



Credit: Hugh J. Fuller, WSP/Parsons Brinckerhoff

## 2.1 THE FISCALLY CONSTRAINED TRANSPORTATION SYSTEM

Federal regulations require VISION 2050 to only include transportation projects that can be funded with existing and reasonably expected revenues, given existing and reasonably expected restrictions on the use of those revenues for specific types of projects or services.<sup>36</sup> The financial analysis presented in Chapter 1 of this volume identified a funding gap for the recommended transportation system, along with potential revenue sources that should be explored to address the funding gap. This chapter presents the portion of the recommended system that can be implemented with reasonably expected revenues, which is referred to as the “Fiscally Constrained Transportation System (FCTS).” It is important to recognize that the FCTS does not represent a desired “plan;” rather, it represents the transportation system expected to occur without sufficient funding levels to maintain and improve transportation infrastructure and services as recommended in VISION 2050. Should funding become available for any transportation improvements recommended in VISION 2050, the FCTS would be amended to include those improvements.

**The FCTS represents the portion of the VISION 2050 transportation system that can be implemented with reasonably expected revenues.**

Just like the transportation component of VISION 2050, the FCTS includes the following six elements: public transit, bicycle and pedestrian, transportation systems management, travel demand management, arterial streets and highways, and freight transportation. Each element is described in this chapter, including specific plan recommendations from VISION 2050 that can be carried over to the FCTS despite the identified funding gap.

<sup>36</sup> Federal regulations regarding fiscal constraint of a regional transportation plan can be found in 23 CFR 450.324(f)(11), most recently published in the Federal Register on May 27, 2016. Additional information on fiscal constraint can be found at: [www.fhwa.dot.gov/planning/guidfinconstr\\_qa.cfm](http://www.fhwa.dot.gov/planning/guidfinconstr_qa.cfm) and [www.transit.dot.gov/regulations-and-guidance/transportation-planning/financial-planning-fiscal-constraint](http://www.transit.dot.gov/regulations-and-guidance/transportation-planning/financial-planning-fiscal-constraint).

### **Expected Costs and Revenues Under the FCTS**

The financial analysis in Chapter 1 of this volume relied on a detailed analysis of existing and reasonably expected revenues for the Region's transportation system. It compared the estimated costs to implement the VISION 2050 transportation system to the available revenues, which illustrated how the funding gaps were identified. The estimated costs and revenues associated with the FCTS are compared in constant 2019 dollars in Table 2.1 and in year of expenditure dollars in Table 2.2, including the costs of constructing, maintaining, and operating the public transit and arterial streets and highways elements and the expected revenues that would be available to fund both elements.

The estimated arterial street and highway system and transit system costs shown in Tables 2.1 and 2.2 include all capital costs and operating and maintenance costs. The estimated costs include the necessary costs to preserve the existing transportation system, such as arterial street resurfacing and reconstruction and transit system bus replacement, and the estimated costs of the transportation system improvement and expansion included in the FCTS.

A significant portion of the arterial street and highway system expenses is related to the construction and reconstruction of significant arterial segments. Table 2.3 shows the estimated cost and potential schedule of significant arterial construction and reconstruction projects through 2050. This table is provided to give more insight into the costs associated with specific projects contained within the arterial streets and highways element.

**Due to a lack of funding, transit service levels under the FCTS would decline by 35%, rather than more than doubling as VISION 2050 recommends.**

### **Description of Public Transit Element**

Due to insufficient current and reasonably expected future revenues, and limitations on how those funds can be used, transit service under the FCTS would be expected to decline rather than significantly improve as recommended under VISION 2050. The only notable service expansions from existing service levels would be the implementation of the recommended east-west rapid transit line between downtown Milwaukee and the Milwaukee Regional Medical Center and the lakefront and 4th Street extensions of the Milwaukee Streetcar, both of which have secured funding or have identified reasonably expected sources of funding. The transit system included in the FCTS is consistent with the trends of declining transit service levels over the last 20 years, which were a result of transit funding levels during that period of time. The FCTS cannot assume that funding for the arterial streets and highways element can be flexed to transit projects, as that is not permitted at this time by the State Legislature.

**Although service levels would decline under the FCTS, some VISION 2050 transit recommendations could make the remaining services slightly faster and more attractive to residents without increasing net operating costs.**

Under the FCTS, service levels on the regional transit system would decline from service levels existing in 2018 by about 35 percent measured in terms of revenue transit vehicle-hours of service provided, from about 4,870 vehicle-hours of service on an average weekday in the year 2018 to 3,190 vehicle-hours of service in the year 2050 (see Table 2.4). This represents an even greater decline than was predicted by the original financial analysis for VISION 2050. The included service decline would result in a smaller transit service area (see Map 2.1) and a decline in the frequency of service. Table 2.5 shows the span of service hours and frequencies under the FCTS.

Despite the decline in transit service included in the FCTS, there are some recommendations from VISION 2050 that could improve the experience of riding transit in the Region without increasing the net cost of operating the transit system, making the services that remain slightly faster and more

**Table 2.1**  
**Average Annual Costs and Revenues Associated with the Fiscally Constrained**  
**Transportation System in 2019 Constant Dollars: 2021-2050**

<b>Cost or Revenue Item</b>	<b>2019 Dollars (millions)</b>
<b>Transportation System Cost<sup>a</sup></b>	
<b>Arterial Street and Highway System</b>	
<b>Capital</b>	
Freeway	
Committed Projects	\$60
Resurfacing and Rehabilitation	120
Surface Arterial Reconstruction/Resurfacing <sup>b</sup>	253
<b>Operating &amp; Maintenance</b>	97
	<b>Highway Subtotal</b>
	\$530
<b>Transit System</b>	
<b>Capital</b>	\$22
<b>Operating<sup>c</sup></b>	126
	<b>Transit Subtotal</b>
	\$148
	<b>Total</b>
	\$678
<b>Transportation System Revenues<sup>a</sup></b>	
<b>Highway Capital</b>	
Federal/State	\$422
Local	68
	<b>Subtotal</b>
	\$490
<b>Highway Operating &amp; Maintenance</b>	
State	\$47
Local	32
	<b>Subtotal</b>
	\$79
	<b>Highway Subtotal</b>
	\$569
<b>Transit Capital</b>	
Federal	\$16
Local	6
	<b>Subtotal</b>
	\$22
<b>Transit Operating</b>	
Federal	\$31
State	63
Local	29
	<b>Subtotal</b>
	\$123
	<b>Transit Subtotal</b>
	\$145
	<b>Total</b>
	\$714

<sup>a</sup> The estimated arterial street and highway system and transit system costs include all capital, operating, and maintenance costs. The estimated costs include the necessary costs to preserve the existing transportation system, such as arterial street and highway resurfacing and reconstruction and transit system bus replacement, and the estimated costs of the transportation system improvement and expansion expected under the FCTS. Costs for freeway and surface arterial resurfacing, reconstruction, widening, and new construction are based upon actual project costs over the past several years. Estimated preservation costs reflect a reduced frequency for surface arterial and freeway reconstruction, resurfacing, and reconditioning. Transit system capital costs include preservation of the existing transit system, including bus replacement on a 15-year schedule and replacement of fixed facilities, and costs associated with the initial phases of the Milwaukee Streetcar and Milwaukee County's BRT line between downtown Milwaukee and the Milwaukee Regional Medical Center, including needed additional vehicles and facilities.

Highway system operating and maintenance costs are based on estimated actual State and local highway system operating costs and verified by application of estimated unit lane-mile costs. Estimated highway system operating costs are increased from estimated existing costs based on the expected increase in the FCTS in arterial highway system lane-miles. Transit system operating and maintenance costs are based on existing estimated actual costs and unit costs based on service vehicle-miles and vehicle-hours. Estimated transit system operating costs have been decreased from existing system operating costs based on the requisite decrease in transit service vehicle-miles and vehicle-hours to match reasonably expected revenues available.

Highway Federal, State, and local capital and operating revenues are based on estimated Federal, State, and local expenditures over the last several years. Transit Federal capital and operating revenues are based on historical expenditures over the last several years, and assessment of available Federal formula and program funds. State transit revenues are based on the State maintaining estimated average year 2020-2021 funding levels through the year 2050.

<sup>b</sup> Includes the costs associated with the bicycle and pedestrian, TSM, and TDM elements of the FCTS.

<sup>c</sup> Net operating cost (total operating costs less fare-box revenue).

Source: SEWRPC

**Table 2.2**  
**Average Annual Costs and Revenues Associated with the Fiscally Constrained**  
**Transportation System Based on Year of Expenditure: 2021-2050**

<b>Cost or Revenue Item</b>	<b>YOE Dollars (millions)</b>
<b>Transportation System Cost<sup>a</sup></b>	
<b>Arterial Street and Highway System</b>	
<b>Capital</b>	
Freeway	
Committed Projects	\$73
Resurfacing and Rehabilitation	183
Surface Arterial Reconstruction/Resurfacing <sup>b</sup>	388
<b>Operating &amp; Maintenance</b>	149
	<b>Highway Subtotal</b>
	\$793
<b>Transit System</b>	
<b>Capital</b>	\$29
<b>Operating<sup>c</sup></b>	161
	<b>Transit Subtotal</b>
	\$190
	<b>Total</b>
	\$983
<b>Transportation System Revenues<sup>a</sup></b>	
<b>Highway Capital</b>	
Federal/State	\$541
Local	88
	<b>Subtotal</b>
	\$629
<b>Highway Operating &amp; Maintenance</b>	
State	\$60
Local	41
	<b>Subtotal</b>
	\$101
	<b>Highway Subtotal</b>
	\$730
<b>Transit Capital</b>	
Federal	\$21
Local	8
	<b>Subtotal</b>
	\$29
<b>Transit Operating</b>	
Federal	\$40
State	80
Local	36
	<b>Subtotal</b>
	\$156
	<b>Transit Subtotal</b>
	\$185
	<b>Total</b>
	\$915

<sup>a</sup> The estimated arterial street and highway system and transit system costs include all capital, operating, and maintenance costs. The estimated costs include the necessary costs to preserve the existing transportation system, such as arterial street and highway resurfacing and reconstruction and transit system bus replacement, and the estimated costs of the transportation system improvement and expansion expected under the FCTS. Costs for freeway and surface arterial resurfacing, reconstruction, widening, and new construction are based upon actual project costs over the past several years. Estimated preservation costs reflect a reduced frequency for surface arterial and freeway reconstruction, resurfacing, and reconditioning. Transit system capital costs include preservation of the existing transit system, including bus replacement on a 15-year schedule and replacement of fixed facilities, and costs associated with the initial phases of the Milwaukee Streetcar and Milwaukee County's BRT line between downtown Milwaukee and the Milwaukee Regional Medical Center, including needed additional vehicles and facilities.

Highway system operating and maintenance costs are based on estimated actual State and local highway system operating costs and verified by application of estimated unit lane-mile costs. Estimated highway system operating costs are increased from estimated existing costs based on the expected increase in the FCTS in arterial highway system lane-miles. Transit system operating and maintenance costs are based on existing estimated actual costs and unit costs based on service vehicle-miles and vehicle-hours. Estimated transit system operating costs have been decreased from existing system operating costs based on the requisite decrease in transit service vehicle-miles and vehicle-hours to match reasonably expected revenues available.

Highway Federal, State, and local capital and operating revenues are based on estimated Federal, State, and local expenditures over the last several years. Transit Federal capital and operating revenues are based on historical expenditures over the last several years, and assessment of available Federal formula and program funds. State transit revenues are based on the State maintaining estimated average year 2020-2021 funding levels through the year 2050.

<sup>b</sup> Includes the costs associated with the bicycle and pedestrian, TSM, and TDM elements of the FCTS.

<sup>c</sup> Net operating cost (total operating costs less fare-box revenue).

Source: SEWRPC

**Table 2.3**  
**Estimated Cost and Potential Schedule of Significant Arterial**  
**Construction and Reconstruction Projects: 2021-2050<sup>a,b</sup>**

<b>Period Completed and Open to Traffic</b>	<b>County</b>	<b>Facility</b>	<b>Limits of Project</b>	<b>Cost (Millions 2019 Dollars)<sup>c</sup></b>	<b>Cost (Millions YOE Dollars)</b>	<b>Mileage</b>
2021 to 2025	Kenosha	CTH S (part)	E. Frontage Road to CTH H	\$8.5	\$9.3	1.9
	Kenosha	STH 50	IH 94 to 39th Avenue	68.6	75.2	4.8
	Milwaukee	Zoo Interchange	Completion of North Leg	188.6	211.3	1.7
	Racine	CTH KR	IH 94 to Old Green Bay Road	77.8	85.3	4.4
	Waukesha	CTH M (part)	CTH Y to CTH YY	25.1	27.5	2.9
			Subtotal	\$368.6	\$408.6	15.7
2026 to 2030	Kenosha	CTH H (Part)	CTH S to STH 50	\$19.7	\$24.2	2.6
	Milwaukee	IH 94	70th Street to 16th Street (Including Stadium Interchange)	871.0	1,069.4	3.5
	Milwaukee and Ozaukee	IH 43	Silver Spring Dr. to STH 60	551.6	639.5	12.6
	Milwaukee and Racine	STH 32	STH 100 to Five Mile Road	33.2	40.8	5.1
	Ozaukee	CTH W (part)	Highland Road to W. Glen Oaks Lane	7.6	9.3	1.0
	Racine	CTH KR	Old Green Bay Road to STH 32	21.7	26.6	2.8
	Walworth	STH 50	IH 43 to STH 67	26.2	32.2	4.3
	Waukesha	STH 83	USH 18 to Phylis Parkway	35.4	43.5	2.4
	Waukesha	STH 83	Mariner Drive to STH 16	35.4	43.5	3.6
	Waukesha	CTH D (part)	Milwaukee County line to Calhoun Road	13.4	16.5	3.0
	Waukesha	CTH Y (part)	Hickory Trail to Downing Drive	17.7	21.7	4.0
				Subtotal	\$1,632.9	\$1,967.2
2031 to 2035	Kenosha	CTH H (Part)	STH 50 to STH 165	\$14.6	\$20.1	3.0
	Racine	STH 20	IH 94 to Oaks Road	46.1	63.4	4.5
	Milwaukee	IH 794 Lake Interchange	Milwaukee River to Hoan Bridge	200.0	257.3	0.7
	Milwaukee	USH 45/STH 100	Rawson Avenue to 60th Street	24.7	34.0	4.8
	Waukesha	Pilgrim Road	USH 18 to Lisbon Road	36.4	50.1	4.8
	Waukesha	CTH SR/Town Line Road extension (part)	CTH JJ to STH 190	24.2	33.3	3.2
	Waukesha	CTH Y (part)	CTH L to College Avenue	12.8	17.6	2.1
			Subtotal	\$358.8	\$475.8	23.1
2036 to 2040	Ozaukee	CTH W (part)	CTH V to Lakeland Road	\$23.5	\$36.2	3.1
	Waukesha	STH 67 (part)	CTH DR to USH 18	14.9	23.0	2.9
	Waukesha	STH 190	STH 16 to Brookfield Road	55.1	84.9	5.4
	Waukesha	CTH D (part)	Calhoun Road to STH 59/164	17.1	26.4	3.8
			Subtotal	\$110.6	\$170.5	15.2
2041 to 2045	Ozaukee	CTH W (part)	Lakeland Road to Highland Road	\$23.3	\$40.2	3.1
	Waukesha	STH 59/164	CTH XX to Arcadian Avenue	58.1	100.3	4.8
	Waukesha	CTH SR/Town Line Road extension (part)	STH 190 to Weyer Road	8.2	14.2	1.5
			Subtotal	\$89.6	\$154.7	9.4
			Total	\$2,560.5	\$3,176.8	108.3

<sup>a</sup> Significant projects include those projects involving new construction or widening with a cumulative length of four or more miles.

<sup>b</sup> The schedule shown in this table represents an estimate of the timing of construction and reconstruction for the purposes of comparison of costs and revenues, and is not a recommendation for the schedule of construction and reconstruction. Such a schedule can only be developed by the responsible implementing agency and will necessarily entail frequent updating, for example, due to pavement and structure condition.

<sup>c</sup> Cost of Construction does not include the cost of right-of-way required for the project.

Source: SEWRPC

**Table 2.4**  
**Fixed-Route Public Transit Service Levels:**  
**Fiscally Constrained Transportation System**

<b>Average Weekday Transit Service Characteristics</b>	<b>Existing (2018)</b>	<b>Fiscally Constrained Transportation System (2050)</b>
Revenue Vehicle-Hours		
Rapid Transit	--	150
Commuter Rail	10	10
Commuter Bus	290	180
Express Bus	880	--
Local Transit	3,690	2,850
<b>Total</b>	<b>4,870</b>	<b>3,190</b>
Revenue Vehicle-Miles		
Rapid Transit	--	3,000
Commuter Rail	100	100
Commuter Bus	5,700	3,500
Express Bus	10,400	--
Local Transit	46,100	33,300
<b>Total</b>	<b>62,300</b>	<b>39,900</b>

Source: SEWRPC

attractive to residents. Those recommendations are included in the FCTS and are listed below. More detail on these recommendations can be found in Chapter 1 of this volume.

- ▶ **Recommendation 2.6: Implement “transit-first” designs on urban streets**
- ▶ **Recommendation 2.7: Enhance stops, stations, and park-ride facilities with state-of-the-art amenities**
- ▶ **Recommendation 2.8: Accommodate bicycles on all fixed-route transit vehicles**
- ▶ **Recommendation 2.9: Implement programs to improve access to suburban employment centers**
- ▶ **Recommendation 2.10: Provide information to promote transit use**
- ▶ **Recommendation 2.12: Consider implementation of proof-of-payment on heavily used transit services**

**The bicycle and pedestrian element is unchanged between VISION 2050 and the FCTS as there would likely be enough revenue to fund this element as recommended.**

**Description of Bicycle and Pedestrian Element**

Given that bicycle and pedestrian facility costs are primarily included in the costs for surface arterial streets and highways, and typically represent a small fraction of the cost to reconstruct an arterial facility, there would likely be enough revenue to fund the bicycle and pedestrian element as recommended under VISION 2050. As discussed in Chapter 3 of Volume I, substantial progress in implementing the bicycle and pedestrian element of the year 2035 regional transportation plan occurred between when that plan was adopted and VISION 2050 was prepared, further supporting this conclusion. Therefore, the bicycle and pedestrian element is unchanged between VISION 2050 and the FCTS.

Bicycle recommendations for the FCTS include providing on-street bicycle accommodations on the arterial street and highway system (non-freeways),

## Map 2.1 Transit Services: Fiscally Constrained Transportation System

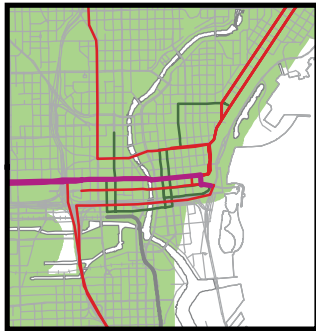
### TRANSIT SERVICES

- RAPID TRANSIT LINE
- EXPRESS BUS ROUTE (NONE)
- COMMUTER RAIL LINE & STATION
- COMMUTER BUS ROUTE & PARK-RIDE
- INTERCITY RAIL
- STREETCAR LINE

### LOCAL TRANSIT SERVICE AREA AND PEAK FREQUENCY

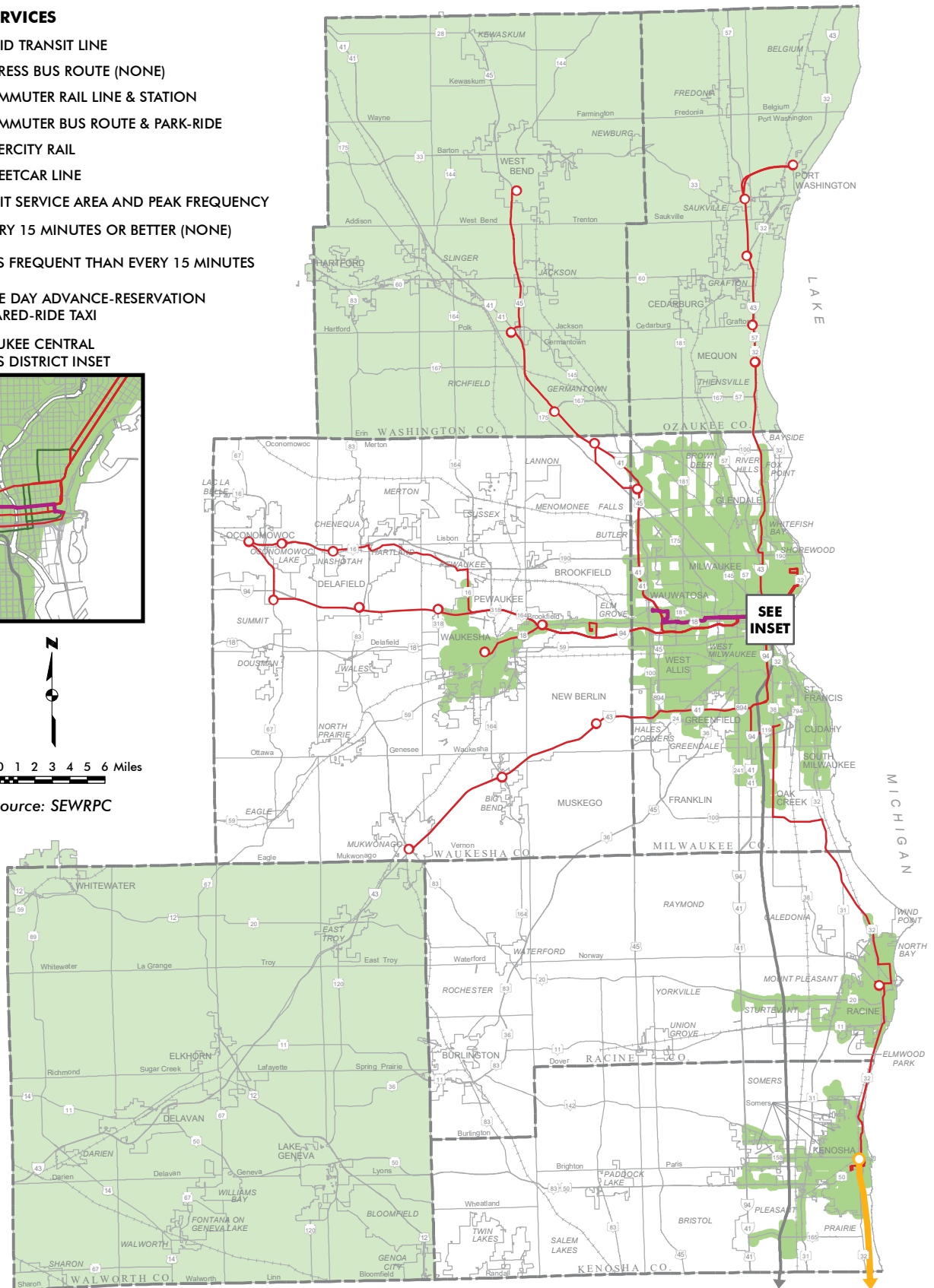
- EVERY 15 MINUTES OR BETTER (NONE)
- LESS FREQUENT THAN EVERY 15 MINUTES
- ONE DAY ADVANCE-RESERVATION SHARED-RIDE TAXI

### MILWAUKEE CENTRAL BUSINESS DISTRICT INSET



0 1 2 3 4 5 6 Miles

Source: SEWRPC



**Table 2.5  
Transit Service Hours and Frequency: Fiscally Constrained Transportation System**

Service Type	Weekdays/ Weekends	Existing (2018)		Fiscally Constrained Transportation System (2050)	
		Service Hours	Service Headways	Service Hours	Service Headways
Rapid Transit	Weekdays	No service	No service	4 a.m. – 2 a.m.	10 – 15 minutes
	Weekends	No service	No service	5 a.m. – 2 a.m.	15 – 20 minutes
Commuter Rail	Weekdays	6 a.m. – 2 a.m.	30 – 360 minutes	6 a.m. – 2 a.m.	30 – 360 minutes
	Weekends	7 a.m. – 2 a.m.	60 – 480 minutes	7 a.m. – 2 a.m.	60 – 480 minutes
Commuter Bus	Weekdays	5 a.m. – 10 a.m. 12 p.m. – 8 p.m., many services peak direction only	10 – 225 minutes, many services peak direction only	5 a.m. – 10 a.m. 3 p.m. – 8 p.m., many services peak direction only	25 – 250 minutes, many services peak direction only
	Weekends	8 a.m. – 11 p.m., KRM Bus only	90 – 240 minutes, KRM Bus only	8 a.m. – 11 p.m., KRM Bus only	100 – 300 minutes, KRM Bus only
Express Bus Milwaukee County	Weekdays	4 a.m. – 2 a.m.	10 – 35 minutes	No service	No service
	Weekends	5 a.m. – 2 a.m.	20 – 45 minutes	No service	No service
Kenosha and Racine Counties	Weekdays	6 a.m. – 7 p.m.	60 – 75 minutes	6 a.m. – 7 p.m.	60 – 75 minutes
	Weekends	No service	No service	No service	No service
Local Transit Milwaukee County	Weekdays	4 a.m. – 2 a.m.	10 – 70 minutes	4 a.m. – 2 a.m.	10 – 90 minutes
	Weekends	5 a.m. – 2 a.m.	12 – 100 minutes	5 a.m. – 2 a.m.	15 – 120 minutes
Remainder of Region	Weekdays	6 a.m. – 10 p.m.	30 – 60 minutes	6 a.m. – 8 p.m.	35 – 70 minutes
	Weekends	6 a.m. – 10 p.m.	30 – 60 minutes	6 a.m. – 6 p.m., no service on some systems	60 – 90 minutes, no service on some systems

Source: SEWRPC

expanding the off-street bicycle path system, implementing enhanced bicycle facilities in key regional corridors, and expanding bike share program implementation. As shown in Table 2.6, the FCTS includes approximately 2,997 miles of standard on-street bicycle accommodations, 393 miles of enhanced bicycle facilities, and 731 miles of off-street bicycle paths. Map 2.2 shows the recommended bicycle network, which identifies on-street bicycle facilities, potential corridors for enhanced bicycle facilities, off-street bicycle paths, and nonarterial street connections to the off-street bicycle network.

The FCTS also includes recommendations for the location, design, and construction of pedestrian facilities and further recommends that local communities develop bicycle and pedestrian plans to supplement the regional plan. More detail on all of these recommendations can be found in Chapter 1 of this volume.

- ▶ **Recommendation 3.1: Expand the on-street bicycle network as the surface arterial system is resurfaced and reconstructed**
- ▶ **Recommendation 3.2: Expand the off-street bicycle path system to provide a well-connected regional network**
- ▶ **Recommendation 3.3: Implement enhanced bicycle facilities in key regional corridors**
- ▶ **Recommendation 3.4: Expand bike and scooter share program implementation**



**Table 2.6  
Miles of Bicycle Facilities: Fiscally Constrained Transportation System**

Bicycle Facility	Estimated Mileages	
	Existing (2019)	Fiscally Constrained Transportation System (2050)
On-Street Accommodations		
Standard	893.9	2,997.3
Enhanced	106.9	392.7
Off-Street Paths	310.6	730.5

Source: SEWRPC

- ▶ **Recommendation 3.5: Provide pedestrian facilities that facilitate safe, efficient, and accessible pedestrian travel**
- ▶ **Recommendation 3.6: Prepare local community bicycle and pedestrian plans**

**Description of Transportation Systems Management Element**

Similar to the bicycle and pedestrian element, the costs associated with the transportation systems management (TSM) element are primarily included in the costs for arterial streets and highways, and typically represent a small fraction of the cost to reconstruct an arterial facility. Therefore, there would likely be enough revenue to fund the TSM element as recommended under VISION 2050. As discussed in Chapter 3 of Volume I, substantial progress in implementing the TSM element of the year 2035 regional transportation plan occurred between when that plan was adopted and VISION 2050 was prepared, further supporting this conclusion. Therefore, the TSM element is unchanged between VISION 2050 and the FCTS.

**The TSM element is unchanged between VISION 2050 and the FCTS as there would likely be enough revenue to fund this element as recommended.**

TSM involves managing and operating existing transportation facilities to maximize their carrying capacity and travel efficiency. TSM recommendations included in the FCTS relate to freeway traffic management, surface arterial street and highway traffic management, and major activity center parking management and guidance. The specific TSM measures within each of the three categories collectively would be expected to result in a more efficient and safer transportation system. More detail on all of these recommendations can be found in Chapter 1 of this volume.

**Freeway Traffic Management**

Freeway traffic management strategies include measures that improve the operational control, advisory information, and incident management on the regional freeway system.

- ▶ **Recommendation 4.1: Implement freeway operational control measures**
- ▶ **Recommendation 4.2: Implement advisory information measures for the freeway system**
- ▶ **Recommendation 4.3: Implement incident management measures for the freeway system**

**Surface Arterial Street and Highway Traffic Management**

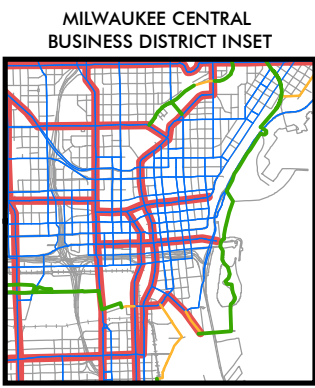
Surface arterial street and highway traffic management strategies are measures that improve the operation and management of the regional surface arterial street and highway network.

## Map 2.2 Bicycle Network: Fiscally Constrained Transportation System

### BICYCLE FACILITIES

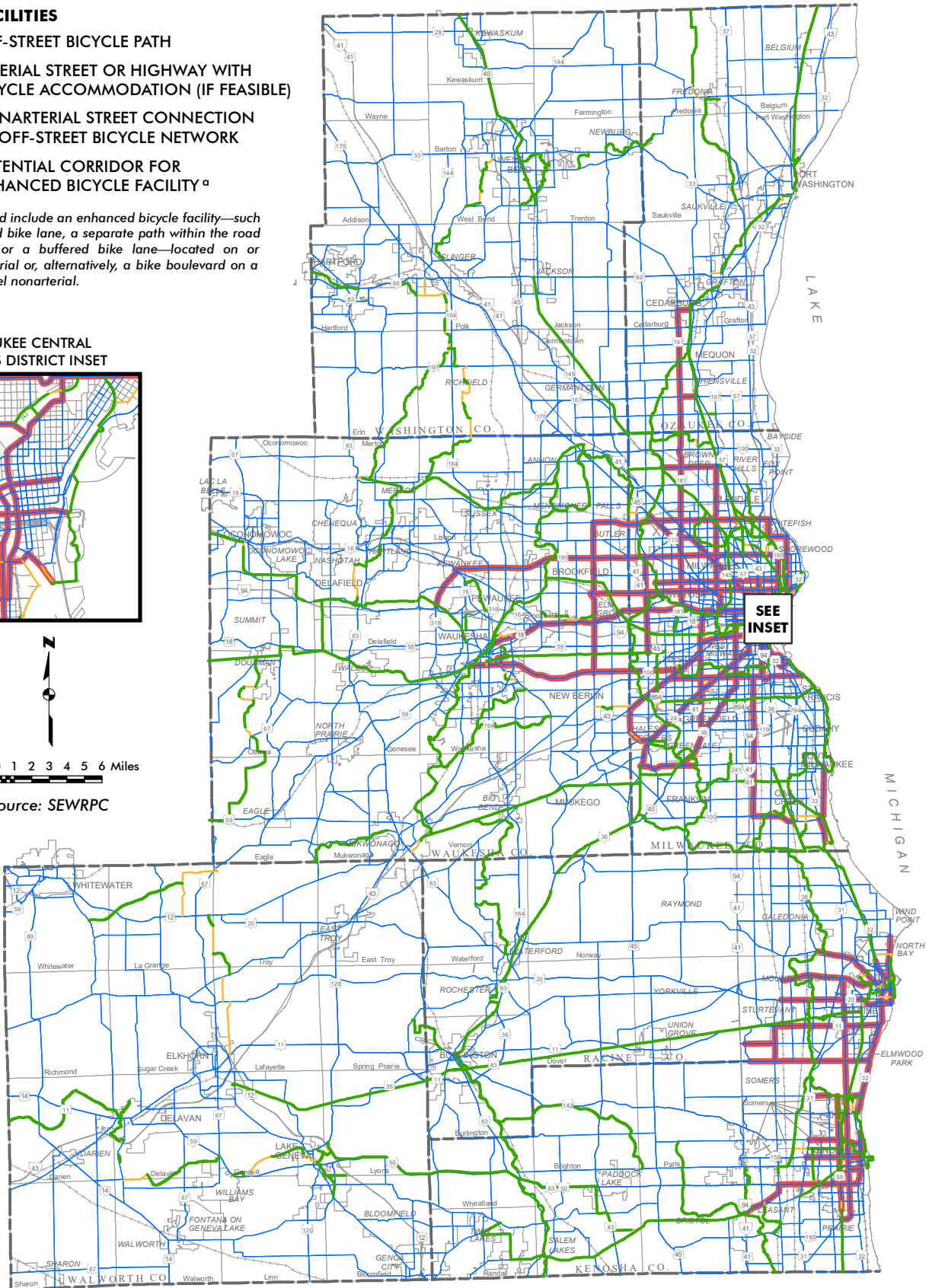
- OFF-STREET BICYCLE PATH
- ARTERIAL STREET OR HIGHWAY WITH BICYCLE ACCOMMODATION (IF FEASIBLE)
- NONARTERIAL STREET CONNECTION TO OFF-STREET BICYCLE NETWORK
- POTENTIAL CORRIDOR FOR ENHANCED BICYCLE FACILITY<sup>a</sup>

<sup>a</sup> Corridor would include an enhanced bicycle facility—such as a protected bike lane, a separate path within the road right-of-way, or a buffered bike lane—located on or along an arterial or, alternatively, a bike boulevard on a nearby parallel nonarterial.



0 1 2 3 4 5 6 Miles

Source: SEWRPC



- ▶ **Recommendation 4.4: Improve and expand coordinated traffic signal systems**
- ▶ **Recommendation 4.5: Improve arterial street and highway traffic flow at intersections**
- ▶ **Recommendation 4.6: Expand curb-lane parking restrictions**
- ▶ **Recommendation 4.7: Develop and adopt access management standards**
- ▶ **Recommendation 4.8: Enhance advisory information for surface arterial streets and highways**
- ▶ **Recommendation 4.9: Expand the use of emergency vehicle preemption**

#### ***Major Activity Center Parking***

The FCTS recommends strategies to improve parking around major activity centers that allow motorists to find available parking quickly, reducing traffic volume and congestion and associated air pollutant emissions and fuel consumption.

- ▶ **Recommendation 4.10: Implement parking management and guidance systems in major activity centers**
- ▶ **Recommendation 4.11: Implement demand-responsive pricing for parking in major activity centers**

#### ***Regional Transportation Operations Plan***

The current regional transportation operations plan (RTOP), originally completed in 2012, is a five-year program identifying candidate corridor and intersection TSM projects prioritized for implementation and funding, particularly with respect to FHWA Congestion Mitigation and Air Quality Improvement (CMAQ) Program funding.

- ▶ **Recommendation 4.12: Review and update the regional transportation operations plan**

#### **Description of Travel Demand Management Element**

Travel demand management (TDM) refers to a series of measures or strategies intended to reduce the total and peak period demand for roadway travel, allowing for more efficient use of the existing capacity of the transportation system. TDM strategies encourage and incentivize people to consider alternatives to single-occupancy vehicle (SOV) trips, such as public transit, ridesharing, walking, biking, and working remotely. The general intent of such measures is to reduce traffic volume and congestion, and the associated air pollutant emissions and fuel consumption. To be effective, TDM measures should be technically and politically feasible; integrated with public transit, bicycle and pedestrian, and arterial street and highway improvements; and combined into coherent packages so that a variety of measures are implemented. As such, the recommendations included in the TDM element of VISION 2050 are either policy initiatives that do not require public funding, or are infrastructure investments that are made largely as part of the construction and operation of arterial streets and highways, and therefore are likely to be funded and are included in the FCTS. More detail on all of these recommendations can be found in Chapter 1 of this volume.

**The TDM element is unchanged between VISION 2050 and the FCTS as there would likely be enough revenue to fund this element as recommended.**

- ▶ **Recommendation 5.1: Enhance the preferential treatment for high-occupancy vehicles**
- ▶ **Recommendation 5.2: Expand the network of park-ride lots**
- ▶ **Recommendation 5.3: Price personal vehicle travel at its true cost**
- ▶ **Recommendation 5.4: Promote travel demand management**
- ▶ **Recommendation 5.5: Facilitate transit, bicycle, and pedestrian movement in local land use plans and zoning**
- ▶ **Recommendation 5.6: Partner with private-sector mobility service providers**

**A funding gap for the arterial streets and highways element will reduce the amount of the system that can be reconstructed, widened, or newly constructed.**

### **Description of Arterial Streets and Highways Element**

Arterial streets and highways are those portions of the total street and highway system principally intended to provide travel mobility, serving the through movement of traffic and providing transportation service between major subareas of a region and also through the region. A comparison of estimated costs to expected revenues for the VISION 2050 transportation system, shown in Tables 2.1 and 2.2, indicates a funding gap for the arterial streets and highways element. The gap will result in a reduction in the amount of freeway and surface arterials that can be reconstructed, widened, or newly constructed. With respect to surface arterials under the FCTS, approximately two-thirds of the total miles that would be expected to be reconstructed by 2050 would instead be rehabilitated—extending the overall life of the roadway, but likely resulting in a reduction in pavement quality.

Specifically, only approximately 20 miles, or 11 percent, of the 186 miles of remaining freeway reconstruction recommended in VISION 2050 would be expected to be implemented by the year 2050 under the updated FCTS, as shown on Map 2.3. As such, the FCTS does not include approximately 106 miles of planned freeway reconstruction at existing capacity, 48 miles of planned freeway expansion, and 12 miles of planned new freeway facilities. With respect to surface arterials, all of the surface arterial capacity expansion recommended in VISION 2050 is included in the updated FCTS, with the exception of the planned extension of the Lake Parkway between Edgerton Avenue and STH 100 in Milwaukee County and the extension of Cold Springs Road between CTH O and IH 43 (associated with the reconstruction of the IH 43/STH 57 interchange) in Ozaukee County, as shown on Map 2.4.

The arterial street and highway system under the FCTS totals 3,650 miles. Approximately 94 percent, or 3,426 of these miles, would be resurfaced and reconstructed to their existing traffic carrying capacity. Approximately 179 miles, or about 5 percent of the year 2050 arterial street and highway system, would involve capacity expansion through widening to provide additional through traffic lanes. The remaining 46 miles, or about 1 percent of the total arterial street mileage, would involve capacity expansion through the construction of new arterial facilities.

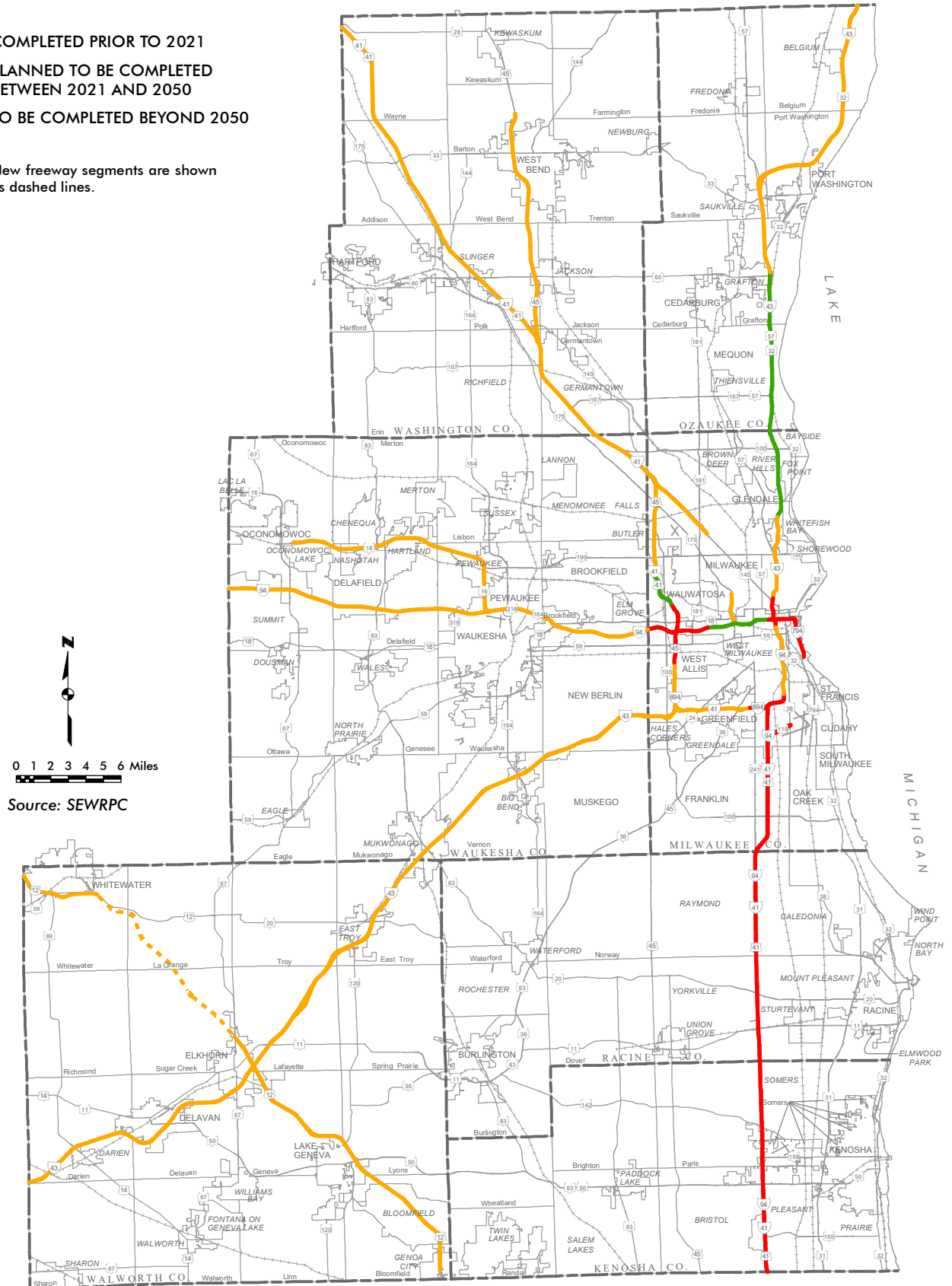
The FCTS does not make any recommendation with respect to whether the 10.0 route-miles of IH 43 between Howard Avenue and Silver Spring Drive, when reconstructed, should be reconstructed with or without additional traffic lanes. The FCTS recommends that preliminary engineering conducted for the reconstruction of this segment of IH 43 should include the consideration of alternatives for rebuilding the freeway with additional lanes and rebuilding

## Map 2.3 Schedule for Reconstructing the Freeway System Under the FCTS

### FREEWAY

- COMPLETED PRIOR TO 2021
- PLANNED TO BE COMPLETED BETWEEN 2021 AND 2050
- TO BE COMPLETED BEYOND 2050

Note: New freeway segments are shown as dashed lines.

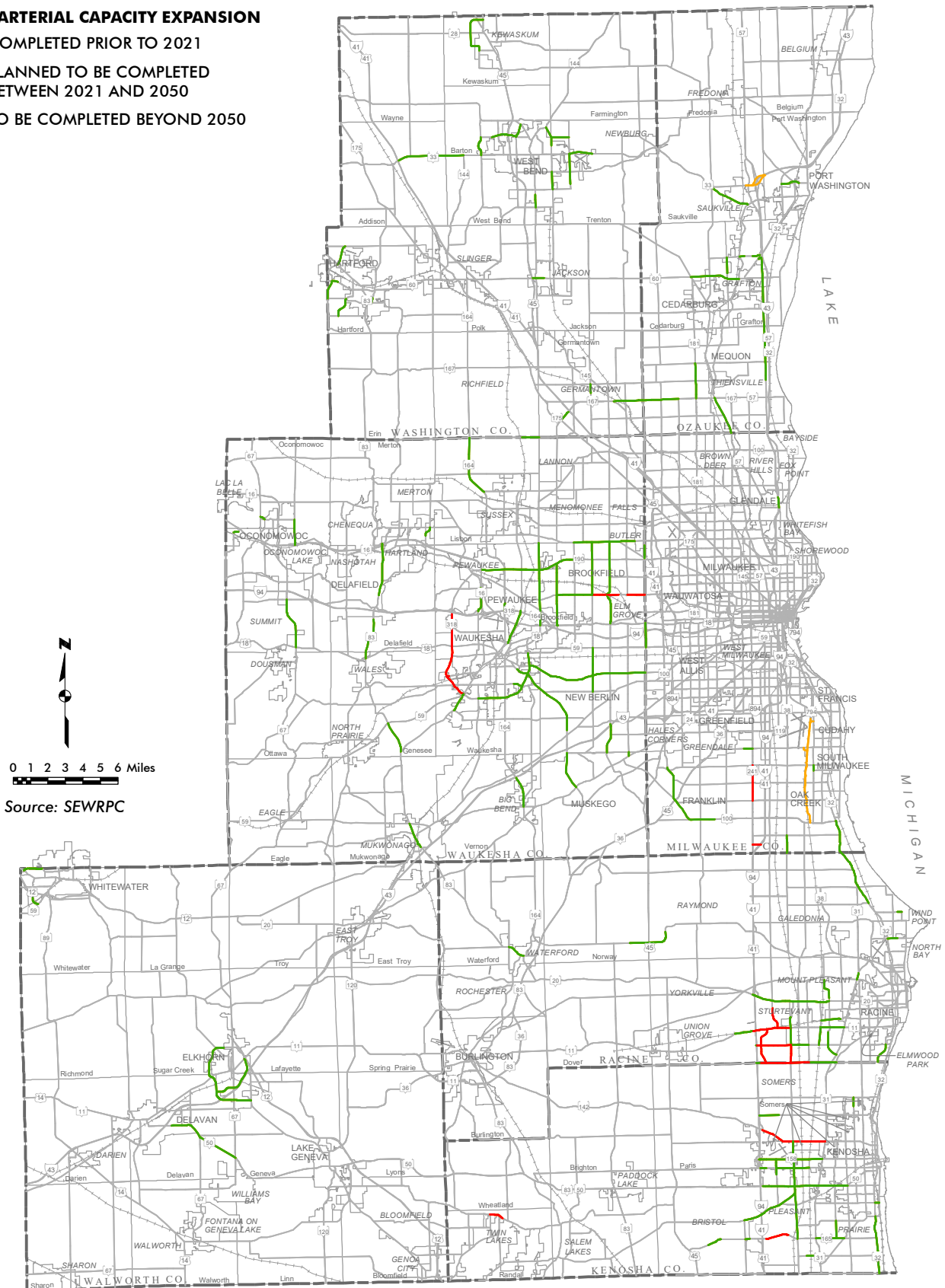


## Map 2.4

### Schedule for Reconstructing Surface Arterials with Capacity Expansion Under the FCTS

#### SURFACE ARTERIAL CAPACITY EXPANSION

- COMPLETED PRIOR TO 2021
- PLANNED TO BE COMPLETED BETWEEN 2021 AND 2050
- TO BE COMPLETED BEYOND 2050



it with the existing number of lanes. The decision of how this segment of IH 43 would be reconstructed would be made by the Wisconsin Department of Transportation (WisDOT) through preliminary engineering and environmental impact study. During preliminary engineering, WisDOT would consider and evaluate a number of alternatives, including rebuild as is, various options of rebuilding to modern design standards, compromises to rebuilding to modern design standards, rebuilding with additional lanes, and rebuilding with the existing number of lanes. Only at the conclusion of preliminary engineering would a determination be made as to how this segment of IH 43 freeway would be reconstructed. Following the conclusion of the preliminary engineering for the reconstruction, VISION 2050 and the FCTS would be amended to reflect the decision made as to how IH 43 between Howard Avenue and Silver Spring Drive would be reconstructed. Any construction along this segment of IH 43 prior to preliminary engineering—such as bridge reconstruction—should fully preserve and accommodate the future option of rebuilding the freeway with additional lanes.

Table 2.7 and Maps 2.5 through 2.11 display the arterial streets and highways element of the FCTS. More detail on the following recommendations can be found in Chapter 1 of this volume.

- ▶ **Recommendation 6.1: Keep the Region’s arterial street and highway system in a state of good repair**
- ▶ **Recommendation 6.2: Incorporate “complete streets” concepts for arterial streets and highways**
- ▶ **Recommendation 6.3: Expand arterial capacity to address residual congestion**
- ▶ **Recommendation 6.4: Avoid, minimize, or mitigate environmental impacts of arterial capacity expansion**
- ▶ **Recommendation 6.5: Address safety needs on the arterial street and highway network**
- ▶ **Recommendation 6.6: Address security needs related to the arterial street and highway system**
- ▶ **Recommendation 6.7: Monitor growth and development of automated vehicles**

#### **Description of Freight Transportation Element**

VISION 2050 recommends a multimodal freight transportation system designed to provide for the efficient and safe movement of raw materials and finished products to, from, and within Southeastern Wisconsin. All recommendations included in the freight transportation element would be expected to be included as part of the regular operations and maintenance of the arterial street and highway system, or would not require additional public funding to implement, and therefore are unchanged between VISION 2050 and the FCTS. More detail on the following recommendations can be found in Chapter 1 of this volume.

- ▶ **Recommendation 7.1: Accommodate truck traffic on the regional highway freight network**

**The freight transportation element is unchanged between VISION 2050 and the FCTS as there would likely be enough revenue to fund this element as recommended.**

**Table 2.7**  
**Arterial Street and Highway System Preservation, Improvement, and Expansion**  
**by Arterial Facility Type by County: Fiscally Constrained Transportation System**

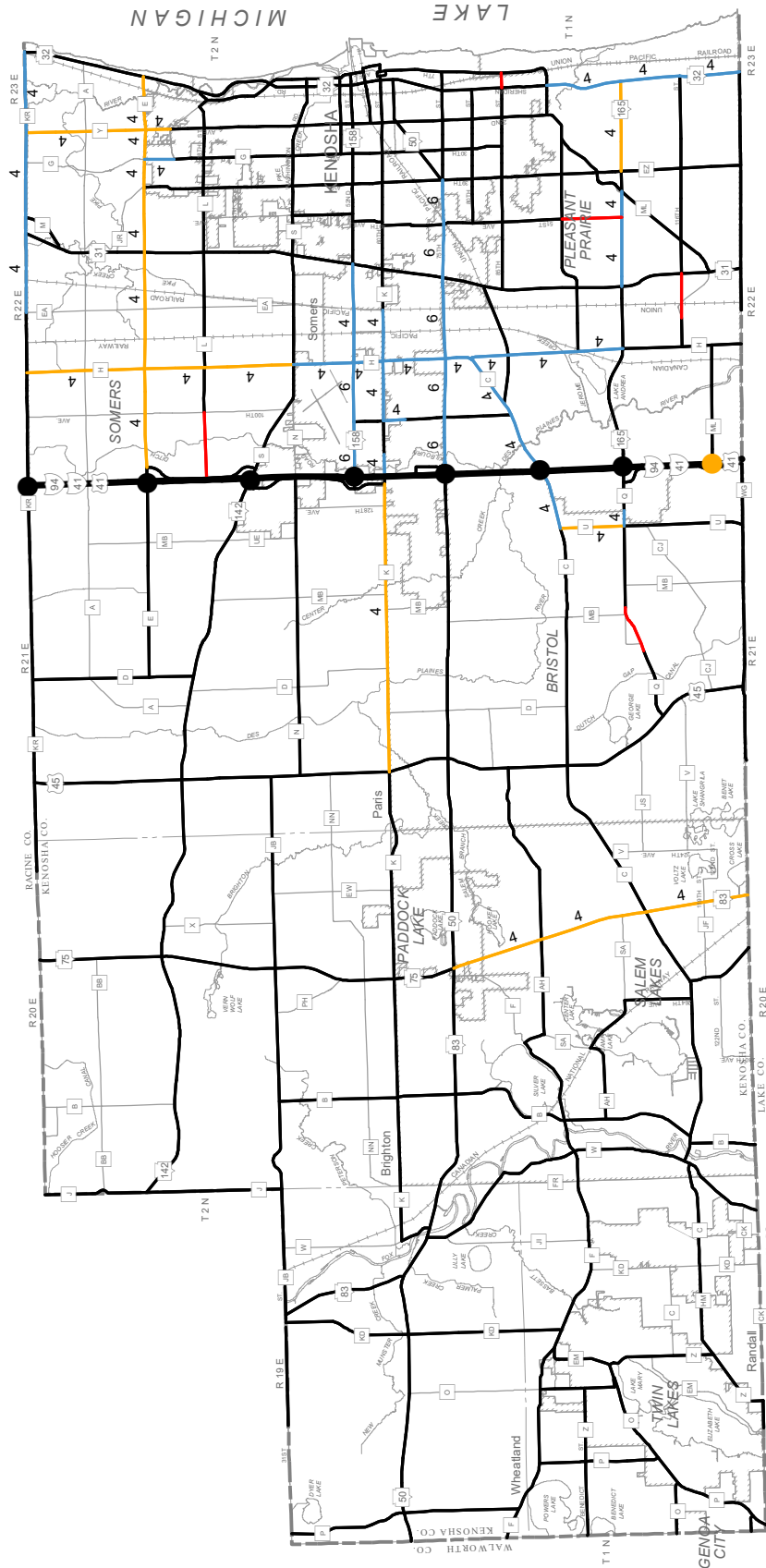
<b>County</b>	<b>Arterial Facility Type</b>	<b>System Preservation (miles)</b>	<b>System Improvement (miles)</b>	<b>System Expansion (miles)</b>	<b>Total Miles</b>
Kenosha	Freeway	12.0	--	--	12.0
	Surface Arterial	322.2	27.4	3.9	353.5
	Subtotal	334.2	27.4	3.9	365.5
Milwaukee	Freeway	57.7	10.3	--	68.0
	Surface Arterial	719.0	9.3	--	728.3
	Subtotal	776.7	18.5	--	796.3
Ozaukee	Freeway	18.7	8.7	--	27.4
	Surface Arterial	262.4	18.5	2.8	283.7
	Subtotal	281.1	27.2	2.8	311.1
Racine	Freeway	12.0	--	--	12.0
	Surface Arterial	416.1	15.8	8.8	440.7
	Subtotal	428.1	15.8	8.8	452.7
Walworth	Freeway	49.8	--	--	49.8
	Surface Arterial	413.9	4.3	10.3	428.5
	Subtotal	463.7	4.3	10.3	478.3
Washington	Freeway	42.2	--	--	42.2
	Surface Arterial	389.9	8.8	15.5	414.2
	Subtotal	432.1	8.8	15.5	456.4
Waukesha	Freeway	58.8	--	--	58.8
	Surface Arterial	650.9	75.8	4.3	789.8
	Subtotal	709.7	75.8	4.3	789.8
Region	Freeway	251.2	19.0	--	270.2
	Surface Arterial	3,174.4	159.9	45.6	3,379.9
	Total	3,425.6	178.9	45.6	3,650.1

Source: SEWRPC

- ▶ **Recommendation 7.2: Accommodate oversized/overweight shipments to, from, and within Southeastern Wisconsin**
- ▶ **Recommendation 7.3: Pursue development of a new truck-rail intermodal facility in or near Southeastern Wisconsin**
- ▶ **Recommendation 7.4: Develop truck size and weight regulations in Wisconsin consistent with neighboring states**
- ▶ **Recommendation 7.6: Address the potential need for truck drivers in Southeastern Wisconsin**
- ▶ **Recommendation 7.7: Address safety needs related to freight transportation**
- ▶ **Recommendation 7.8: Address security needs related to freight transportation**
- ▶ **Recommendation 7.9: Support efforts in areas outside the Region that improve freight movement to and from the Region**



# Map 2.5 Functional Improvements to the Arterial Street and Highway System in Kenosha County: Fiscally Constrained Transportation System



### ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE POTENTIAL FUTURE IMPROVEMENT BEYOND 2050 (ADDITIONAL LANES OR NEW FACILITY)
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR IMPROVED FACILITY, INCLUDING RIGHT-OF-WAY RESERVATIONS (2 LANES WHERE UNNUMBERED)

### FREEWAY INTERCHANGE

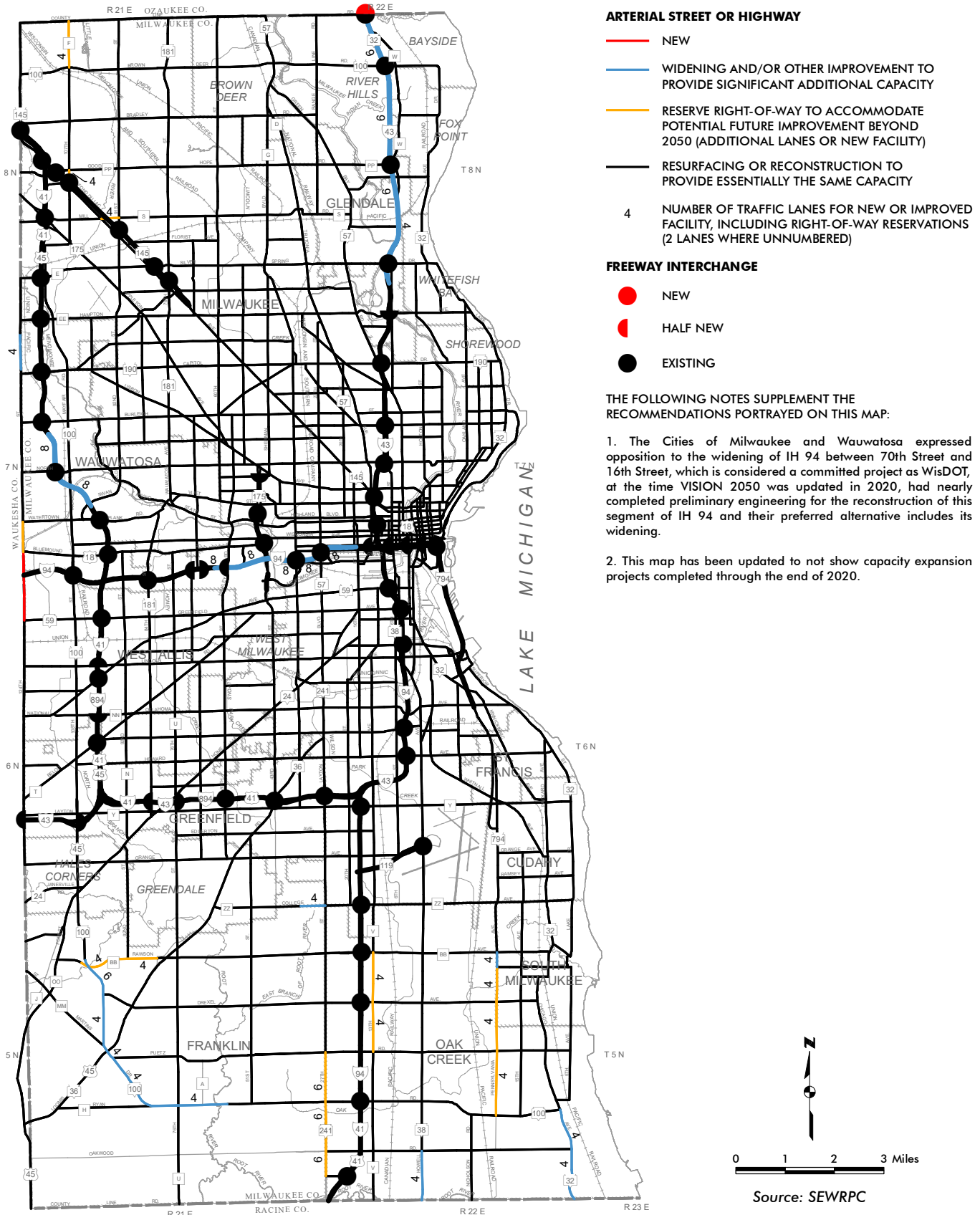
- EXISTING
  - RESERVE RIGHT-OF-WAY TO ACCOMMODATE FUTURE IMPROVEMENT (POTENTIAL NEW INTERCHANGE)
- Note: This map has been updated to not show capacity expansion projects completed through the end of 2020.

N

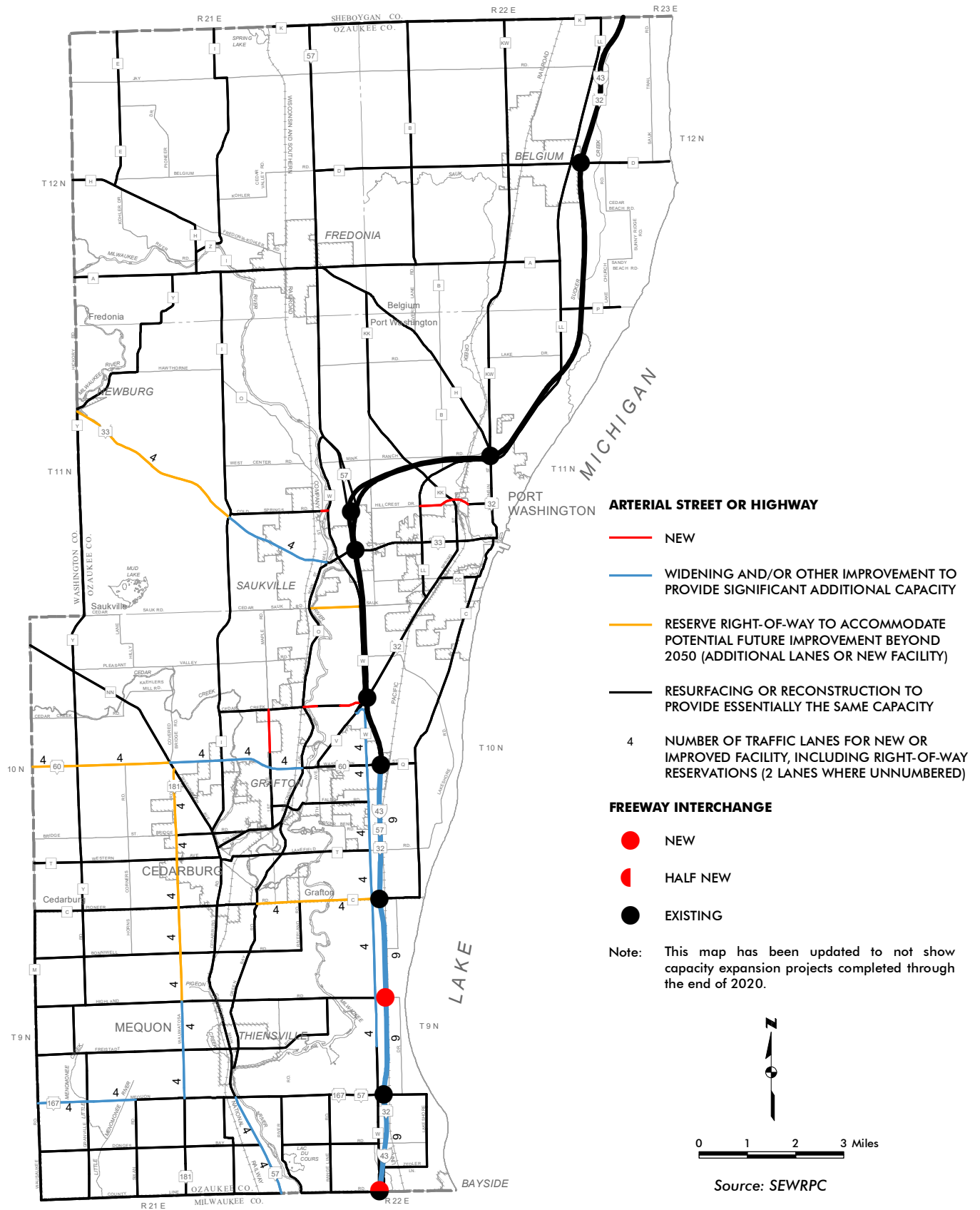
Source: SEWRPC

## Map 2.6

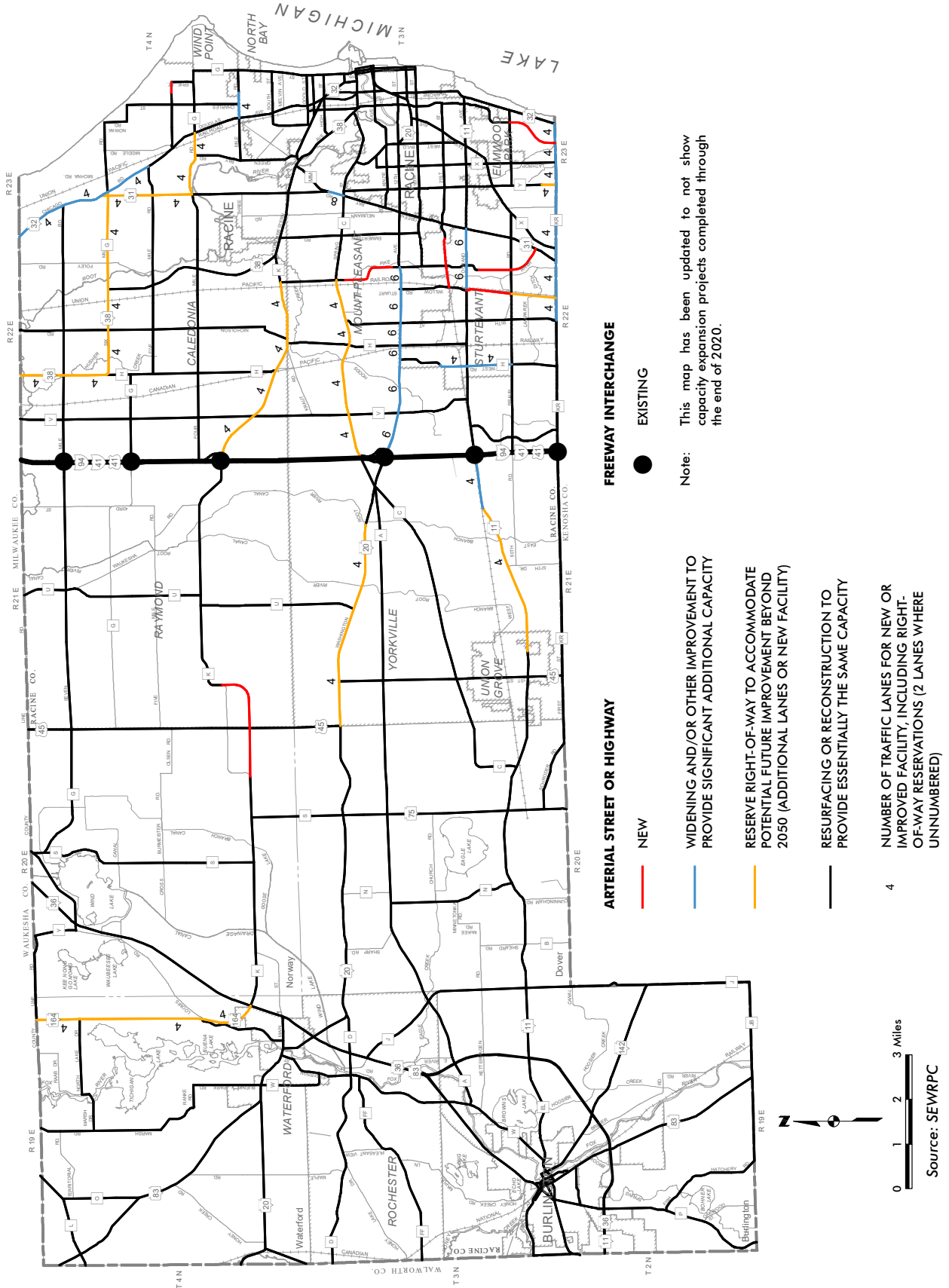
# Functional Improvements to the Arterial Street and Highway System in Milwaukee County: Fiscally Constrained Transportation System



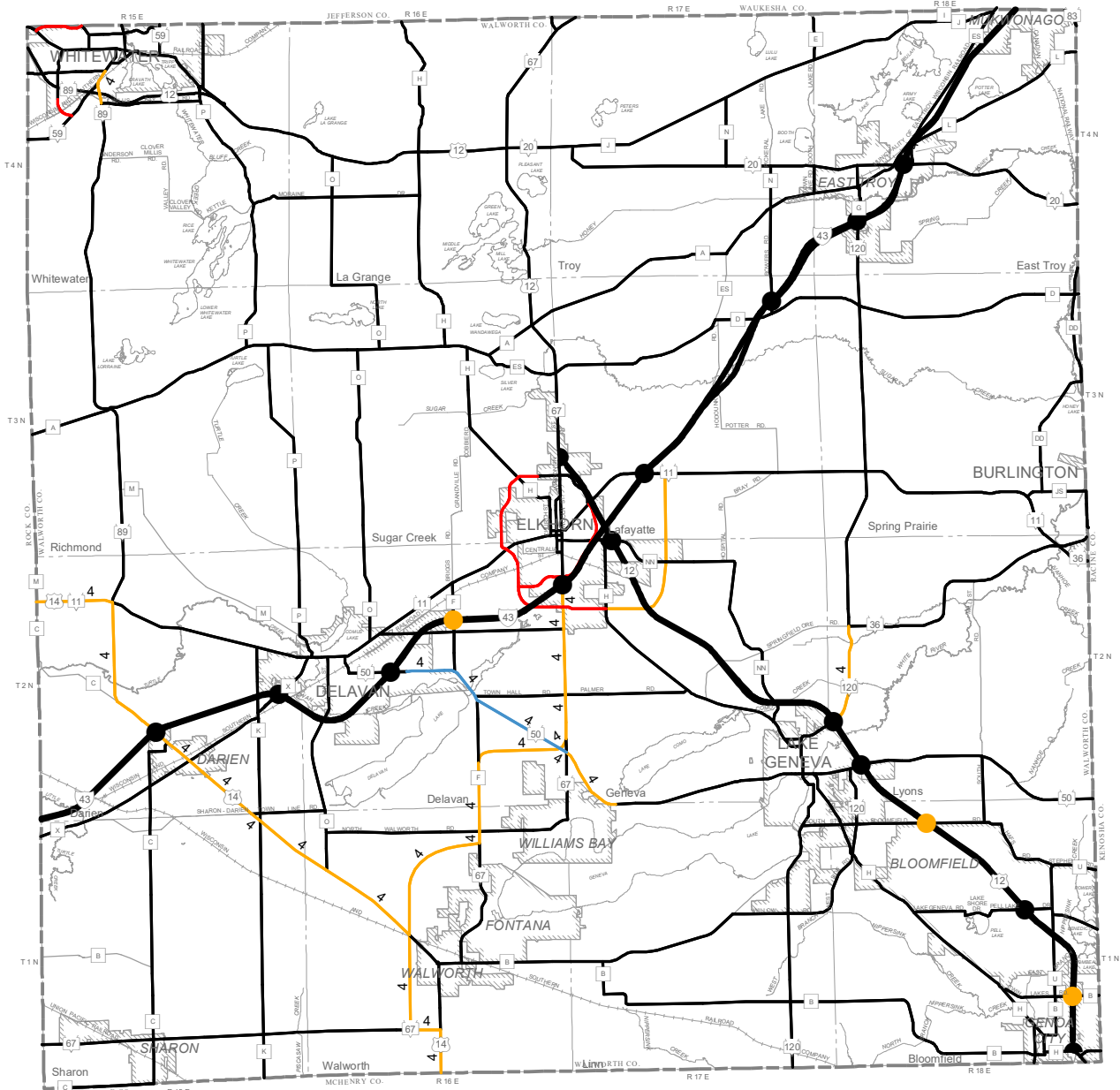
## Map 2.7 Functional Improvements to the Arterial Street and Highway System in Ozaukee County: Fiscally Constrained Transportation System



# Map 2.8 Functional Improvements to the Arterial Street and Highway System in Racine County: Fiscally Constrained Transportation System



## Map 2.9 Functional Improvements to the Arterial Street and Highway System in Walworth County: Fiscally Constrained Transportation System



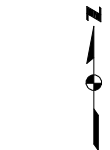
### ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE POTENTIAL FUTURE IMPROVEMENT BEYOND 2050 (ADDITIONAL LANES OR NEW FACILITY)
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR IMPROVED FACILITY, INCLUDING RIGHT-OF-WAY RESERVATIONS (2 LANES WHERE UNNUMBERED)

### FREEWAY INTERCHANGE

- EXISTING
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE POTENTIAL FUTURE IMPROVEMENT BEYOND 2050 (POTENTIAL NEW INTERCHANGE)

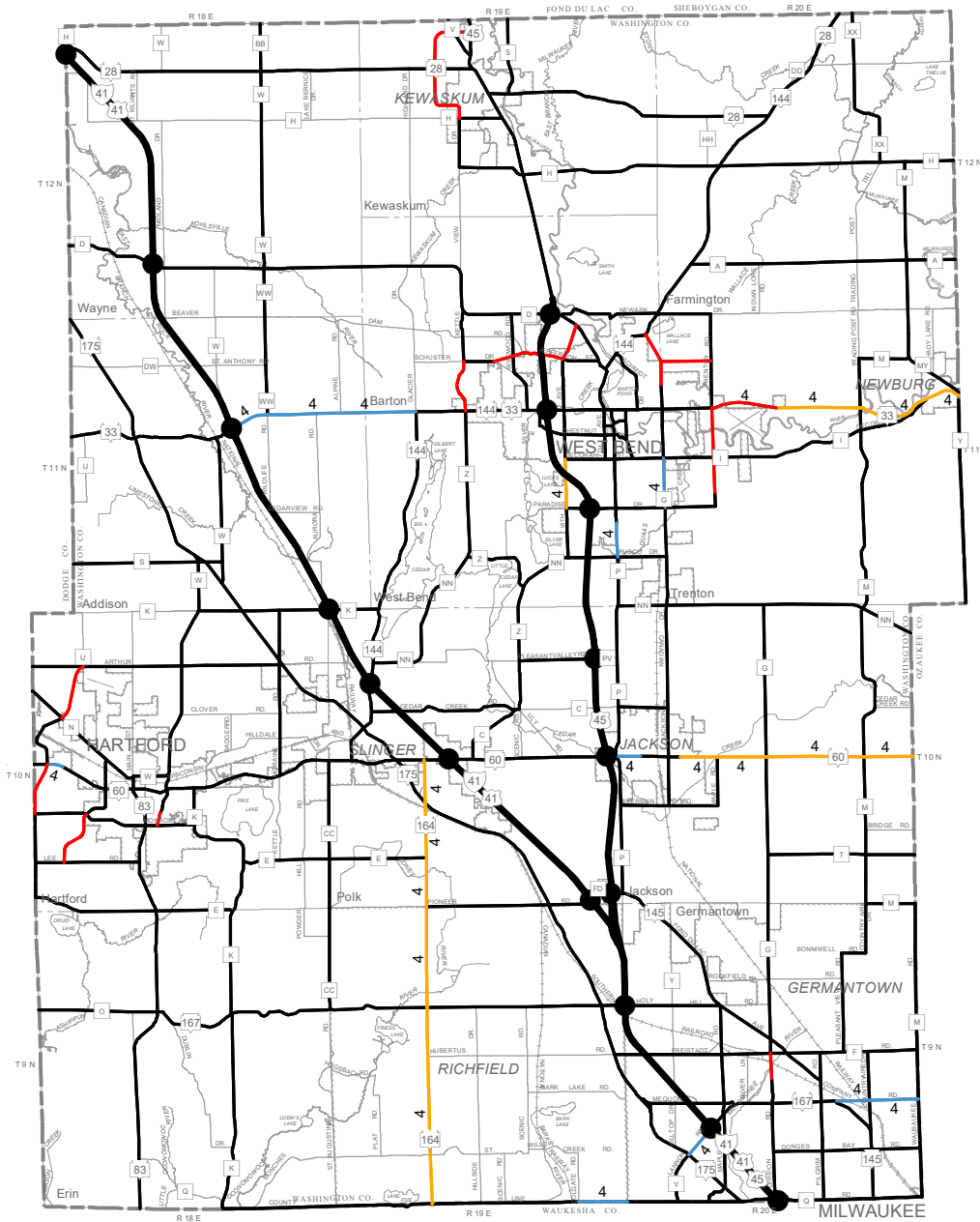
Note: This map has been updated to not show capacity expansion projects completed through the end of 2020.



0 1 2 3 Miles

Source: SEWRPC

## Map 2.10 Functional Improvements to the Arterial Street and Highway System in Washington County: Fiscally Constrained Transportation System



### ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE POTENTIAL FUTURE IMPROVEMENT BEYOND 2050 (ADDITIONAL LANES OR NEW FACILITY)
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR IMPROVED FACILITY, INCLUDING RIGHT-OF-WAY RESERVATIONS (2 LANES WHERE UNNUMBERED)

### FREWAY INTERCHANGE

- EXISTING

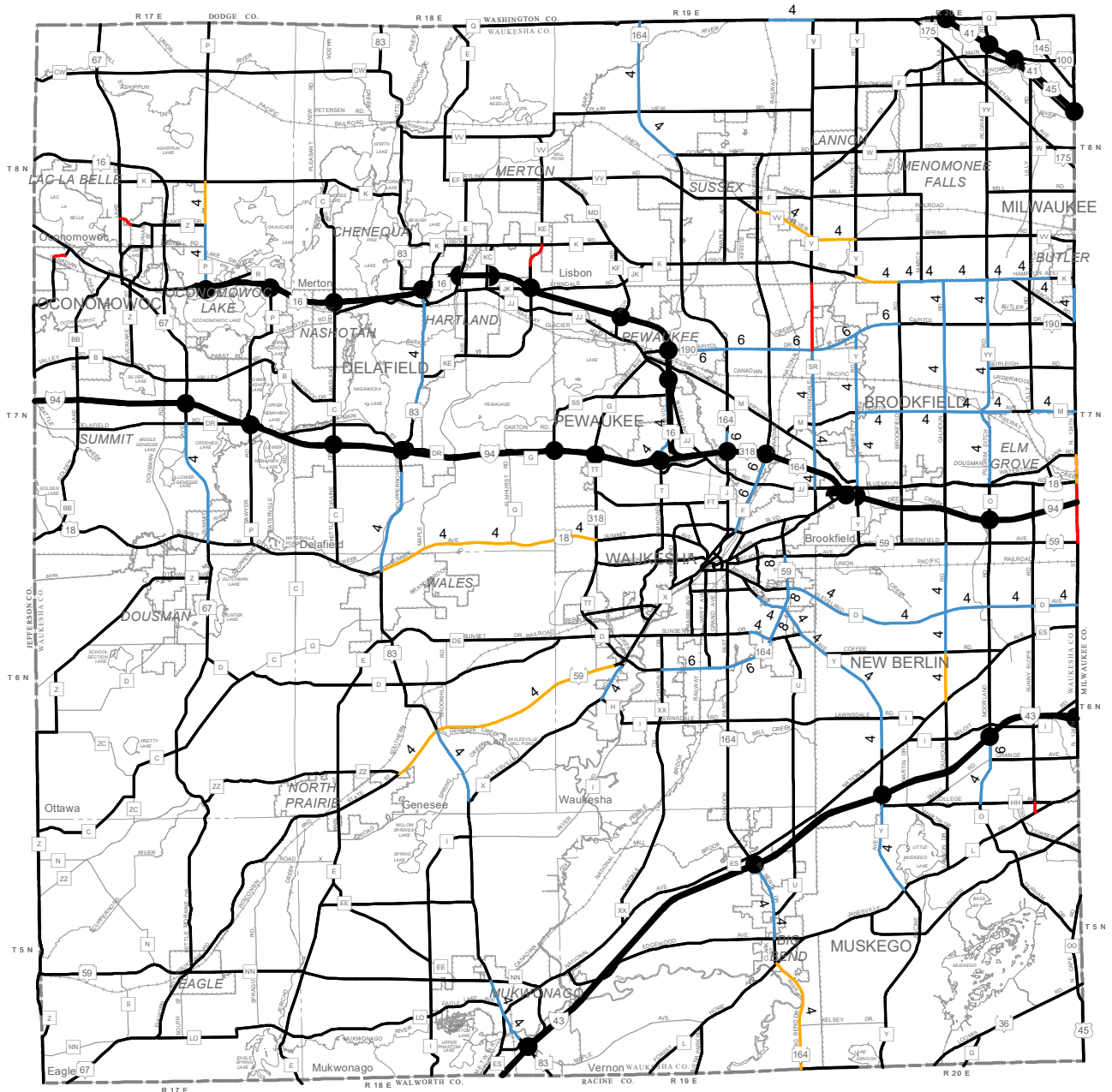
Note: This map has been updated to not show capacity expansion projects completed through the end of 2020.



0 1 2 3 Miles

Source: SEWRPC

## Map 2.11 Functional Improvements to the Arterial Street and Highway System in Waukesha County: Fiscally Constrained Transportation System



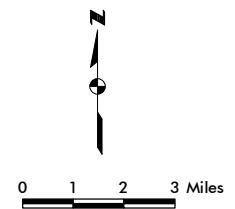
### ARTERIAL STREET OR HIGHWAY

- NEW
- WIDENING AND/OR OTHER IMPROVEMENT TO PROVIDE SIGNIFICANT ADDITIONAL CAPACITY
- RESERVE RIGHT-OF-WAY TO ACCOMMODATE POTENTIAL FUTURE IMPROVEMENT BEYOND 2050 (ADDITIONAL LANES OR NEW FACILITY)
- RESURFACING OR RECONSTRUCTION TO PROVIDE ESSENTIALLY THE SAME CAPACITY
- 4 NUMBER OF TRAFFIC LANES FOR NEW OR IMPROVED FACILITY, INCLUDING RIGHT-OF-WAY RESERVATIONS (2 LANES WHERE UNNUMBERED)

### FREWAY INTERCHANGE

- EXISTING

Note: This map has been updated to not show capacity expansion projects completed through the end of 2020.



Source: SEWRPC

**The funding gaps need to be addressed to achieve the numerous benefits of improving and expanding transit service and to reconstruct streets and highways in a timely manner.**

## **2.2 CONSEQUENCES OF NOT SUFFICIENTLY FUNDING THE TRANSPORTATION SYSTEM**

There are numerous benefits associated with significantly improving and expanding public transit and it is critical that the Region's arterial streets and highways be reconstructed in a timely manner. Not fully implementing the transportation system recommended under VISION 2050 due to the limitations of current and expected transportation revenues would result in significant negative consequences for Southeastern Wisconsin.

Not improving and expanding transit service will likely result in the following negative impacts:

- Limited transit-oriented development and redevelopment
- Reduced traffic carrying capacity in the Region's heavily traveled corridors
- Reduced access to jobs, healthcare, education, and other daily needs, particularly for the 1 in 10 households in the Region without access to a car, which is more likely to affect people of color and low-income residents
- Smaller labor force available to employers
- Reduced ability to develop compact, walkable neighborhoods

Postponing reconstruction of freeways beyond their service life and not adding capacity on highly congested segments will have the following negative impacts:

- Costly emergency repairs and inefficient pavement maintenance due to unnecessary, and increasingly ineffective, repaving projects
- Increased traffic congestion and travel delays, along with decreased travel reliability
- Increased crashes due to traffic congestion, antiquated roadway design, and deteriorating roadway condition