table 5.9
## Comparison of Alternative Paratransit or On-Demand Vehicle Types and Sizes for Waukesha Metro Transit

| | **Existing Fleet** | **Potential Vehicle Size** | | |
|---|---|---|---|---|
| | Cutaway Van (Medium-Duty) | Cutaway Van (Light-Duty) | Minivan | Passenger Van |
| **Vehicle Characteristics** |  |  |  |  |
| Description | Waukesha Metro currently has medium-duty buses in their fleet that could be utilized for future on-demand transportation service. | Cutaway vans are light to medium-duty vehicles comprised of an incomplete van cab and chassis. The remainder of the body is modified for shuttle use; these vans typically carry 8-30 passengers. These vans can be modified to include lifts for wheelchair-using passengers. | Minivans typically carry 4-7 passengers. Minivans can be modified to allow for wheelchair-using passengers, which decreases total passenger capacity. | Passenger vans typically carry 8-15 passengers and can be configured with a high roof. These vans can be modified to include lifts for wheelchair-using passengers. |
| Typical Vehicle Size | 25-27 feet | 16-28 feet | 16-28 feet | 16-28 feet |
| Number of Seats | 19-22 | 8-30 | 4-7 | 8-15 |
| Minimum Useful Life[a] | 7 years | 7 years | 7 years | 7 years |
| Total Capital Cost[b] | $157,000 | $52,000 | $41,000 | $52,000 |
| Local Share of Capital Cost | $31,400 | $10,400 | $8,200 | $10,400 |
| Fuel/Energy Efficiency | 5.5 – 6.5 mpg | 7.0 mpg | 22 mpg[c] | 12 mpg |
| Fuel Cost[d] | $5.52/diesel gallon | $4.68/regular gallon | $4.68/regular gallon | $4.68/regular gallon |

[a] *FTA Circular 5010.1E, Award Management Requirements, revised July 16, 2018.*

[b] *The replacement cost of buses based on the most recent purchase prices; minivans and automobiles that are not wheelchair accessible were also based on the most recent purchase prices; and wheelchair accessible cutaway and minivan costs were based on the 2021 Wisconsin Department of Transportation's Section 5310 Application Guidelines for Vehicle Capital, Appendix C: Anticipated Vehicle Description and Costs.*

[c] *U.S. Department of Energy, Fuel Economy for a 2022 Minivan 2WD, www.fueleconomy.gov/feg/byclass/Minivan_2WD2022.shtml.*

[d] *Diesel and regular fuel cost estimates were derived from the average Wisconsin gas prices on June 29, 2022, prepared by the American Automobile Association (AAA).*

*Source: SEWRPC*

partners that include public transit systems, monitoring the results of travel training, and integrating travel training into community outreach and education efforts.[28] A local example is the Senior Smart Ride Seminars hosted by MCTS in October 2021 at Senior Centers, with presentations from Transit Plus, Milwaukee County Department on Aging, and the Milwaukee Police Department. The seminars described who qualifies for paratransit door-to-door van service, how to ride fixed-route buses, how to pay, bus etiquette, and safety while traveling. Additional national examples include King County Metro that includes a range of training services such as destination-specific guides, lift ramp instruction, and group offerings. The current Waukesha Metro transit website could be further enhanced to include fare payment and information on regional transit connections. The current and planned improvements to MCTS's WisGO app will provide real-time bus arrival information and fare payment through the app.

In response to ridership challenges exacerbated by COVID-19, the Federal Transit Administration gathered examples of strategies implemented by transit agencies and community groups to renew ridership, address safety concerns, and strengthen community partnerships. The effort culminated with a summit and report that highlights best practices.[29] Examples of effective campaigns included incorporating local music and artists in messaging to enhance ridership, expanding communications about enhanced cleaning to restore confidence in transit safety, and developing promotional programs such as a limited number of free trips or subsidized transit rides for essential workers or youth. Figure 5.5 includes two images from selected marketing campaigns. The Choose Transit campaign highlights the benefits of taking transit from the San Diego Metropolitan Transit System and the We're Ready campaign summarizes the cleaning and safety protocols implemented by the Chicago Transit Authority.[30]

## 5.3 ON-DEMAND TRANSPORTATION SERVICE ELEMENT

This section describes potential on-demand transportation services that could be implemented by the City of Waukesha, Waukesha County, or through public-private partnerships. On-demand transportation is a particular kind of the traditional "dial-a-ride" services that are available in many parts of Southeastern Wisconsin, with the differentiation being that on-demand services aim to fulfill requests for transportation in real time, rather than requiring an advance reservation. These types of services can be implemented with varying purposes, partnerships, and vehicles, and more recently often utilize technology similar to the smartphone applications developed by privately operated Transportation Network Companies (e.g., Uber or Lyft). Within this planning effort, on-demand transportation services are being considered for three main applications: (1) workforce transportation to locations with high employment density but limited or no fixed-route transit options; (2) flexibly-scheduled transportation serving locations with unproductive Waukesha Metro bus route segments or during the evenings and weekends when fixed-route transit is less abundant; and (3) incorporating on-demand transportation options into paratransit services for Waukesha Metro Transit and Waukesha County Transit. The following sections describe options for each type of application in greater detail.

**Recommendation 5.3.1: Implement Employment-Related On-Demand Transportation Solutions**

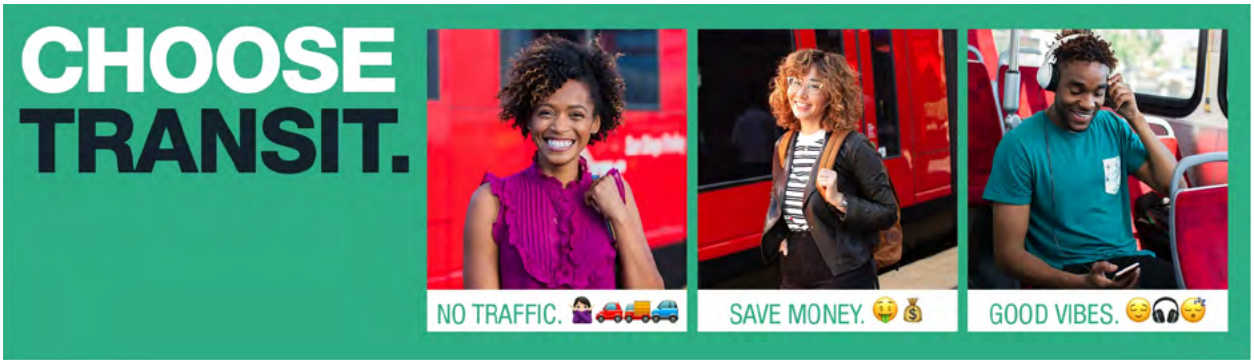
On-demand transportation has the potential to connect population centers and transportation hubs to areas comprised of relatively high employment densities that lack fixed-route public transportation services. As part of exploring how these services could assist individuals seeking employment in Waukesha County, a travel time analysis was conducted to determine which locations in the County could be most efficiently served by on-demand employment transportation. This analysis assessed the total travel time to reach higher density employment destinations outside of existing transit service areas (including walking to transit stop(s), on-bus travel time, and transfer time) assuming that potential employees begin their journey to work from a high population density location in the Cities of Waukesha (downtown) or Milwaukee (north and south sides). Map 5.4 and Map 5.5 show the total travel time between locations in the City of Milwaukee's north and south side and business parks in Waukesha County with high employment density. The analysis selected those potential origins in the City of Milwaukee based on demographic characteristics

[28] *National Academies of Sciences, Engineering, and Medicine 2014. Travel Training for Older Adults Part II: Research Report and Case Studies. Washington, DC: The National Academies Press. doi.org/10.17226/22298.*

[29] *Federal Transit Administration, America's Open and Transit's Open, August 2021. www.transit.dot.gov/sites/fta.dot.gov/files/2021-08/Transit-Ridership-Renewal-Best-Practices-Final-Report-08-26-2021.pdf.*

[30] *San Diego Metropolitan Transit System, Choose Transit, www.sdmts.com/choose-transit and Chicago Transit Authority, When You're Ready, We're Ready, www.transitchicago.com/ready.*

**Figure 5.5**
**Transit Marketing Examples**

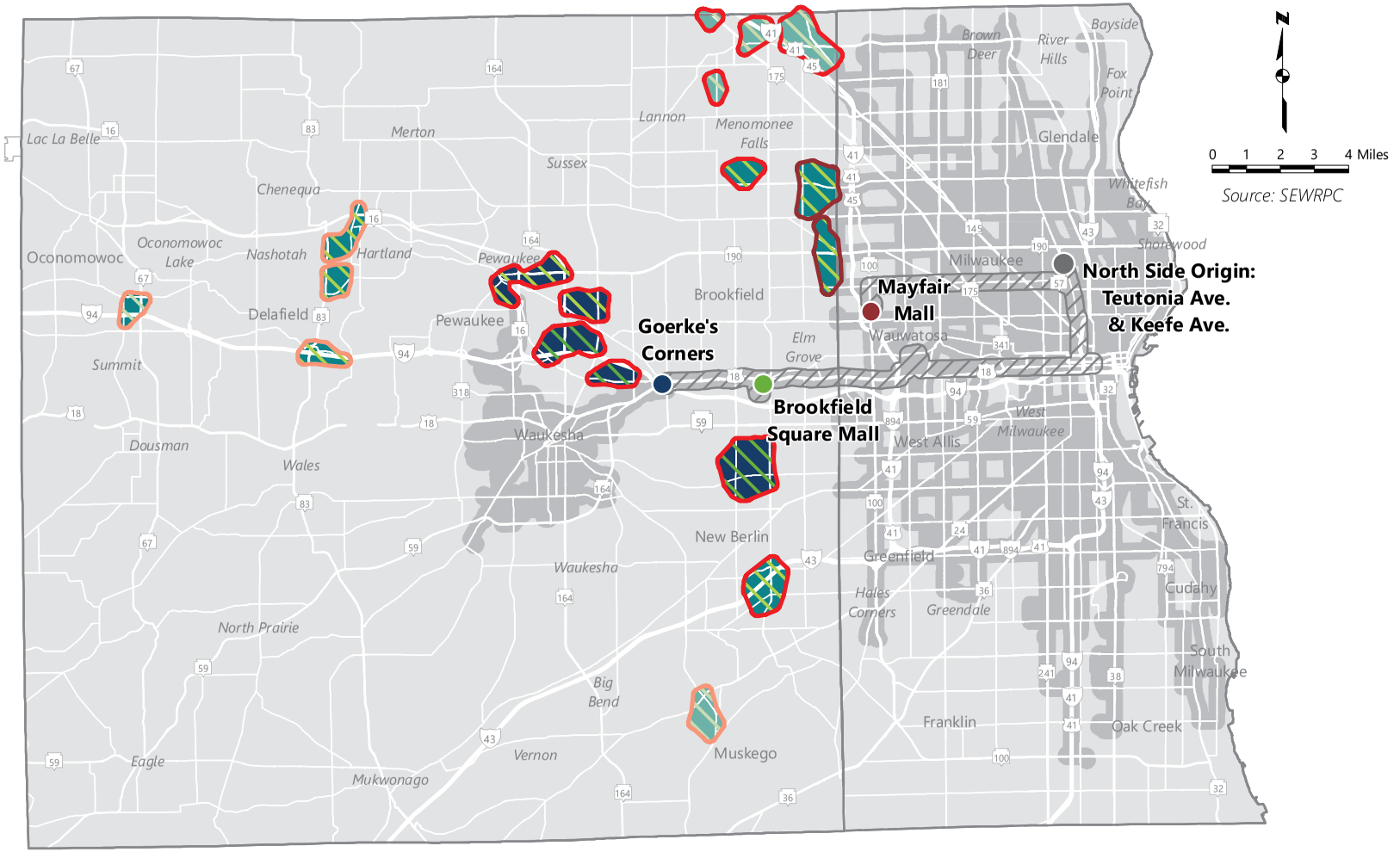




*Source: San Diego Metropolitan Transit System and Chicago Transit Authority*

that may indicate that residents have high transit needs, including a high percentage of individuals without a car and individuals below the poverty threshold. The analysis considered three potential locations where passengers traveling by MCTS bus from the north or south sides of Milwaukee could transfer to an on-demand transportation service: Goerke's Corners, Brookfield Square, and Mayfair Mall. These transfer locations are served with frequent, all-day fixed-route transit service that operates seven days a week. For the purposes of this analysis, it was assumed that the on-demand transportation service would offer shared rides and be operated in such a manner that trips can be dynamically scheduled to group passengers based on demand. Since these on-demand trips could be shared, travel times could be slightly greater than in an automobile based on the experience of similar shared-ride taxi services in the region. As shown on Map 5.4 and Map 5.5, travel times could vary between 60 to 140 minutes depending on both the distance between the origin and the jobs, and which transfer point is being used. Job clusters located in the eastern portions of Waukesha County that are closer to potential transfer points would require one-way travel time between 60 to 90 minutes. Conversely, those jobs located in areas such as the Cities of Delafield and Oconomowoc could require up to 140 minutes for a one-way trip, particularly if transferring to an on-demand vehicle at Goerke's Corners. Although a one-way trip between the City of Milwaukee and job clusters in Oconomowoc could be reached in under 90 minutes using Mayfair Mall as a transfer point, the vehicle providing the on-demand trip would be unable to pick up other passengers until the driver returns. Given the long travel times required to access locations in western Waukesha County, other transportation services such as scheduled long-distance shuttles that coincide with specific shift times could be more cost effective. Therefore, it is recommended that on-demand transportation services be focused on job clusters within eastern Waukesha County where total travel times are between 60 and 80 minutes, such as those jobs located in the Villages of Butler, Menomonee Falls, and Pewaukee and the Cities of New Berlin and Pewaukee.

## Map 5.4
## Transit Connections from Milwaukee's North Side




**POTENTIAL ON-DEMAND TRANSIT SERVICE LOCATIONS**

| TRAVEL TIME THROUGH GOERKE'S CORNERS | TRAVEL TIME THROUGH BROOKFIELD SQUARE | TRAVEL TIME THROUGH MAYFAIR MALL |
|---|---|---|
| 110-120 MINUTES | 80-90 MINUTES | 60-70 MINUTES |
| 120-130 MINUTES | 90-100 MINUTES | 70-80 MINUTES |
| 130-140 MINUTES | 100-110 MINUTES | 80-90 MINUTES |

**TRANSIT SERVICE**

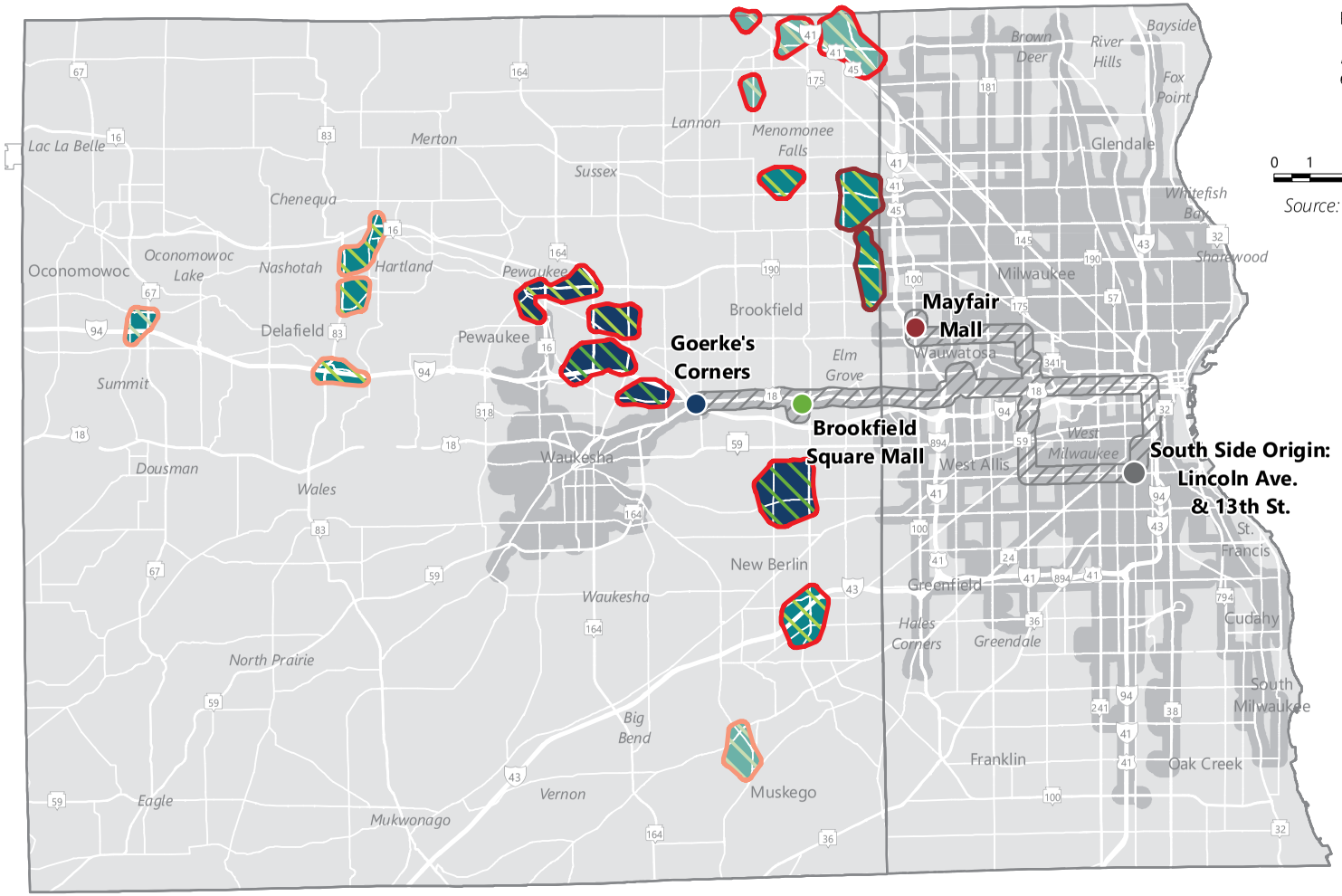
CONNECTING ROUTE SERVICE AREA

LOCAL TRANSIT SERVICE AREA

Notes: The connecting route service area represents a one-quarter mile distance from connecting routes between the trip origin in Milwaukee County to Goerke's Corners, Brookfield Square, or Mayfair Mall. The local transit service area represents one-quarter mile distance from all current local transit service.

Travel times to potential on-demand transit service locations are approximate and include walk, transit, and transfer times from the origin.

## Map 5.5
## Transit Connections from Milwaukee's South Side




**POTENTIAL ON-DEMAND TRANSIT SERVICE LOCATIONS**

| TRAVEL TIME THROUGH GOERKE'S CORNERS | TRAVEL TIME THROUGH BROOKFIELD SQUARE | TRAVEL TIME THROUGH MAYFAIR MALL |
|---|---|---|
| 100-110 MINUTES | 80-90 MINUTES | 70-80 MINUTES |
| 110-120 MINUTES | 90-100 MINUTES | 80-90 MINUTES |
| 120-130 MINUTES | 100-110 MINUTES | 90-100 MINUTES |

**TRANSIT SERVICE**

CONNECTING ROUTE SERVICE AREA

LOCAL TRANSIT SERVICE AREA

Notes: The connecting route service area represents a one-quarter mile distance from connecting routes between the trip origin in Milwaukee County to Goerke's Corners, Brookfield Square, or Mayfair Mall. The local transit service area represents one-quarter mile distance from all current local transit service.

Travel times to potential on-demand transit service locations are approximate and include walk, transit, and transfer times from the origin.

Map 5.6 illustrates the total travel time between Waukesha County employment clusters and on-demand transfer locations at Goerke's Corners and the downtown Waukesha Transit Center. For this analysis it is assumed that most passengers would travel within Waukesha County, utilizing the Waukesha Metro Transit system to access on-demand transportation services. In addition, Map 5.6 only estimates potential travel time for trips on an on-demand shuttle between the transfer locations and each job cluster and does not include walking to transit stop(s), on-bus travel time, or transfer time. This analysis shows that travel times between the transfer locations and locations with high employment density would be under 30 minutes. On-demand transportation services would most effectively serve those job clusters that could be accessed in 0 to 20 additional minutes. Those areas that require a longer trip would likely result in long return trips without passengers and an unacceptably high cost per trip. Therefore, jobs clusters in the majority of Waukesha County could be efficiently served by on-demand shuttles originating from downtown Waukesha or Goerke's Corners, except for locations in the City of Muskego and Village of Menomonee Falls, which would likely be served by transit originating from Milwaukee County. It is likely that a service focusing on those job clusters less than 10 minutes from either location would have the best chance of success.

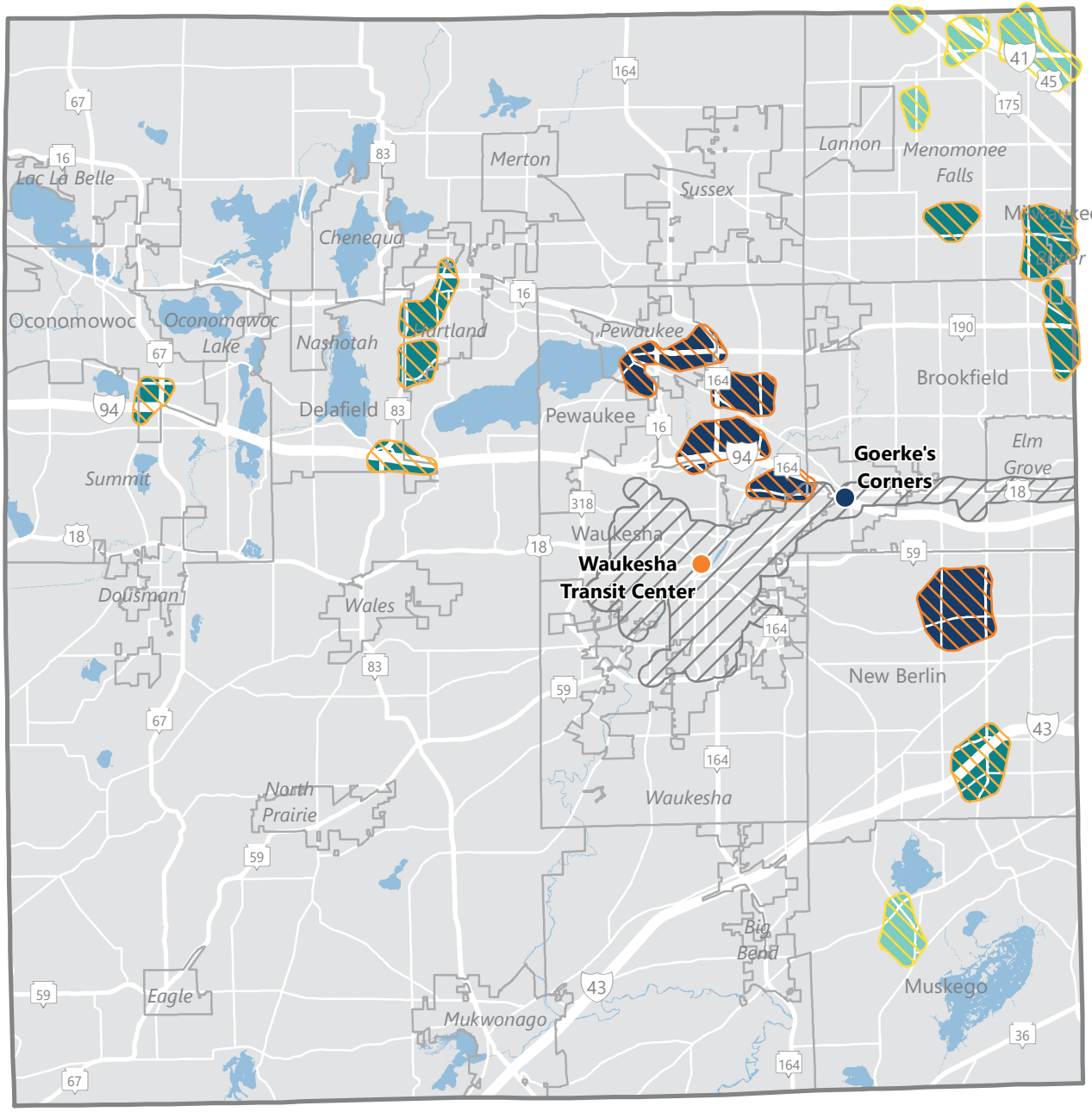
On-demand transportation services could be provided through a partnership between businesses, Waukesha Metro, Waukesha County Transit, and companies that provide dynamic scheduling and ride-matching software. These services offer flexibly scheduled rides, typically to or from higher-frequency transit stops on an as-needed basis. They also typically utilize a ride-matching and routing software to enable efficient on-demand, shared rides that can be arranged through a smartphone app, web-based booking software, and/or phone-based booking system. It is anticipated that an on-demand transportation service would have the following characteristics:

- Allow users to request trips on demand
- Allow for electronic payment and cash payment
- Allow users to manage personal information, payment method, and ride history
- Provide users real-time vehicle location before and during trip

The range of on-demand service providers is continually evolving. Table 5.10 provides summaries of four on-demand microtransit providers including Spare, Via, TransLoc, and Moovit. These services offer dynamic scheduling software and have resulted in successful transportation services in multiple locations throughout the United States. The costs vary depending on the type of service, the geography, and technical specifications. Vehicles could be provided under a service contract, through Waukesha Metro's fleet, a private employer fleet, or a combination. The number of vehicles needed will vary depending on the area served, distance traveled, and number of anticipated riders. At least two wheelchair accessible vehicles are recommended to ensure access for people with disabilities.

Within the Region, the FlexRide Milwaukee service provides one example of the utilization of on-demand service to expand access to employment opportunities. FlexRide is a research pilot funded with a $1 million grant from the National Science Foundation and led by the University of Wisconsin-Milwaukee. The research study's goal is to connect workers in Milwaukee with jobs in the Menomonee Falls area using an on-demand shared shuttle service provided through a contract with Via Transportation, Inc. The pilot program is funded for nine months of service (February – November 2022) with the goal of securing future long-term transportation investments to continue or expand the on-demand service. On-demand rides are provided on weekdays between 4:30 a.m. and 11:30 p.m. and the vehicle operators are independent contractors largely utilizing their own vehicles. The service model initially included five pick up points on the north and northwest sides of Milwaukee where passengers could transfer to a FlexRide vehicle. In April 2022, the service model was updated to allow for transfers in two larger Milwaukee neighborhood zones to expand access and increase the ease of use. Figure 5.6 illustrates the current FlexRide Milwaukee service model where passengers can request a ride from two zones, with one paid zone and one free fare zone. The paid zone requires a fare, as it likely to be closer to a passenger's home and more convenient. The free zone would likely require a trip on a MCTS bus, and therefore, the connecting FlexRide trip is free. The costs for a similar service connecting different parts of the Region would vary depending on the operator, locations served, days and hours operated, and vehicle ownership model. FlexRide's current service costs are approximately $80,000 per month.

## Map 5.6
## Waukesha County Transit Connections




**POTENTIAL ON-DEMAND TRANSIT SERVICE LOCATIONS**

**TRAVEL TIME FROM GOERKE'S CORNERS**

- 0-10 MINUTES
- 10-20 MINUTES
- 20-30 MINUTES

**TRAVEL TIME FROM TRANSIT CENTER**

- 0-10 MINUTES
- 10-20 MINUTES
- 20-30 MINUTES

**LOCAL TRANSIT SERVICE**

- CONNECTING ROUTE SERVICE AREA

Note: The connecting route service area represents a one-quarter mile distance from connecting routes to/from the Waukesha Transit Center and Goerke's Corners.

Travel times to potential on-demand transit service locations are approximate.

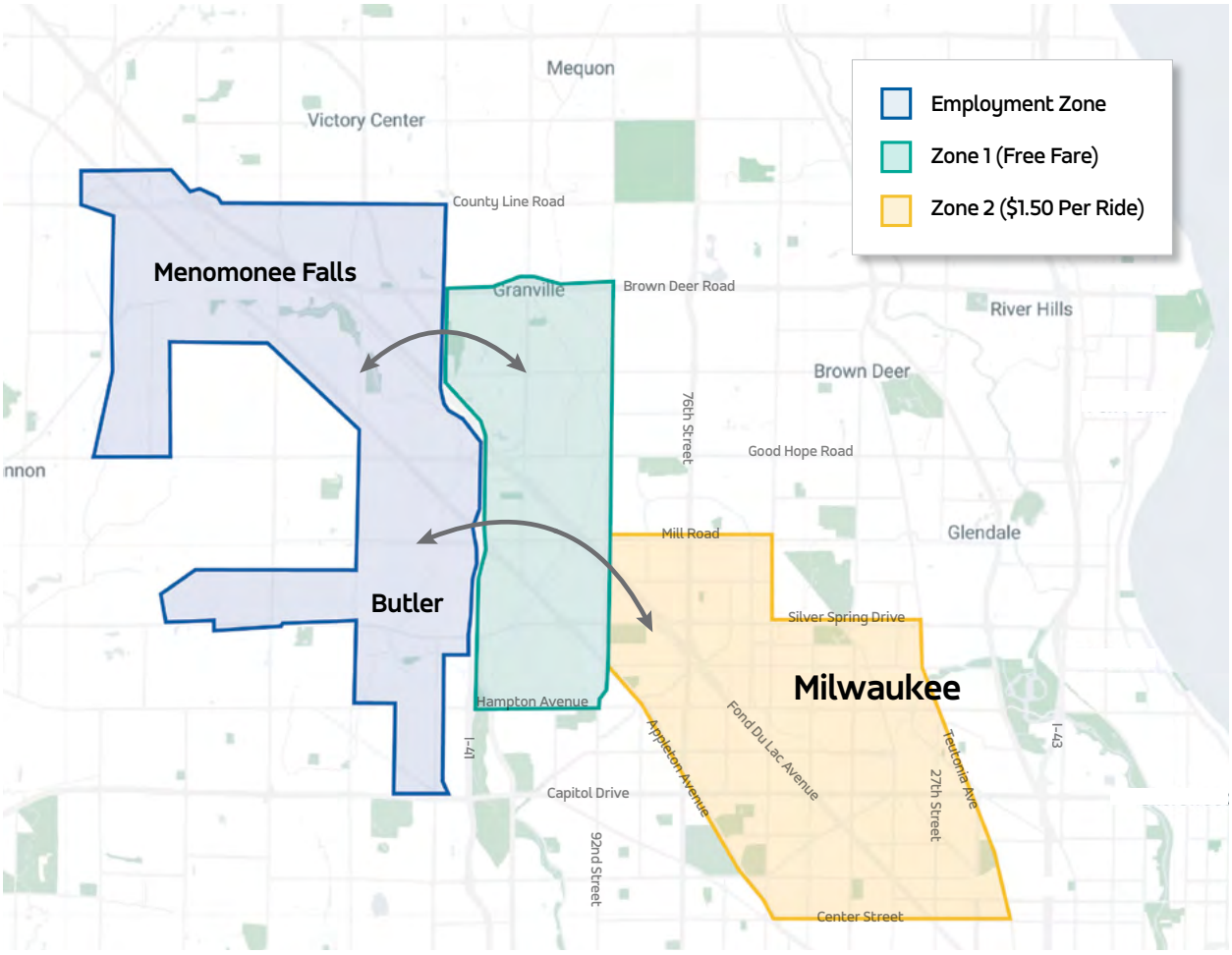
*Source: SEWRPC*

## Table 5.10
## Microtransit Service Providers

| Service Provider | Service Highlights | Service Examples | Estimated Cost/Pricing | Website |
|---|---|---|---|---|
| Spare | Platform that schedules and manages on-demand trips. Vehicles not provided at this time. | Spare piloted and launched Dallas Area Rapid Transit's Golink microtransit service, decreasing costs by 26 percent and increasing riders per revenue hour 14 percent. | $10,500 platform fee plus $625 per vehicle per vehicle per month or $1.50 - $2.00 per trip | sparelabs.com/developers |
| Via | On-demand transportation provider that dynamically schedules rides and can provide vehicles | Birmingham On-Demand is a partnership between the Community Foundation of Greater Birmingham, the City of Birmingham, and Via to develop and operate a shared on-demand service that complements and extends the public transportation network throughout the City. | Variable but on average $15,000 to $25,000 per vehicle per month of service | ridewithvia.com/solutions |
| TransLoc | On-demand scheduling software for dispatch and routing of vehicles. At time of this writing, vehicles are not provided. | Mass General Brigham provides complimentary scheduled shuttle rides to sites across the health system and the Greater Boston area through the TransLoc app. | $5,000 base fee and $1,000 per year per subscription for dynamic services | transloc.com/solutions/on-demand-microtransit |
| Moovit | Shared mobility planning and operations providing flexible demand responsive transportation. At time of this writing, vehicles are not provided. | In November of 2020, Farmington Hills, MI implemented a microtransit program in which resident are able to use Moovit's app to plan their journey and book their trip through SMART Quick Connect On-Demand service. | On average charges between $5,000 - $12,000 per vehicle | moovit.com/on-demand |

*Source: MobiliSE and SEWRPC*

**Figure 5.6**
**FlexRide Milwaukee Neighborhood and Employment Zones**




*Source: Via and SEWRPC*

Importantly, ridership on the FlexRide service has been somewhat limited thus far. Likely causes of this limited ridership include the low unemployment rate and limited awareness of the service due to its relatively recent launch. For example, the majority of individuals that sign up for the service do not initially have a job. Therefore, a primary challenge has been connecting potential riders with jobs in the employment zone. However, as more potential passengers become employed, the expanded service model is advertised, and passengers become more familiar with the FlexRide service, ridership is anticipated to increase. Future service statistics, including ridership, will continue to be tracked and shared with the City of Waukesha and Waukesha County. If Waukesha County or the City of Waukesha would be interested in a future extension or expansion of FlexRide Milwaukee, future coordination should continue between UW-Milwaukee, SEWRPC, businesses in the service areas, Employ Milwaukee Inc., Milwaukee County Transit System, Waukesha County Business Alliance, and others to coordinate a cost sharing plan and identify roles and responsibilities. Future funding opportunities are being explored including State and Federal grants, local philanthropic organizations, and private employer contributions. In June 2022, MobiliSE and partners including the Waukesha-Ozaukee-Washington Workforce Development Board, received a $4.2 million Workforce Innovation Grant to sustain and expand FlexRide Milwaukee. At the time of writing, specific locations to be served with future on-demand services are being determined. Waukesha County and the City of Waukesha will continue to be involved in project planning and updates.[31]

[31] *Press Release, MobiliSE Receives More Than $4 Million State of Wisconsin Grant to Expand Workforce Mobility Options, Increase Access to Jobs for Working Milwaukee Parents, static1.squarespace.com/static/6182b45bd4ff3038bd61594c/t/62bcc5a48dc02f7605586db3/1656538532762/MobiliSE+grant+press+release+final.pdf?utm_source=Website&utm_campaign=Wisconsin+Innovation+Grant.*

An option to provide and fund employment transportation includes public-private partnerships similar to the Shuttle Bug program in the Chicago area, with a group of employers determining the service characteristics and sharing the cost of services. Prior to the COVID-19 pandemic, the Shuttle Bug program was implemented by a Transportation Management Association (TMA) in partnership with employers, Metra commuter rail, and PACE transit and provided last-mile shuttle services to 30 companies on 13 transit routes. TMAs are generally defined as an organized group applying carefully selected approaches to facilitating the movement of people and goods within an area. They allow businesses and organizations to pool their resources to support commuter transportation strategies, including last-mile shuttle services. TMAs in the United States have typically formed as a non-profit corporation, providing services to both private and public employers and their employees. TMAs may take on various institutional forms based on the existing decision-making structures and the anticipated transportation solutions to be developed.

Another example includes the City of Dublin, Ohio and their partnership with SHARE and the Central Ohio Transit Authority (COTA) to offer employees free rides from bus stops to any employer within the city limits. The SHARE app is coordinated with the COTA bus schedule to ensure a timely pick-up and drop-off for employees. The specific routing (if applicable) and service type would be determined by the employers served and their business hours. For example, if a group of employers have similar shift times, the service could include a fixed route and schedule to those locations.

**Recommendation 5.3.2: Replace Poorly Performing Waukesha Metro Segments or Times of Day with On-Demand Transportation Services**

As described in Chapter 4, "Evaluation of the Existing Transit System" there are certain areas in the City of Waukesha and Waukesha County that could be served with transportation options that can be deployed flexibly to serve first and last mile needs, rather than utilizing a fixed-route transit service. This recommendation considers how such microtransit services could serve as an extension of fixed-route segments that are determined to be unproductive or an extension of the span of service to serve late night or weekend trips.

If ridership does not rebound to pre-pandemic levels, it is expected that existing transit service could be reduced or eliminated along certain segments or during times of the day or week that experience lower ridership such as evenings and weekends. Based on the performance evaluation conducted as part of the plan, routes that performed below the 10 passengers per revenue vehicle hour and had segments that performed poorly based on ridership data included:

- Route 7/8 evening service
- Route 3/15 Saturday service
- Route 5/6 Sunday service
- Route 9 north of Silvernail Road
- Route 8 west of Grandview Boulevard
- Route 7 south of Madison Street
- Route 6 south of Sunset Drive

One option to continue service in the areas and during the times served by the routes listed above would be to provide these areas with transportation options that can be deployed flexibly. Under this recommendation, it is envisioned that on-demand services could be provided using Waukesha Metro's current paratransit scheduling software, Ecolane, or other platforms that are able to dynamically schedule rides through an app or over the phone. The on-demand scheduling platform available through Ecolane is currently cost prohibitive given the number of paratransit rides scheduled. However, if the service parameters are expanded to include on-demand trips for the general public, the cost per ride for this service may be more cost effective.

At the time of writing this chapter, an example of this type of service is in operation in the City of Green Bay where Green Bay Metro launched GBM On Demand in August 2020 and expanded the service area in August 2021, to complement and extend the City's existing transit infrastructure. This service was an outcome of a Microtransit Feasibility Report, completed in July 2020, which analyzed the current state of the existing fixed-route bus routes and identified opportunities to pilot a new microtransit service. Green Bay Metro identified three routes where the population density, land use, and pedestrian environment were less conducive to fixed-route service and consistently fell short of the agency's performance standards. The performance standards compared annual route-level analyses including revenue per hour, passengers per hour, and operating ratio to the systemwide median minus 20 percent. Based on this analysis, three routes were identified for improvement, including potential conversion to on-demand service.

Green Bay Metro contracted with Via Transportation to pilot microtransit services in the approximate footprint of the three routes that were discontinued due to low performance. Via also provides Green Bay Metro's paratransit service, which is a door-to-door demand responsive service offered within 0.75 miles of the fixed-route service. Since transitioning from a fixed-route to on-demand microtransit, the pilot program resulted in 2.5 times increase in ridership in the last quarter of 2020, and a 20 percent reduction in costs. Due to the pilot's success, Green Bay Metro expanded the service in August 2021 to the four zones shown in Figure 5.7, including weekday services in zones 1 through 4 between 5:45 a.m. and 8:45 p.m. and extended weeknight service during the evening hours of 8:45 p.m. to 10:45 p.m. The on-demand service is also offered in zones 1 through 4 on Saturdays between 7:45 a.m. and 3:45 p.m. The ride matching software and vehicles, including wheelchair accessible vehicles, are provided by Via. The cost of the microtransit service is the same price as a traditional Green Bay Metro bus ticket ($2.00 cash fare) and riders can pay directly through the app with a credit card, use a Green Bay Metro ticket, or provide a weekly or monthly pass. There is a telephone number for residents without access to a smartphone to request rides.

**Figure 5.7**
**Green Bay On-Demand Service Zones**


*Source: Green Bay Metro*

If Waukesha Metro pursues on-demand transportation services, FTA guidance requires that providers of demand-responsive service to a new service area ensure that wheelchair accessible vehicles are available and fares for riders using wheelchair accessible vehicles be the same as a rider using a vehicle that is not wheelchair accessible for a similar trip, and that wait times for wheelchair accessible and non-wheelchair accessible vehicles be the same.[32]

**Recommendation 5.3.3: Develop Supplemental On-Demand Paratransit and Non-Emergency Medical Transportation Options**

Waukesha Metro could consider partnering with ride-sourcing companies such as Uber and Lyft to provide on-demand paratransit and nonemergency health care transportation rides as a supplement to existing paratransit and specialized transportation services. This section summarizes national examples of shared mobility transportation services that utilize technology to help overcome barriers to accessing transportation to healthcare, daily needs, and social activities. There are three main types of emerging ride-sourcing transportation services serving paratransit and nonemergency medical trips.

The first type includes health care providers directly utilizing ride-sourcing technology to book trips. These partnerships allow health care providers to schedule rides on behalf of patients even if they do not have a smartphone. An example of this type of service is the Uber Health platform that launched in March 2018, which includes a dashboard for healthcare providers to schedule on-demand rides for patients. Another example of a healthcare provider booking on-demand tips is a partnership between Lyft and Epic to allow patients to book rides to and from appointments directly from the Epic healthcare platform, without the need to open a separate app.

[32] *Federal Transit Administration, Shared Mobility FAQs: American with Disabilities Act, 2016.*

The second type of transportation service includes health insurance companies proactively expanding benefits to include transportation to and from medical appointments. Examples include Lyft's partnerships with Blue Cross/Blue Shield to add the ride-sourcing service to and from medical appointments to some insurance plans.

The third type of emerging service includes paratransit providers partnering with ride-sourcing companies to complement existing paratransit services by offering an option for on-demand trips. An example of this type of collaboration is a pilot program offered by the Massachusetts Bay Transportation Authority (MBTA) in the Boston area, in partnership with Uber, Lyft, and Curb (a local taxi service). The pilot program, launched in September 2016, offers on-demand transit service for eligible paratransit customers. The pilot program subsidizes the trips over the first $2.00 up to $42.00 and each rider is allotted a limited number of rides per month. Customers that utilize the on-demand service option must be able to board the vehicle without assistance from the driver. Passengers can request a vehicle that can accommodate wheelchairs. Another example is the partnership between the Regional Transportation District (RTD Denver) and Uber Transit. This on-demand pilot, announced in April 2021, will be offered to their Access-a-Ride customers in four select zip codes. This pilot program sets several restrictions such as only being able to utilize this service during peak service hours and limiting the number of trips allowed per eligible customer. Customers are charged $2 and anything beyond the additional $20 RTD subsidizes.

These three models could be considered within the timeframe of this plan to supplement the traditional paratransit services to provide additional options for passengers requiring transportation to medical trips. A partnership with a TNC, similar to the examples provided, could be implemented within the timeframe of the plan to supplement the traditional paratransit services.

**Recommendation 5.3.4: Develop Mobility Hubs**

Mobility hubs are places of multimodal connectivity that provide a range of transportation options and amenities for safe, convenient, and efficient travel. A key component of mobility hubs is the successful integration and implementation of placemaking strategies for amenities and services. Mobility hubs' most common elements include, but are not limited to, bus infrastructure, vehicle connections, bicycle connections, signage and information, active use space, and safety features. This plan includes recommended mobility hub locations, amenities, and their potential costs.

Two potential locations in Waukesha County were identified by the Advisory Committee for locating a mobility hub, including the Goerke's Corners Park-Ride Lot in the Town of Brookfield and potential locations near Brookfield Square Mall in the City of Brookfield.

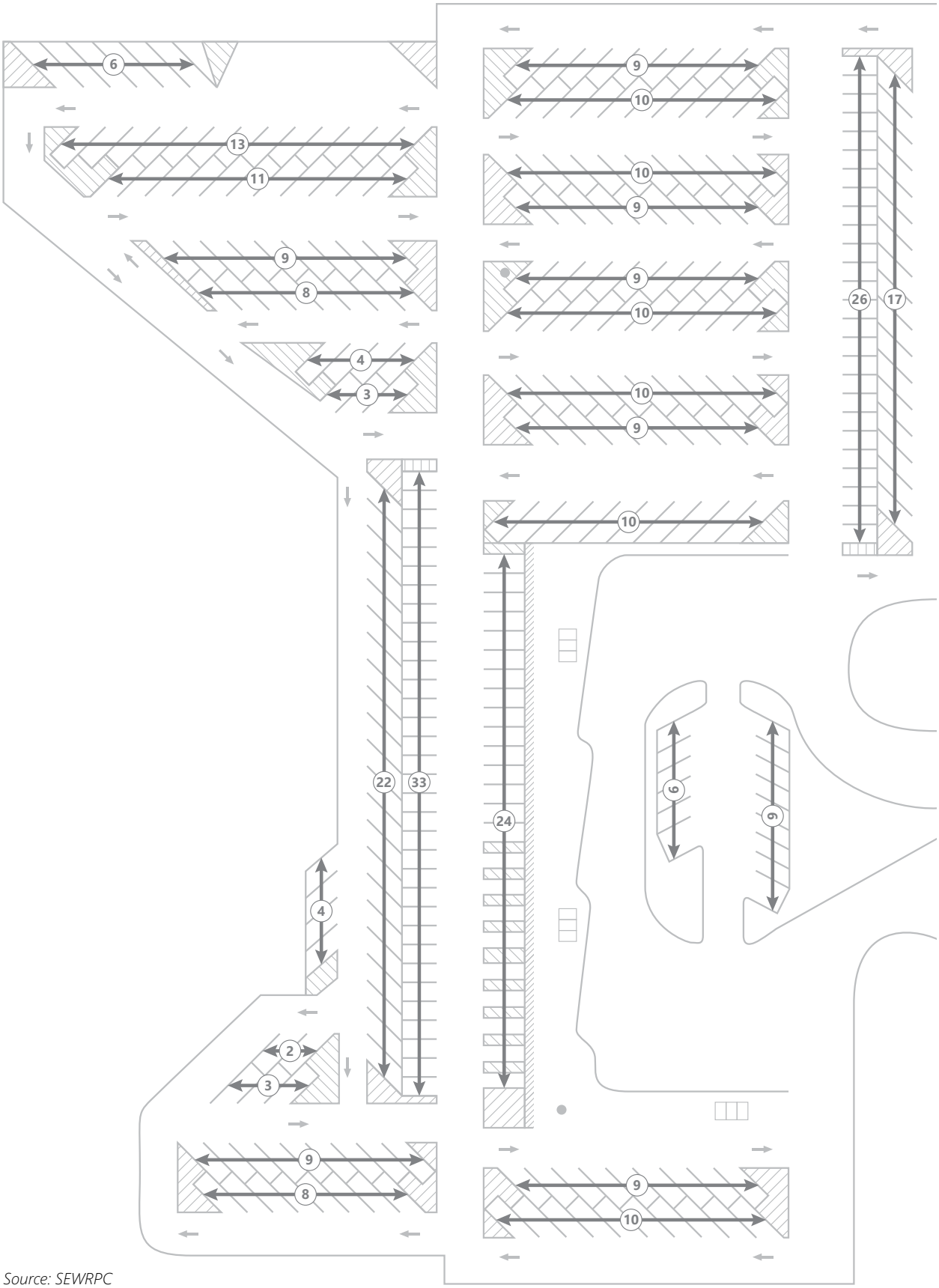
***Goerke's Corners Park-Ride Lot***

This location could be redesigned with additional amenities to enhance transportation connections between Milwaukee County and Waukesha County. The Goerke's Corners Park-Ride Lot currently includes 315 parking spaces, with a utilization rate of approximately 90 percent. Current amenities include a bus waiting area with three bus shelters, as shown in Figure 5.8.

Commission staff recommends enhancing the Goerke's Corners Park-Ride Lot with amenities that provide greater access to transportation connections, including first-and last-mile transportation options. Given the high demand for parking at this location, it is recommended that all the daily and long-term parking be retained. However, as shown in Figure 5.9, the short-term parking located at the entrance of the lot could be removed to allow more space for the mobility hub boarding platform and to ensure adequate space for bus turning movements. The amenities recommended are shown in greater detail in Figure 5.10 and include near-level boarding with a larger, raised platform height between 8 and 11 inches that would be compatible with the region's existing bus fleet and future transit fleet; four bus shelters to serve connections to fixed-route transit and on-demand services; heated restrooms; signage that includes real-time arrival information; space for mobile food or coffee kiosk; and additional amenities to encourage multi-modal connections and enhance safety.

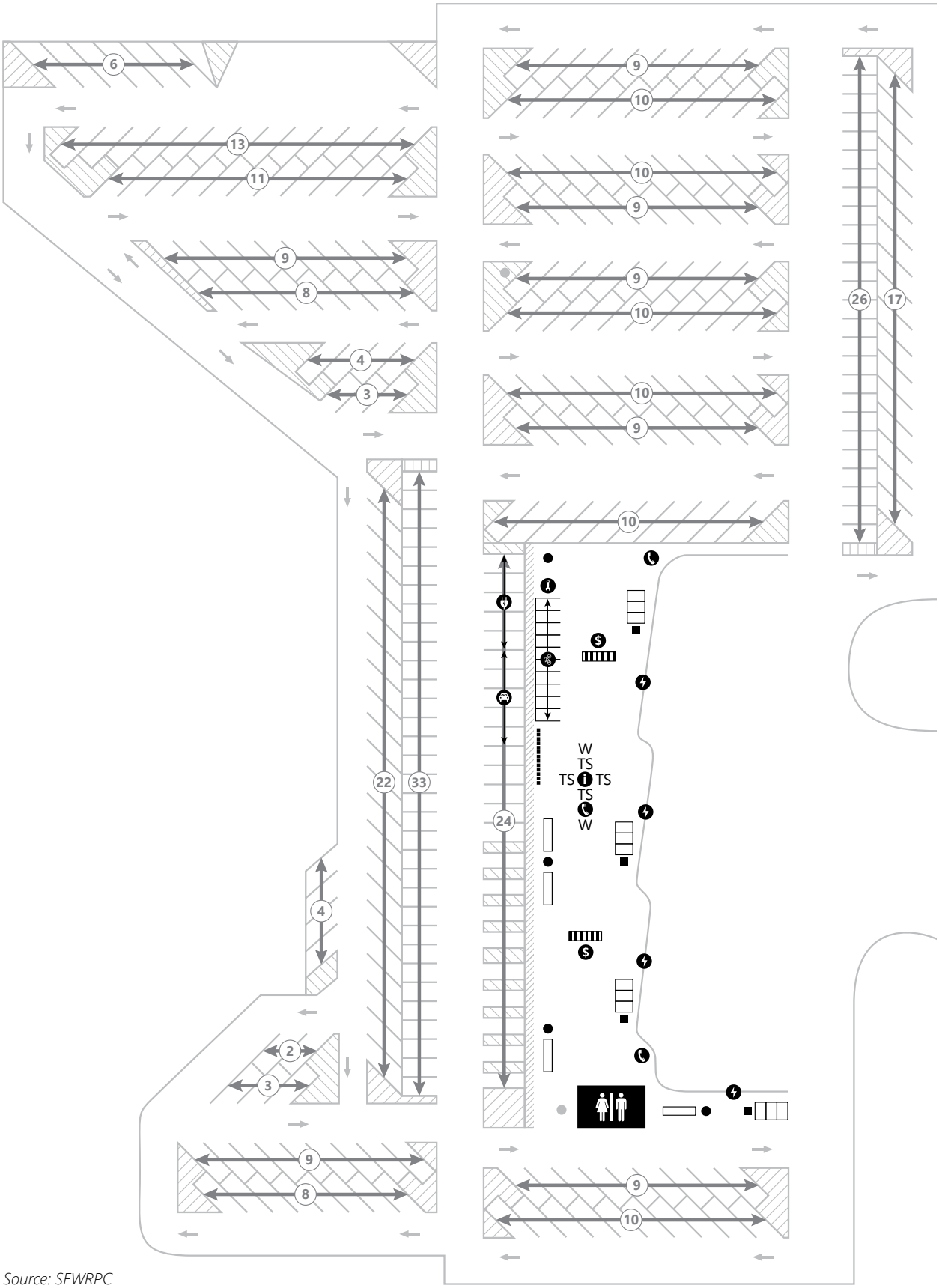
The Goerke's Corners Park & Ride Lot is owned by the Wisconsin Department of Transportation and maintained by Waukesha County. If the new amenities are included, the two parties will require a revised maintenance agreement. It is recommended that Waukesha County coordinate with WisDOT to identify expectations for future maintenance expectations such as frequency of trash removal, bathroom cleaning, restriping, and scheduled roadway maintenance.

**Figure 5.8**
**Existing Parking and Layout at Goerke's Corners Park-Ride Lot**




*Source: SEWRPC*

**Figure 5.9**
**Proposed Parking and Layout of Mobility Hub at Goerke's Corners Park-Ride Lot**




*Source: SEWRPC*

**Figure 5.10**
**Proposed Amenities and Layout of Mobility Hub at Goerke's Corners Park-Ride Lot**


*Source: SEWRPC*

### *Brookfield Square Mall*

The Brookfield Square Mall area presents multiple locations for a potential mobility hub. For example, the parcel west of Brookfield Square Mall, as shown in Figure 5.11, is undeveloped and is currently identified for repurposing in the Brookfield Square Area Redevelopment Strategy. The Redevelopment Strategy envisions this parcel as a small park with infill nearby to complement the retail and commercial development and a walkable environment.[33] Due to its advantageous location point as a potential mobility hub, the Advisory Committee noted that this is one location that could be considered for a mobility hub. Specifically, this location could provide a convenient connection point for mobility on demand services to employers in the City of New Berlin. If a mobility hub is considered for this parcel, it is recommended that at a minimum it include a small number of parking spaces and a sheltered waiting area. The property is currently wooded and has environmental constraints that would require additional discussions and surveys prior to pursuing development. Additional locations near Brookfield Square Mall could be considered, including potential parking spaces provided for a nearby office building just south of the current bus stop and a small corner parcel across the street from the Hilton Garden Inn hotel. There may also be opportunities to include mobility hub amenities in the future redevelopment of the former Boston Store on the north end of Brookfield Square Mall, pending the final designs approved by the City of Brookfield. Each of these options would require coordination with the existing property owner and/or developer to obtain permission and identify acceptable mobility hub locations and amenities. In addition, maintenance roles and costs, such as landscaping, pavement improvements, signage, and trash collection should be considered as part of future implementation discussions.

### *Potential Funding Sources for Mobility Hubs*

The following section summarizes potential sources that could help fund future mobility hub amenities.

FTA Section 5337 Funds—State of Good Repair Grant Program

The State of Good Repair grants help fund the maintenance, replacement, and rehabilitation of capital assets. Specifically, the FTA 5337 grant could fund rolling stock, signals and communications, power equipment, passenger stations, security equipment, maintenance facilities and equipment, and operational support equipment, including computer hardware. The FTA Section 5337 funds allocated to the Milwaukee urbanized area are attributable to the bus service operated by the Waukesha County Transit System in the reserved bus lane on W. Bluemound Road. In the past three years, the annual Section 5337 funding provided to Waukesha County has averaged approximately $500,000.

FTA Section 5339 Funds—Buses and Bus Facilities Program

The Buses and Bus Facilities Program provides formula allocations and competitive grants to replace, rehabilitate, and purchase buses, vans, and related equipment and to construct bus-related facilities. The FTA Section 5339 program could potentially help fund mobility hub components such as transfer facilities, intermodal terminals, bus stations, shelters, signage, and equipment such as fareboxes.

FHWA Congestion Management and Air Quality Improvement Program (CMAQ) Funding

The CMAQ program provides funding to help meet the requirements of the Clean Air Act, with funding available to help reduce congestion and improve air quality. The CMAQ program could fund transit capital projects, transit improvement operating projects, bicycle/pedestrian projects, projects involving alternative energy sources, and traffic flow projects, such as coordinating traffic signals and the construction of intersection turn lanes and traffic signals. WisDOT typically solicits projects biennially for FHWA CMAQ funding.

FHWA Surface Transportation Block Grant Program – Milwaukee Urbanized Area (STP-M) Funding

The STP-M program funds projects that preserve or improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. Specific mobility hub enhancements that could be funded through the STP-M program include transit, bicycle, and pedestrian accommodations proposed to be provided along the length of a project (including at mobility hub locations).

[33] *Brookfield Square Area Redevelopment Strategy, Implementation of the Calhoun Road South Neighborhood Plan, Brookfield Square Area, City of Brookfield, Wisconsin. August 13, 2002.*

**Figure 5.11**
**Potential Mobility Hubs Adjacent to Brookfield Square Mall**


*Source: Waukesha Metro Transit and SEWRPC*

FHWA STP Transportation Alternatives Program (TAP) Funding

The TAP program funds transportation enhancement projects, recreational trail projects, safe routes to school projects, and projects involving the construction of roadways within former Interstate System routes or other divided highways. TAP funding is allocated directly to the Milwaukee urbanized area and projects are selected using a process developed by the Advisory Committee on Transportation System Planning and Programming for the Milwaukee Urbanized Area. Eligible mobility hub enhancements that could be funded with TAP generally include the construction, planning, and design of bicycle and pedestrian accommodations.

Grants for Electric Vehicle Infrastructure

The U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy's Clean Cities program funds alternative fuel infrastructure. The program provides annual open and competitive funding opportunities for projects accelerating alternative fuel adoption through numerous funding sources, including the Innovative Vehicle Technology Projects solicitation. Potential eligible mobility hub enhancements that could be funded through the U.S. Department of Energy include the construction, planning, and design of electric vehicle charging infrastructure and electric bus charging infrastructure. The Infrastructure Investment and Jobs Act (IIJA) expands funding opportunities to build out the electric vehicle charging system. More information on the new and expanded programs is included below.

***Potential Additional Funding Sources from the Infrastructure Investment and Jobs Act***

In November 2021, the U.S. Congress and the President enacted the IIJA consisting of a $1.2 trillion investment in the Nation's transportation system, water infrastructure, power-grid system, and broadband network. The IIJA reauthorizes and funds the Federal core surface transportation programs for another five years, increasing funding levels $560 billion beyond its predecessor—the Fixing America's Surface Transportation Act (FAST Act). About half of this new funding is designated for the transportation system (roads, bridges, public transportation, airports, and ports) and the rest for various other infrastructure systems. The following new funding programs were included in the IIJA and may be a resource for future planning and implementation of mobility hubs and related amenities. Information continues to evolve regarding these new funding programs and Commission staff will provide updates as appropriate.

The **Carbon Reduction Program (CRP)** provides funds for projects designed to reduce carbon dioxide (CO2) emissions from transportation. The IIJA provides over $6.4 Billion in funding over five years, which will be apportioned to the State. The Wisconsin Department of Transportation (WisDOT) anticipates that CRP funding will be available for local use on eligible projects after approval by the Joint Committee on Finance in the fall of 2022. Eligible activities such as strategies that reduce the demand for roads; the acquisition, installation, or operation of publicly accessible electric vehicle charging infrastructure; and projects that provide transit options that increase safety, equity, accessibility, and connectivity.[34]

The **National Electric Vehicle Infrastructure (NEVI) Formula Program** is intended to build out the electric vehicle charging system along designated Alternative Fuel Corridors (AFCs).[35] Southeast Wisconsin's current AFC system includes I-94, I-43, and I-41. The IIJA includes $5 Billion in funding over five years, which will be apportioned to States on a formula basis. Wisconsin's apportionment will be available once Wisconsin's Electric Vehicle Infrastructure Deployment Plan is approved, which is anticipated no later than September 30, 2022.[36] The NEVI program requires that electric vehicle charging infrastructure projects be located along a designated alternative fuel corridor unless the State determines that the designated corridors are fully built out. Given the location of the potential mobility hubs identified in this memorandum, the NEVI program could assist with electric vehicle infrastructure in the in the Brookfield Square Mall area and the Goerke's Corners Park-Ride Lot, which are approximately 0.75 miles and 500 feet from I-94, respectively, although it is likely that the State will need to prioritize other locations initially.

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[34] *Federal Highway Administration, Carbon Reduction Program Fact Sheet, www.fhwa.dot.gov/bipartisan-infrastructure-law/crp_fact_sheet.cfm.*

[35] *Federal Highway Administration, National Electric Vehicle Infrastructure Formula Program Fact Sheet, www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm.*

[36] *Wisconsin Department of Transportation, Wisconsin Electrification Initiative, wisconsindot.gov/Pages/projects/multimodal/electrification.aspx.*

The **Reconnecting Communities Pilot (RCP) Discretionary Program** accepted applications in Fall 2022, for projects that reconnect communities by removing, retrofitting, or mitigating highways or other transportation facilities that create barriers to community connectivity, including mobility, access, or economic development.[37] The RCP Program will fund up to 80 percent of total costs for either planning or capital projects that reduce inequities in the transportation system while engaging economically disadvantaged communities. Specifically, planning grants would fund the study of removing, retrofitting, or mitigating an existing facility to restore community connectivity; conduct public engagement; and other transportation planning activities. Capital construction grants would carry out a project to remove, retrofit, mitigate, or replace an existing eligible facility with a new facility that reconnects communities. Eligible applicants for planning grants include States, local governments, MPOs, or non-profit organizations. For capital grants, eligible applicants must be the owner of the eligible facility. Such applicants may submit jointly with a State, local government, MPO, or non-profit organization. The current funding available for fiscal year 2022 is up to $195 million, with up to $50 million available for planning grants and $145 million for capital construction grants. Eligible facilities include transit lines and transportation facilities that create a barrier to community connectivity. Mobility hub development may be eligible under the RCP program as it improves transportation mobility by increasing safety and multimodal connectivity depending on how well the proposed project meets the evaluation criteria described in the notice of funding opportunity. For example, if funding is pursued through the RCP program, focused attention to engaging economically disadvantaged communities will be required. Commission staff can assist with the identification and outreach to community partners as needed.

## 5.4 PARATRANSIT AND SPECIALIZED TRANSPORTATION SERVICE ELEMENT

### Recommendation 5.4.1: Continue Collaboration Between the Aging and Disability Resource Center of Waukesha County, Waukesha Metro, and Waukesha County Transit on Paratransit and Specialized Transportation Services

The Waukesha County Aging and Disability Resource Center finalized The Waukesha County Specialized Transportation Program Review Study on August 2, 2022, which included program alternatives to improve efficiency, effectiveness, and awareness of the services. This proposed recommendation incorporates several strategies identified in the program review, which focused on changing processes within the control of Waukesha County to improve the delivery of service and prepare for any future service changes. In the short-term, strategies may include resuming quarterly transportation coordination meetings with taxi providers, the RideLine contractor, Waukesha Metro, Waukesha County Transit, and Milwaukee County Transit System to identify opportunities for training and joint procurement. In the medium-term, this on-going collaboration may identify strategies that can improve the delivery of services, such as options to pursue a technology pilot program and establish service standards.

One scenario that may be pursued includes combining complementary paratransit services provided by Waukesha Metro Transit, Waukesha County Transit, and the RideLine service provided by the Aging and Disability Resource Center (ADRC) of Waukesha County. This partnership would allow the three entities to combine the request for proposal process, to create a single coordinated paratransit service for seniors and people with disabilities. The combination of services could make it easier for both seniors and people with disabilities to travel in Waukesha County because they would only have to work with a single service provider. Joint paratransit services utilize operating funding from the State Section 85.21 specialized transportation assistance allocation to the County as part of the local match for Federal and State urban transit operating assistance funds awarded to public transit systems. For example, Kenosha County and the City of Kenosha coordinate to provide paratransit service east of IH 94, with the County contributing part of its State Section 85.21 allocation, the City contributing part of its Federal and State urban transit operating assistance funds, and both contributing County or City funds.

Combining these paratransit services would be a complex undertaking. For example, the process to combine paratransit services provided by the Aging and Disability Resource Center of Portage County and the Point Plus Paratransit operated by the City of Stevens Point took approximately six years. The process included discussions with the Wisconsin Department of Transportation, elected officials, the City Transportation

[37] *Notice of Funding for the Reconnecting Communities Pilot Discretionary Grant Program, www.transportation.gov/sites/dot.gov/files/2022-06/RCP_NOFO_FY22.pdf.*

Commission, the Portage County Transportation Coordinating Commission, and the Aging and Disability Resource Center. The discussions sought to gain trust and develop agreement that the coordination of services could be beneficial to both the City and the County. A Joint Powers Agreement was developed between Portage County and the City of Stevens Point to identify how the combined program would operate including how to transition staff from County employees to City employees, services, and payment. Based on the details included in the Joint Powers Agreement, the following points should be discussed and determined, should the City of Waukesha and Waukesha County wish to pursue joint paratransit services:

- Confirm if the transportation responsibilities will be vested to one entity
- Confirm which decision-making body has authority to oversee the program and assign responsibilities
- Verify how assets, including vehicles, are transferred
- Indicate how the budget will be developed and how the local share will be paid for capital expenses. For example, Portage County and the City of Stevens Point agreed to each contribute to the local share for capital expenditures and future development not covered by State and Federal funds.
- Determine which entity will apply for State and Federal funds and contributes to the local share of operating expenses (including FTA Section 5310, Wisconsin 85.20, and Wisconsin 85.21). The City of Stevens Point applies for FTA funding under Section 5310, Section 5311, and the Wisconsin 85.20 funding. The City also contributes to the local shares for these funds while the County applies for Wisconsin 85.21 funds, contributes the local share, and transfers the funds to the City. In addition, the County transfers other transportation revenues, subsidies, or contributions to the City.

***Service Option 5.4.1A: Provide County-Wide Shared-Ride Taxi Service***

The Waukesha County Specialized Transportation Program Review Study noted a consideration for a long-term strategy to move toward a single contractor to operate a curb-to-curb or corner-to-corner public transit service. While out of scope for the Waukesha County Specialized Transportation Program Review Study, this service option would address an unmet need in Waukesha County for transportation for those who cannot or would prefer to not drive outside of existing transit service areas by providing a county-wide public shared-ride taxi program. Given that this service option would require extensive coordination with Waukesha County Transit, Waukesha Metro, the ADRC, and current senior taxi providers, this option is likely outside the planning horizon for this plan. The entities involved would need to consider several operating characteristics that would influence the future costs including:

- Service administration
- Vendor(s)
- Service area(s)
- Eligibility
- Service days and hours
- Vehicle ownership and maintenance
- Passenger fares
- Funding source(s)[38]

Commission staff can assist with researching potential service characteristics, costs, and funding options should the entities request assistance to pursue this option.

[38] *Any service enhancements would require a reprioritization of local funding.*

## 5.5 CONCLUSIONS

This chapter has presented transit recommendations and service options for the City of Waukesha and Waukesha County to make informed decisions in the face of future uncertainties. The recommendations represent the culmination of the study of existing transit services, the evaluation of existing and potential transit service recommendations, and the consideration of input from businesses, transit riders, educational institutions, and non-profit organizations about the future of transit in the City and County of Waukesha. Further discussion with Waukesha County businesses may provide opportunities for public-private partnerships, particularly for employment-related transportation services, including on-demand services, shuttles, or partnering with a Transportation Network Company, such as Lyft or Uber. As the City and County consider the recommended transit service plan, they will need to balance all service objectives outlined in Chapter 3, Public Transit Service Objectives and Standards, while minimizing costs.