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SEWRPC Community Planning Report No. 347

KENOSHA AREA TRANSIT ROUTE UPDATE

Chapter 3

EVALUATION OF THE EXISTING TRANSIT SYSTEM

INTRODUCTION

This chapter details the performance evaluation of existing Kenosha Area Transit bus services. The evaluations utilize the performance standards that determine how well the existing transit meets the needs of riders and identify potential areas for improvement. The results of this evaluation will help inform potential changes to route services and alignments.

PUBLIC TRANSIT SERVICE OBJECTIVES AND STANDARDS

To allow a thorough evaluation of the existing bus routes offered by Kenosha Area 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 Kenosha. 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 changes 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 Kenosha, 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 Working

Group for the City of Kenosha Transit Route Study and Update 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 Working Group, 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 Kenosha, 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. 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
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*

OBJECTIVE 2

Provide efficient, safe, reliable, convenient, and comfortable transit services in the City of Kenosha

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. 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

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.

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. Total Assistance

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

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

PERFORMANCE OF THE FIXED-ROUTE BUS SERVICE

This section details the results of the performance evaluation of existing Kenosha Area Transit services. The performance evaluations provide insights that will help inform potential route alternatives. The findings of the performance evaluation are shown in Figure 3.2 and the remaining text in this section provides a summary of the results of the performance evaluation.

Summary of the Performance Evaluation of Kenosha Area Transit

The Kenosha Area Transit system performed relatively well under the evaluation, with a few areas of noted weaknesses. The service provides coverage in the City of Kenosha, 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 Kenosha. Certain routes perform poorly in regard to service effectiveness and cost effectiveness, including routes with circuitous alignments and extensive coverage that can increase travel time and make transit travel less attractive (Routes 1, 2, 31, and 35). 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 will be considered as part of the proposed route changes.

Objective 1: Meet the Need and Demand for Service

In order to determine if Kenosha Area Transit effectively serves existing travel patterns and meets the demand for transit services in the City of Kenosha, each applicable standard and associated performance measure were evaluated. These individual evaluations were collectively considered to determine how effectively the current service meets the overall objective.

Local Bus Service Design and Operating Standards

Kenosha Area Transit 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 Kenosha and additional locations adjacent to the City of Kenosha, including the Kenosha Business Park, Southport Plaza, major employers along the I-94 corridor, UW-Parkside, Carthage College, and the Pleasant Prairie Premium Outlets. The City of Kenosha's paratransit service also successfully fulfils 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 Kenosha. To analyze access to major activity centers, the centers were mapped, along with a transit service area of one-quarter mile from Kenosha Area Transit routes. The number of

Figure 3.2

Summary of the Results of the Performance Evaluation of Kenosha Area Transit Services

Objective	Standard	Kenosha Area Transit
Objective 1	Local Bus Service	Fulfilled
	Major Activity Centers	Fulfilled
	Population	Largely Fulfilled
	Employment	Largely Fulfilled
	Density	Fulfilled
Objective 2 Operating safely, reliably, conveniently, comfortably, and efficiently	Route Design and Operations	Largely Fulfilled
	Travel Time	Largely Fulfilled
Objective 3	Operating Expenses	Fulfilled
	Cost Effectiveness	Partially Fulfilled

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

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activity centers served are shown in Table 3.1, while the geographic distribution of activity centers are shown in Map 3.1. Kenosha Area Transit provides service to most of the major activity centers within the City of Kenosha, including all major economic activity areas, institutions of higher education, middle and high schools, and senior centers. Kenosha Area Transit also serves major activity centers outside of the city boundaries, including over 15 major employers primarily in the Village of Pleasant Prairie.

Population Performance Standard

The Population Performance Standard recommends maximizing the number of residents with access to transit. In the case of Kenosha Area Transit, it is measured using the number of people residing within one-quarter mile of a bus route. Map 3.2 displays the residential population by quarter section in the City of Kenosha, with a one-quarter mile buffer from Kenosha Area Transit routes. As of the 2020 U.S. Census, approximately 74,559 residents (approximately 82 percent of all City of Kenosha residents) lived within one-quarter miles of a Kenosha Area Transit route and therefore, the Population Performance Standard is largely fulfilled.

Residents with High Transit Needs

Commission staff developed a transit needs index using population data to identify the areas of greatest potential transit needs in the City of Kenosha and adjacent communities, as shown on Map 3.3. U. S. Census block groups 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. Although this methodology does not quantify the potential transit demand, it does indicate where transit needs may be greatest based on resident population characteristics. Kenosha Area Transit provides good coverage of areas within the City with the greatest potential transit needs, including all 13 of the block groups with high transit needs and all 29 of the Census block groups designated as having moderate transit needs. [to be updated]

Employment Performance Standard

The Employment Performance Standard recommends maximizing the number of jobs accessible by transit. The total employment within one-quarter mile of local transit was measured to determine how well Kenosha Area Transit fulfills the Employment Performance Standard. Map 3.4 displays employment by quarter section within the City of Kenosha and adjacent communities. Based on 2020 employment data, of the 44,274 jobs in the City of Kenosha, 36,839 jobs within the City or about 83 percent, were served by Kenosha

Table 3.1
Transit Service Provided to Land Uses and Population Groups in the Study Area for Kenosha Area Transit System: 2024

Performance Measure	Systemwide Performance Characteristics	
Major Activity Centers Served	Within the City of Kenosha	Outside the City of Kenosha
Major Economic Activity Areas	2 of 2	0
Institutions of Higher Education	2 of 2	1
Public Middle and High Schools	7 of 7	1
Hospitals, Medical Centers, and Major Clinics	5 of 5	0
Major Employers	45 of 52	17
Senior Centers, Senior Meal Sites, and Adult Day Centers	7 of 8	1
Residential Facilities for Seniors, People with Disabilities, and Low-Income Households	50 of 50	1
Nursing Homes	7 of 8	0
Job Resource Centers	1 of 1	0
Population Served[a]		
Inside City of Kenosha	74,559	--
Outside City of Kenosha	6,196	--
Total	80,755	--
City of Kenosha Total Population	91,450	--
Percent of City of Kenosha Resident Population Served	81.5	--
Areas with Substantial Transit Needs Served		
Census block groups with high transit needs served	13 of 13	--
Census block groups with moderate transit needs served	29 of 29	--
Employment Served[b]		
Inside City of Kenosha	36,839	--
Outside City of Kenosha	10,538	--
Total	47,377	--
City of Kenosha Total Employment	44,274	--
Percent of Total Employment Within City of Kenosha Served	83.2	--

[a] *Population based on 2020 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

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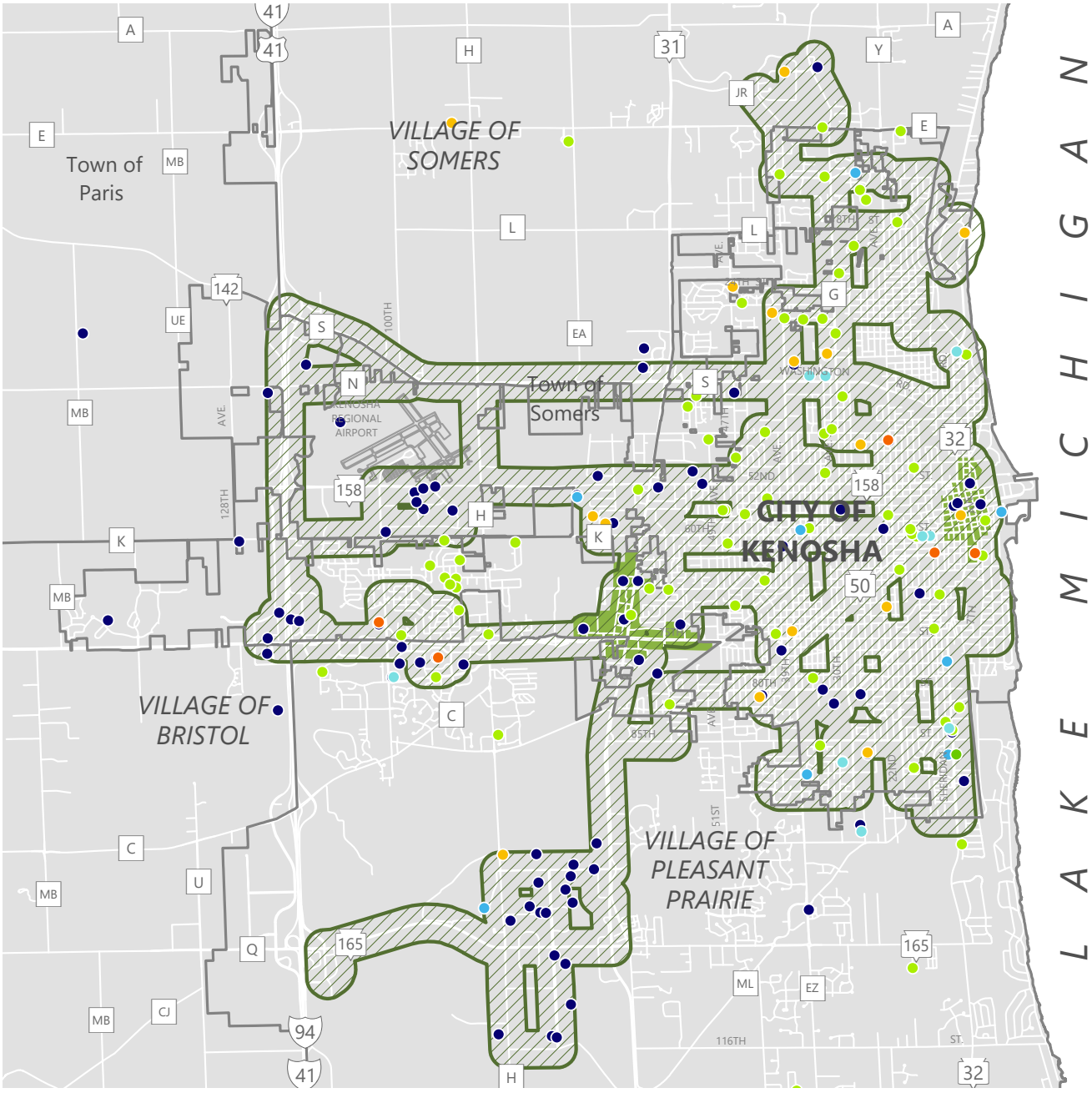
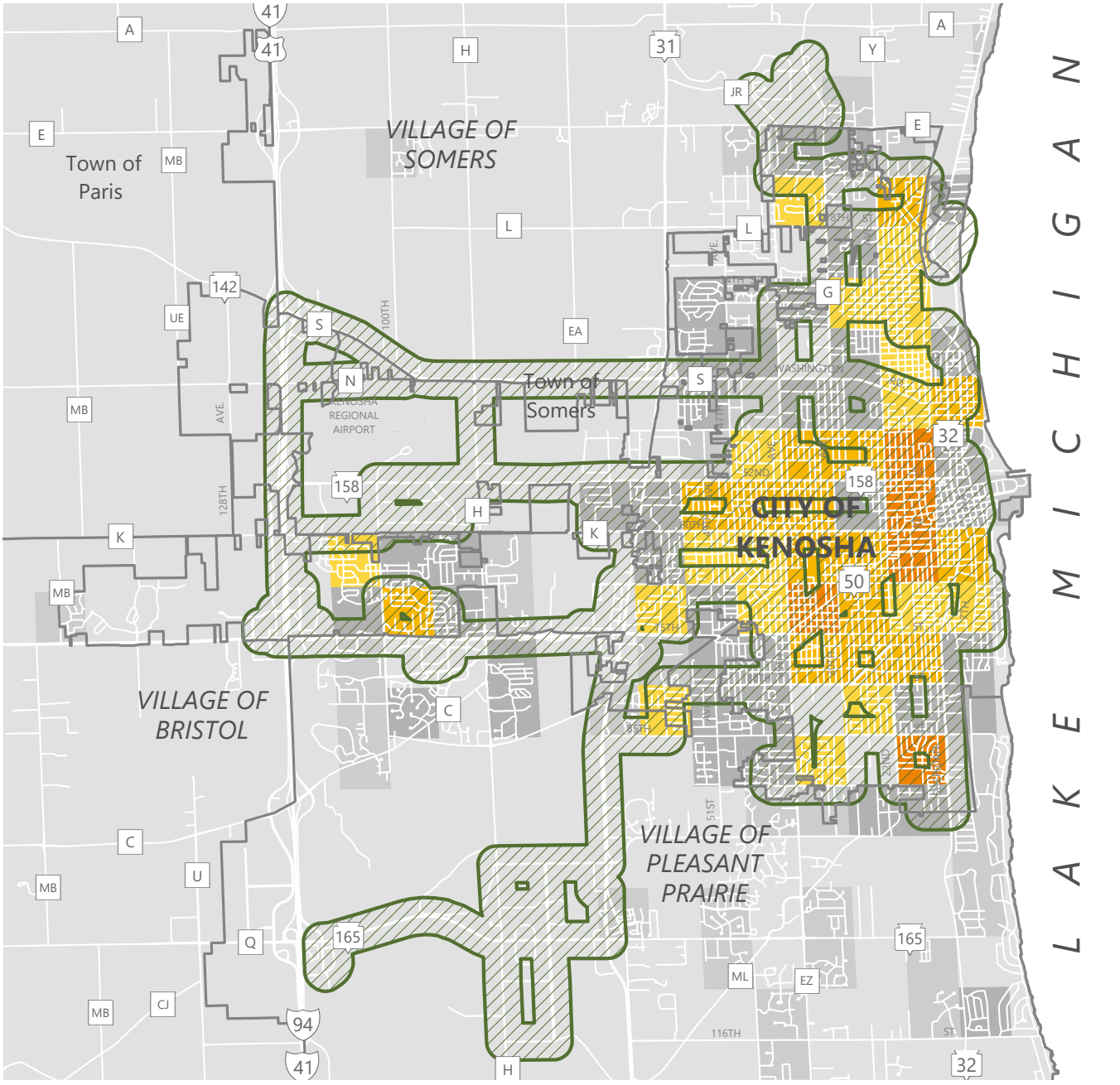
Map 3.1
Major Activity Centers Within the Study Area for Kenosha Area Transit (KAT)



Source: Kenosha Area Transit and Southeastern Wisconsin Regional Planning Commission 2/2025

Map 3.2
Population Served by Kenosha Area Transit



KENOSHA AREA TRANSIT

ONE-QUARTER MILE SERVICE AREA 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).

POPULATION BY QUARTER SECTION (2020)

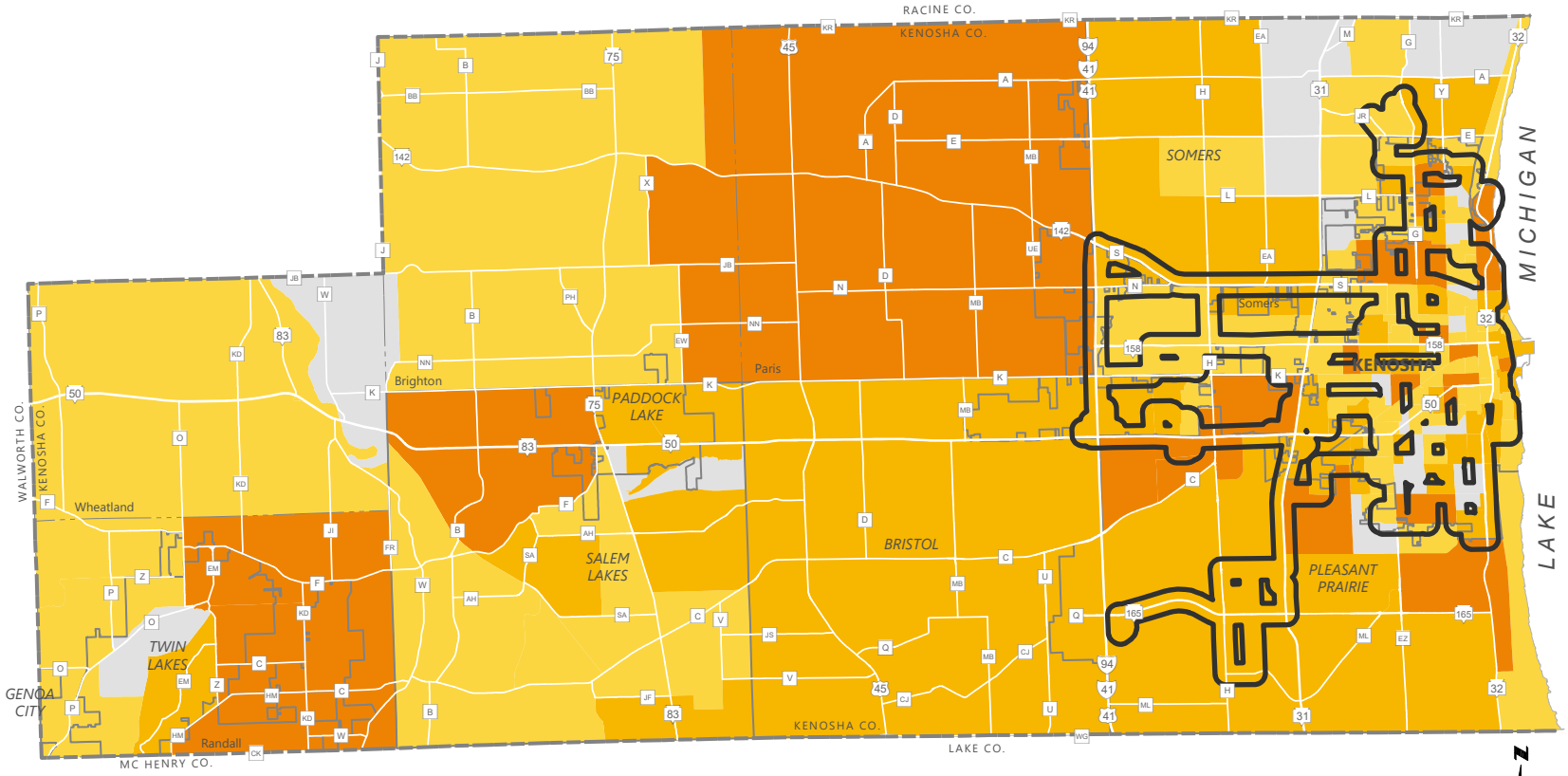
0 - 300
301 - 600
601 - 1,194
1,195 - 1,625
1,626 - 2,055
2,056 - 2,497

N

0 0.25 0.5 1 1.5 2 Miles

Source: Kenosha Area Transit and Southeastern Wisconsin Regional Planning Commission 2/2025

Map 3.3
Transit Needs Index for Kenosha County



TRANSIT NEED INDEX LEVEL

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

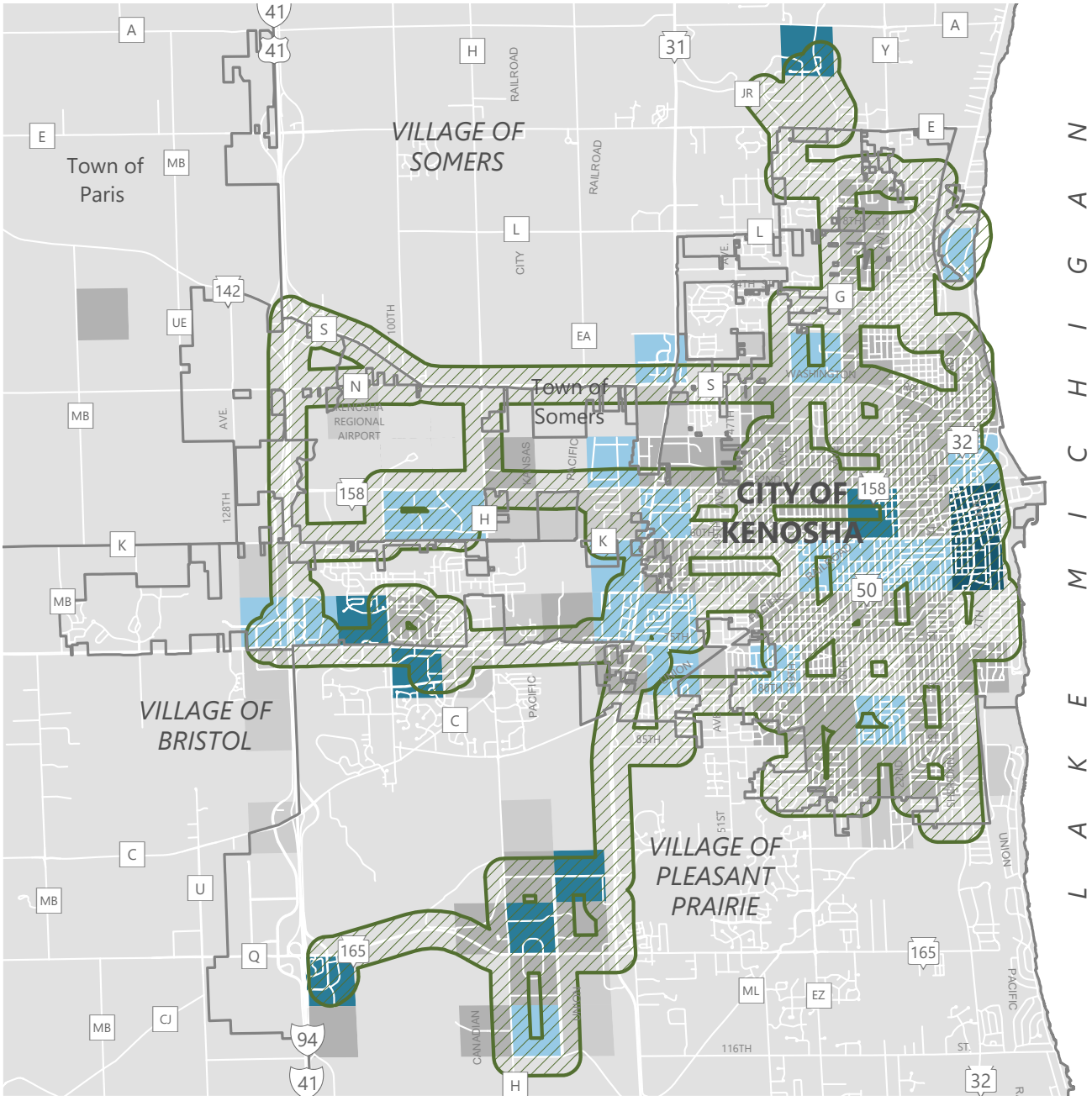
KENOSHA AREA TRANSIT

- ONE-QUARTER MILE SERVICE AREA FROM BUS ROUTES

Note: The Transit Needs Index is calculated by ranking census block groups based on the percent of total population or households in five categories: school-age (10 through 17), seniors (75 and older), persons in low-income households, people with disabilities, 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 four categories.

Source: Kenosha Area Transit, U.S. Census Bureau American Community Survey, and Southeastern Wisconsin Regional Planning Commission 2/2025

Map 3.4
Employment Served by Kenosha Area Transit



KENOSHA AREA TRANSIT

ONE-QUARTER MILE SERVICE AREA FROM BUS ROUTES

EMPLOYMENT BY QUARTER SECTION (2020)

0 - 160 | 161 - 320 | 321 - 639 | 640 - 1,280 | 1,281 - 2,560 | 2,561 - 3,090

N

0 0.25 0.5 1 1.5 2 Miles

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

Source: Kenosha Area Transit and Southeastern Wisconsin Regional Planning Commission 2/2025

Area Transit, as shown in Table 3.3 In addition, 45 of the 52 major employers in the City of Kenosha are served by Kenosha Area Transit. There are areas of more dense development just outside of the City of Kenosha's boundaries, particularly business west of IH 94 in the Village of Pleasant Prairie that are also served by transit. Kenosha Area Transit largely fulfills the Employment Performance Standard, as many of the major employers and jobs are served 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 and from SEWPRC's 2020 employment survey. Next, the density thresholds were converted into 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 3.2 identifies those quarter sections that have population densities and Map 3.4 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, Kenosha Area Transit serves all quarter sections that are considered transit supportive and fulfills the Density Performance Standard.

Objective 2: Operating safely, reliably, conveniently, comfortably, and efficiently

Route Design and Operating Standard

The Route Design and Operating Standard encourages routes with direct alignments with a limited number of turns. Kenosha Area Transit's service includes some alignments that have numerous turns. These alignments are a result of the need to provide the greatest amount of service coverage with a limited number of routes. Kenosha Area Transit operates within an area with varying land use densities, from the downtown business district, to shopping centers, business parks, schools, and neighborhoods with single-family housing. Given the need to connect these various destinations, Kenosha Area Transit's routes have a number of turns to provide maximum coverage. This extensive coverage avoids unnecessary transfers and the routes are aligned to prevent the duplication of services where possible. However, certain popular destinations are served by multiple routes, including Glenwood Crossings (routes 1, 4, and 5), Kenosha

County Job Center (Routes 2 and 3), Tremper High School (Routes 1 and 2), and Indian Trail Academy (Routes 3, 5, and 31).

In order to evaluate each route's performance, the following sections summarize the ridership, financial performance, boardings and alightings by route. Overall Kenosha Area Transit largely fulfills the Route Design and Operating Standard, however, the bus route options will consider more direct alignments in certain areas of low ridership, while balancing the need to provide access to riders.

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 3.2 compares trip travel distances and time between transit trips and automobile trips that reflect a more direct route between the same origin as destination. The table also compares travel times utilizing the same alignment as a means to measure how reasonable the travel times on Kenosha Area Transit service are compared to automobiles.

The comparison of travel and automobile travel times indicates that most of Kenosha Area Transit routes, transit travel time is about as fast by automobile, with all routes within an acceptable range. As shown in Table 3.2, 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. Route 4 exceeds the acceptable ratio of transit-to-distance of 2.0, while Routes 31 and 35 come close to exceeding the acceptable ratio. Overall, Kenosha Area Transit largely fulfills the Travel Time Performance Standard.

Reducing the travel distance ratios on these routes would likely require Kenosha Area Transit to reduce service to certain neighborhoods and major activity centers, thereby reducing the coverage of the transit system. This tradeoff between serving more destinations and the length of transit travel time will be further considered within this study as potential route alignments are presented.

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 consider the performance of Kenosha Area Transit routes. 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.

Table 3.2
Comparison of Transit and Automobile Travel Distances and Times for Kenosha Area Transit Weekday Routes: 2024

Route	Route Termini For Measurements of Travel Distance and Time	Trip Travel Distance (miles)[a]				Vehicle Travel Time (minutes)[b]			
		Transit	Auto	Difference (Transit - Auto)	Ratio (Transit to Auto)	Transit	Auto	Difference (Transit - Auto)	Ratio (Transit to Auto)
1	Downtown Transfer Center to UW-Parkside	6.7	5.4	1.3	1.2	25.0	17.0	8.0	1.5
2	Downtown Transfer Center to Southport Plaza	5.9	4.5	1.4	1.3	25.0	19.0	6.0	1.3
3	Downtown Transfer Center to Indian Trail Academy	6.1	4.0	2.1	1.5	25.0	17.0	8.0	1.5
4	Downtown Transfer Center to Cathage College	6.4	2.8	3.6	2.3	25.0	19.0	6.0	1.3
5	Downtown TransferCenter to Glenwood Crossings	5.0	3.8	1.2	1.3	25.0	14.0	11.0	1.8
31	Southport Plaza to 118th Ave & 60th St.	7.6	4.2	3.4	1.8	24.0	22.0	2.0	1.1
35	Southport Plaza to Haribo	9.9	5.9	4.0	1.7	30.0	20.0	10.0	1.5
Amazon Express	Downtown Transfer Center to Amazon	8.4	8.2	0.2	1.0	25.0	17.0	8.0	1.5

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

[b] *Auto travel time with traffic along the same route as the bus compared with bus travel time in the published schedule.*

Source: Kenosha Area Transit, Google Maps, and SEWRPC

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Table 3.3
Average Weekday Performance Characteristics for Kenosha Area Transit Routes

Route	Revenue Vehicle Hours[a]	Revenue Vehicle Miles[a]	Boarding Passengers[a]	Service Effectiveness Measures[b]		Operating Cost ($)	Operating Assistance ($)	Cost Effectiveness Measures[c]		
				Passengers per Revenue Vehicle Hour	Passengers per Revenue Vehicle Mile			Operating Cost per Passenger ($)	Operating Assistance per Passenger ($)	Farebox Recovery Rate (Percent)
1	12.9	183.1	102	7.9	0.6	1,537.42	1,399.26	15.01	13.66	9.0
2	33.3	195.3	127	3.8	0.7	3,962.73	3,790.93	31.12	29.77	4.3
3	28.4	357.3	226	12.5	0.6	3,384.71	3,079.59	14.97	13.62	9.0
4	25.2	325.9	1,473	28.6	4.5	3,003.33	1,015.58	2.04	0.69	66.2
5	30.5	270.9	263	10.3	1.0	3,637.37	3,282.64	13.83	12.49	9.8
31	11.4	210.3	55	7.4	0.3	1,357.61	1,283.17	24.61	23.26	5.5
35	0.4	8.6	1	13.2	0.1	41.71	40.43	43.91	42.56	3.1
Amazon Express	2.1	18.0	35	13.3	2.0	250.28	202.65	7.09	5.74	19.0
Bus system Total/Average	144.1	1,569.4	2,284	12.1	1.2	2,146.90	1,761.78	19.07	17.72	15.7
Minimum/Maximum Acceptable Level[b,c]	N/A	N/A	N/A	10.0	1.0	N/A	N/A	17.99	16.37	7.2

Note: Operating cost per route was estimated by applying the year 2023 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 2023 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 Sycromatics data* for September 2023

[b] *A general target service effectiveness level for bus routes is 10 passengers per revenue vehicle hour and 1.0 passenger per revenue vehicle mile. Red text for these measures indicates that a route does not meet the target level for that particular measure.*

[c] *The target performance level specified in the transit service standards presented for cost effectiveness measures is 20 percent above the systemwide median for all routes. The target performance level specified 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: National Transit Database, Kenosha Area Transit, Sycromatics, and SEWRPC

Performance Evaluation of Individual Routes

This section evaluates 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.

Table 3.3 displays 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 September 2023
- Systemwide cost per vehicle hour and passenger revenue per boarding passenger in 2023
- Boarding passengers per route collected by the transit system in September 2023

Based on peer agencies in the Region, the target service effectiveness levels for bus routes are 10 passengers per revenue vehicle hour and 1.0 passengers per revenue vehicle mile. In addition, the minimum (or maximum) performance targets for cost efficiency were identified by Commission staff under the transit service standards for this study, presented in Figure 3.1. 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.

Routes 4, 5, and the Amazon Express have weekday performance levels that generally meet or exceed both target service effectiveness measures for the transit system. Routes 1, 3, 4, 5, and the Amazon Express meet or exceed two of the three cost effectiveness measures. Based on both the service effectiveness and cost effectiveness measures, Routes 4, 5, and the Amazon Express meet most of the targets. Overall, the Kenosha Area Transit System meets or exceeds both service effectiveness standards, with approximately 12 passengers per revenue vehicle hour and just over one passenger per revenue vehicle mile. While some of the routes meet at least two of the three cost effectiveness measures, the Kenosha Area Transit System on average does not, and therefore this measure is partially fulfilled.

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 collected

from the ridership and bus tracking platform utilized by Kenosha Area Transit for weekdays in September 2023, that included weekday boardings and alightings by stop for each bus route during every trip.

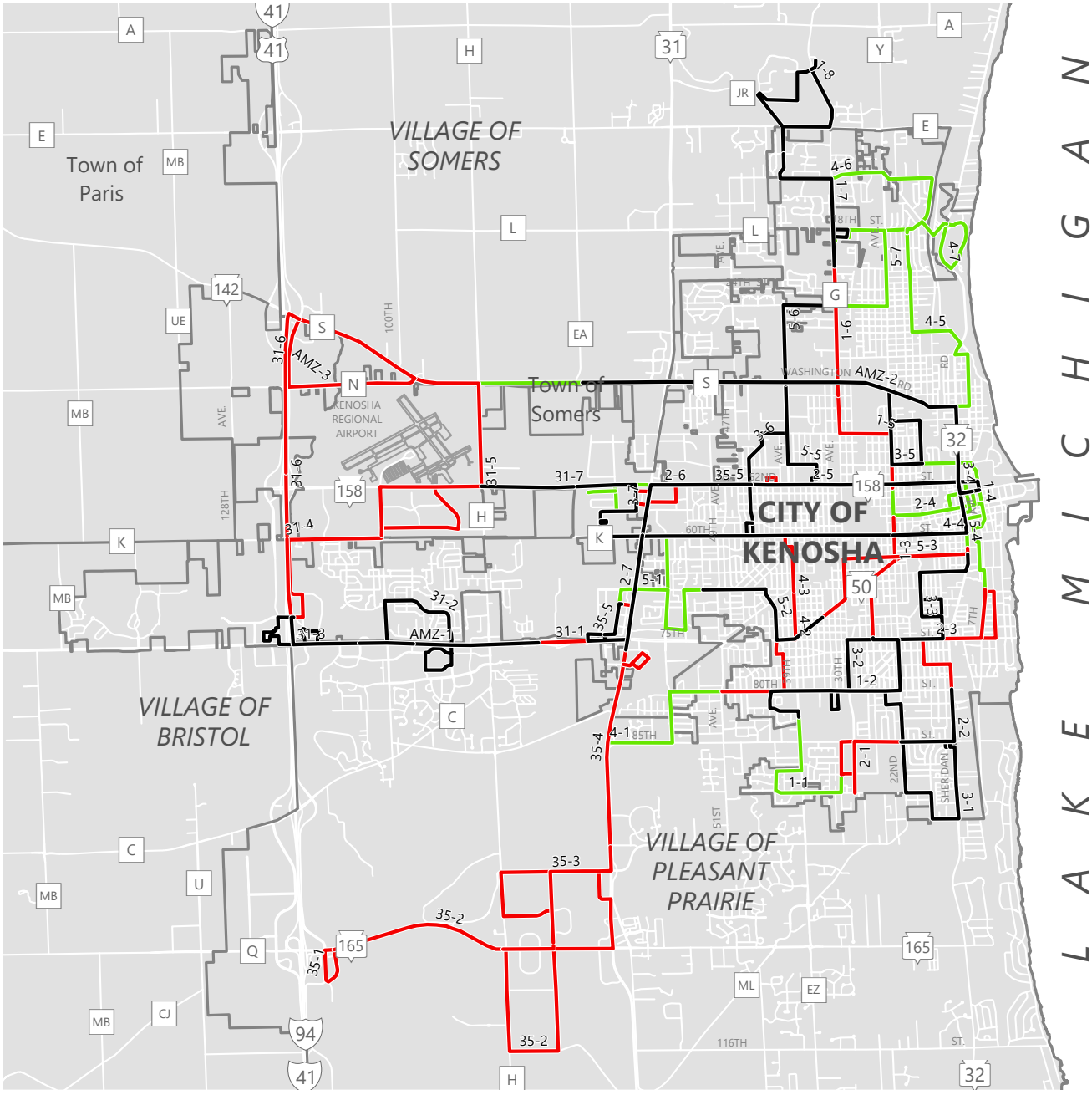
Commission staff conducted the route segment analysis utilizing ridership per scheduled bus trip and ridership by miles traveled. As a first step, Commission staff divided all weekday bus routes into segments that match major intersections or time points. Second, the boardings and alightings were calculated for each route segment. Third, the passenger activity by segment was divided by either the total scheduled bus trip operated over the segment or the number of miles per segment. Boarding and alightings by trip provide 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.

Map 3.5 and Map 3.6 display the 51 route segments designated for the transit system. The route segments that rank in the top one-third are considered the "most productive" segments of the transit system, and route segments ranking in the bottom third are considered the "least productive" segments. 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 3.5 shows the most and least productive route segments per trip and Map 3.6 provides the most and least productive route segments per mile.

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

- In general, the segments showing the highest passenger activity, both per bus trip and per mile, are typically those that pass through key activity hubs such as the downtown area, major commercial districts, and terminal points at the end of routes. These areas tend to attract higher foot traffic due to their proximity to businesses, services, and other trip generators, making them critical points for passenger boarding and alighting.
- With the exception of Route 35, every route features at least one segment that ranks in the top third for productivity, whether assessed by mile or bus trip performance.
- Route 3 stands out as the only route that does not include any segments within the lowest-performing third, whether measured by mile or bus trip performance. This indicates that all

Map 3.5
Kenosha Area Transit Route Productivity Per Scheduled Bus Trip Over Segments



ROUTE SEGMENTS

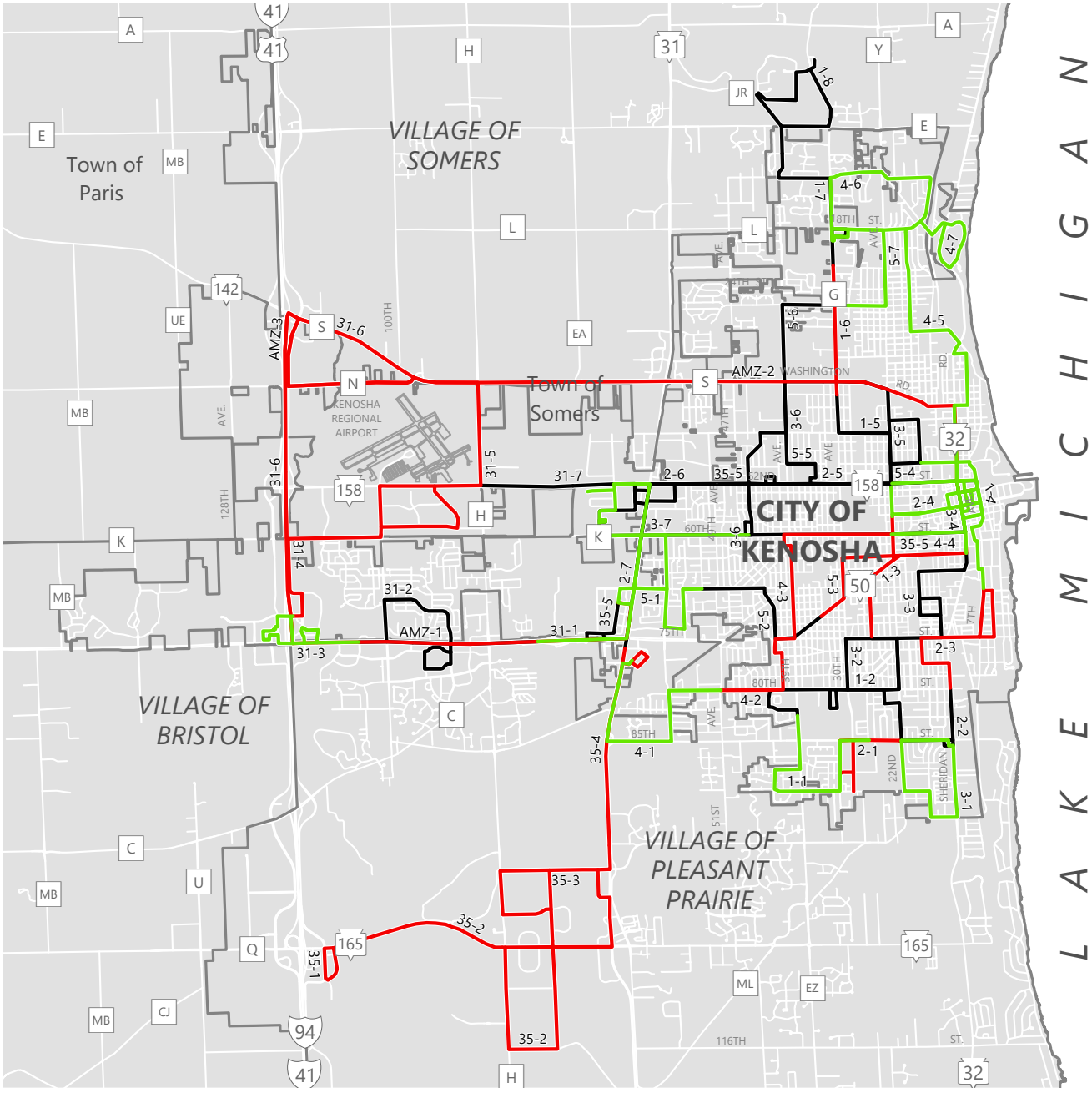
- MOST PRODUCTIVE ROUTE SEGMENTS
- LEAST PRODUCTIVE ROUTE SEGMENTS
- OTHER ROUTE SEGMENTS

N

0 0.25 0.5 1 1.5 2 Miles

Source: Kenosha Area Transit and Southeastern Wisconsin Regional Planning Commission 2/2025

Map 3.6
Kenosha Area Transit Route Productivity Per Mile Over Segments



ROUTE SEGMENTS

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

N

0 0.25 0.5 1 1.5 2 Miles

Source: Kenosha Area Transit and Southeastern Wisconsin Regional Planning Commission 2/2025

segments along Route 3 maintain above-average productivity levels, distinguishing it as a consistently strong performer in comparison to other routes.

- Route 4, while it does include certain segments categorized as least productive, boasts the highest overall performance in terms of quantitative metrics. Specifically, it leads in both boardings and alightings per segment mile and per trip. This suggests that, despite some lower-performing segments, the route's high-traffic areas significantly contribute to its overall success, making it the top performer in these key productivity measures.

CONCLUSION

This chapter's evaluation of Kenosha Area Transit services indicates potential areas for route changes to help the system better fulfill the objectives and standards. Improvement to routes, runs, and service periods could increase Kenosha Area Transit's performance under various standards. Chapter 4 of this study will present potential service improvements and analyze their costs and influence on the performance of the transit system.