

Southeastern Wisconsin Regional Planning Commission

Memorandum Report No. 245

**ASSESSMENT OF CONFORMITY OF THE
FISCALLY CONSTRAINED TRANSPORTATION SYSTEM AND
TRANSPORTATION IMPROVEMENT PROGRAM**

INTRODUCTION

This report provides the basis for a determination that the recommended year 2050 fiscally constrained transportation System¹ (FCTS) and also the year 2019-2022 transportation improvement program (TIP) are in conformance with the 1997, 2008, and 2015 eight-hour ozone, and the 2006 24-hour fine particulate (PM_{2.5}) national ambient air quality standards (NAAQS). Map 1 shows the nonattainment and maintenance areas within Southeastern Wisconsin. The report also demonstrates that the year 2019-2022 TIP will serve to implement the FCTS.²






The U.S. Environmental Protection Agency (USEPA) and the U.S. Department of Transportation (USDOT) have established criteria and procedures to be used by a Metropolitan Planning Organization (MPO) in making conformity determinations for regional transportation plans (RTP) and TIPs. The Southeastern Wisconsin Regional Planning Commission (SEWRPC) is the gubernatorially-designated Federal MPO for the Kenosha, Milwaukee, Racine, and West Bend urbanized areas, and the Wisconsin portion of the Round Lake Beach urbanized area. The conformity criteria established by USEPA are set forth in the Federal Register (40 CFR Part 51), and the criteria with respect to ozone and PM_{2.5} precursors apply to Southeastern Wisconsin. These Federal regulations identify the conformity criteria that should be applied at this time with respect to the ozone and fine particulate nonattainment and maintenance areas designated within Southeastern Wisconsin (shown on Map 1).

In addition to the Federal regulations governing the RTP and TIP conformity, SEWRPC, the Wisconsin Department of Natural Resources (WDNR), and the Wisconsin Department of Transportation (WisDOT) have adopted a memorandum of agreement regarding the conduct of RTP and TIP conformity determinations, which was approved by USEPA and became effective on April 22, 2013. Figure 1 provides a summary of the interagency agreement on the conformity criteria and tests which should be applied in this conformity determination. The principal agencies involved were SEWRPC, WisDOT, WDNR, USDOT Federal Highway and Transit Administrations, and USEPA. As described in Figure

¹An important aspect attendant to implementing VISION 2050 relates to funding. The amount of public funding needed to construct, operate, and maintain the transportation component of VISION 2050 has been compared to the amount of funding expected to be available. Federal metropolitan planning regulations (23 CFR Part 450) and conformity regulations (40 CFR Part 93.108) require that the Region's transportation plan be "fiscally constrained"—only including projects that can be funded with expected funds, taking into account the limitations placed on these funding sources by Federal and State law. Therefore, only the recommended portion of VISION 2050 that can be funded with these revenues is considered "fiscally constrained" by the Federal Government and is titled the Recommended Fiscally Constrained Transportation System (FCTS). The FCTS is used in the determination of conformity and in the development of the transportation improvement program.

²The regional transportation plan is documented in the second edition of Volume III of SEWRPC Planning Report No. 55, VISION 2050: A Regional Land Use and Transportation System Plan for Southeastern Wisconsin. The 2019-2022 Transportation Improvement Program is documented in a report entitled, A Transportation Improvement Program for Southeastern Wisconsin: 2019-2022.

Map 1 NAAQS Nonattainment/Maintenance Areas within Southeastern Wisconsin

-  PARTIAL KENOSHA COUNTY
2015 OZONE NAAQS
NONATTAINMENT AREA
-  MILWAUKEE/OZAUKEE SHORELINE
2015 OZONE NAAQS
NONATTAINMENT AREA
-  PARTIAL KENOSHA COUNTY
2008 OZONE NAAQS
NONATTAINMENT AREA
-  1997 OZONE NAAQS
MAINTENANCE AREA
-  2006 FINE PARTICULATE NAAQS
MAINTENANCE AREA

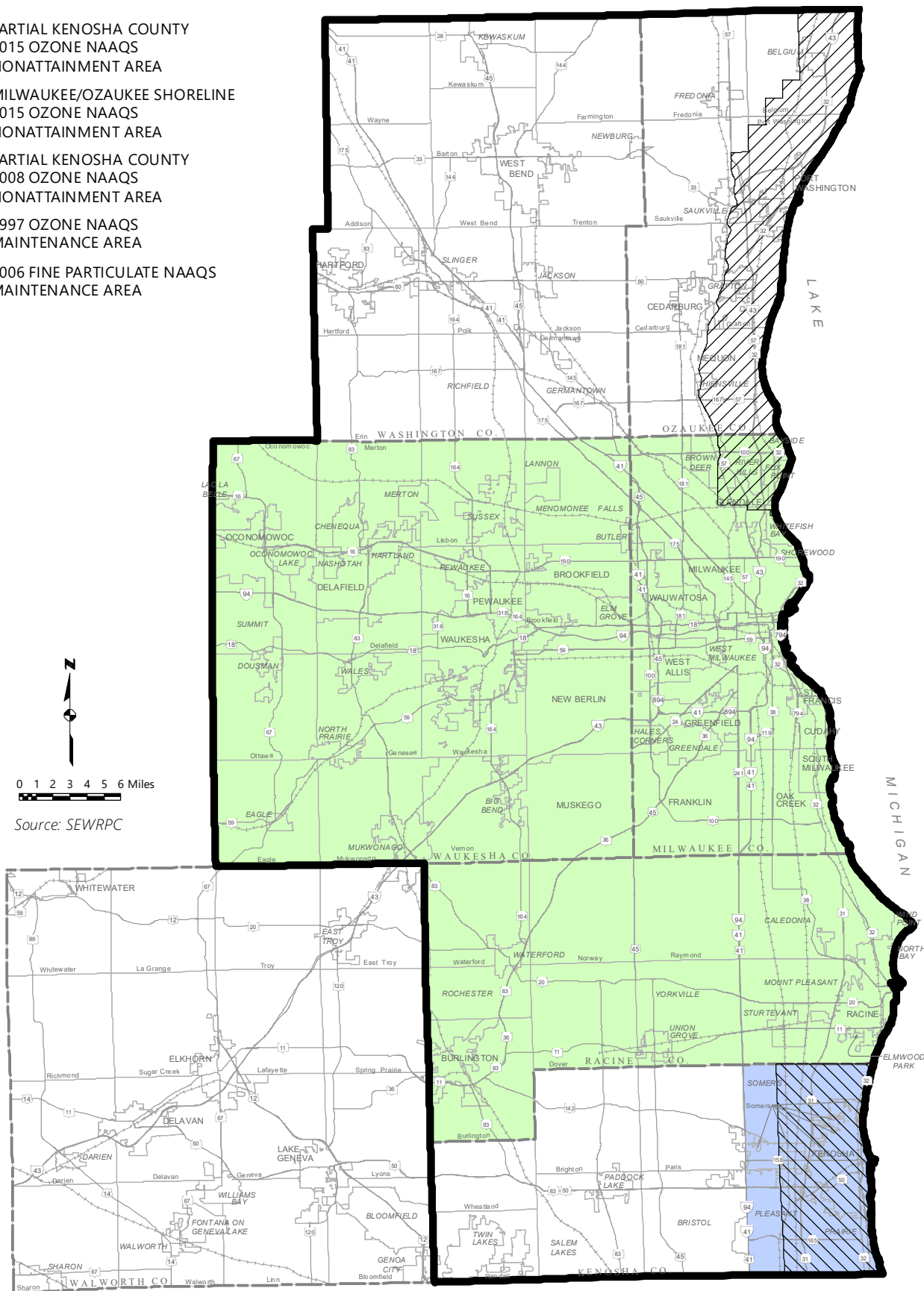


Figure 1

Proposed Conformity Analyses of the Fiscally Constrained Transportation System and Year 2019-2022 Transportation Improvement Program

Analysis Years and Budgets by Nonattainment/Maintenance Area

Nonattainment/ Maintenance Area	Month	Emission	Plan Stage and Budgets to be Used (tons)						NAAQS Budgets Used
			2020	2022	2025	2030	2040	2050	
Partial Kenosha County 2008 Ozone Nonattainment Area	July	NOx VOC	2.750 1.440		1.470 0.950	1.140 0.730	1.140 0.730	1.140 0.730	2018, 2025, and 2030 budgets attendant to the 2008 Ozone NAAQS
Partial Kenosha County 2015 Ozone NAAQS Nonattainment Area	July	NOx VOC	2.750 1.440		1.470 0.950	1.140 0.730	1.140 0.730	1.140 0.730	2018, 2025, and 2030 budgets attendant to the 2008 Ozone NAAQS
Northern Milwaukee/ Ozaukee Shoreline 2015 Ozone NAAQS Nonattainment Area	July	NOx VOC	51.220 21.080	31.910 15.980		31.910 15.980	31.910 15.980	31.910 15.980	2015 and 2022 budgets attendant to the 1997 Ozone NAAQS
Three-County Fine Particulate Maintenance Area	January	NOx	32.620		28.690	28.690	28.690	28.690	2020 and 2025 budgets attendant to the 2006 PM _{2.5} NAAQS
		VOC	18.274		13.778	13.778	13.778	13.778	
		PM _{2.5}	2.330		2.160	2.160	2.160	2.160	
		SO ₂	0.390		0.380	0.380	0.380	0.380	

MOVES2014a Inputs

National defaults will be used with the exception of the following localized input data:

Source	Moves Input	Last Updated	Notes
WDNR	Age Distribution	3/16/2020	
	Vehicle Type VMT	4/25/2015	Updated by SEWRPC based on VMT Estimates
	Month VMT Fraction	5/8/2020	10-year 2008-2017 Wisconsin statewide average
	Day VMT Fraction	5/8/2020	10-year 2008-2017 Wisconsin statewide average
	Fuels	3/16/2020	
	Inspection and Maintenance Program	3/16/2020	
	Meteorology	3/16/2020	
SEWRPC	Average Speed Distribution	Updated at Time of Conformity Demonstration	Provided as an output to the scenario being modeled using the Commission's current 5 th generation travel demand model.
	Freeway and Non-Freeway Hour VMT Fraction		
	Ramp		
	Road Type		
	Source Type Population		MOVES2014a county-level defaults updated based on VMT estimates

Conformity Analysis Notes

- Commission staff will provide WDNR staff with MOVES2014b input and output databases and run specification files attendant to this conformity demonstration.

1, the conformity criteria to be applied to the nonattainment and maintenance areas within Southeastern Wisconsin require the satisfaction of emissions budget tests described in 40 CFR 93.118.

The next section of this report describes the FCTS for the seven-county Southeastern Wisconsin Region. The following section summarizes the 2019-2022 TIP that implements the plan. The remaining sections of this report then identify the specific conformity procedure requirements and conformity determination criteria that have been established by USEPA for use in the determination of FCTS and TIP conformity. These sections also indicate the extent to which the conformity analysis, FCTS, and the TIP meet each of these requirements and criteria. The assessment of conformity with respect to each requirement and criterion concludes that the FCTS and the 2019-2022 TIP are in conformance with the state implementation plan (SIP) or maintenance plan attendant to each of the nonattainment or maintenance areas within the Region.

It is important to note that VISION 2050, FCTS, TIP, maintenance plans, and SIPs have been prepared in a cooperative manner by the Commission and WDNR, and have been extensively coordinated. The forecasts of vehicle-miles of travel (VMT) and air pollutant emissions utilized in the preparation of the FCTS were based on the adopted Commission intermediate growth forecasts for the year 2050, and the forecasts of emissions attendant to the each SIP or maintenance plan were based on alternative high growth VMT and emissions forecasts under the applicable Commission plan in force at that time, and increased by 7.5 percent to account for uncertainty in transportation emissions forecasts.

Vehicle fleet, fuels, and meteorology inputs, which the Commission utilized to run USEPA's MOVES2014b emission model and estimate air pollutant emissions in the preparation of this conformity assessment of the FCTS and TIP, were provided by WDNR. This conformity analysis includes the emission reduction benefits attendant to vehicle fleet turnover and Tier 3 motor vehicle and low sulfur fuel regulations. The MOVES model inputs that were used to establish the transportation emission budgets in the PM_{2.5} maintenance plan also accounted for the emission reduction benefits attendant to these more recent regulations. In addition, WDNR has relied upon the Commission's RTP for the identification and evaluation of potential transportation control measures considered for incorporation into the maintenance plan.

FISCALLY CONSTRAINED TRANSPORTATION PLAN

VISION 2050 includes both a land use component and transportation component. This plan represents the Region's vision or guide for the pattern of development and the attendant transportation system necessary to efficiently accommodate existing and anticipated future growth within the Region. An important aspect related to implementing VISION 2050 relates to funding. The amount of public funding needed to construct, operate, and maintain the transportation component of VISION 2050 has been compared to the amount of funding expected to be available. Federal metropolitan planning regulations (23 CFR Part 450) and conformity regulations (40 CFR Part 93.108) require that the Region's transportation plan be "fiscally constrained"—only including projects that can be funded with expected funds, taking into account the limitations placed on these funding sources by Federal and State law. Therefore, the FCTS only includes the transportation elements of VISION 2050 that can be implemented within reasonably expected funds, and serves as the transportation system to be used in the determination of conformity and in the development of the transportation improvement program.

The FCTS has been developed to meet the requirements of a Federally recognized congestion management process, including the definition of performance measures to establish congestion problems and to assist in the evaluation of alternative measures to address congestion and the evaluation and recommendation of alternative measures to resolve the identified congestion problems. The development and evaluation of transportation alternatives that would address existing and anticipated future traffic congestion problems was done in a disciplined way so as to ensure that highway capacity expansion projects were proposed for inclusion in the plan only as a last resort. Appropriate, detailed, quantified attention was paid to determining the extent to which a wide variety of transportation system management measures, including land use, traffic management, and transit, could be used to resolve congestion problems. Once that extent was determined, highway capacity improvement proposals were placed into the plan to resolve many, but not all, of the residual congestion problems.

It should be noted that VISION 2050 and the FCTS do not make any recommendation with respect to whether the 10.2 route-miles of IH 43 between Howard Avenue and Silver Spring Drive, when reconstructed, should be reconstructed with or without additional traffic lanes. As VISION 2050 does not include a recommendation regarding the future capacity needs for this segment of IH 43, the conformity demonstration of the FCTS, necessarily has been conducted based on the existing capacity of this segment of IH 43.

The difference between the estimated costs to implement the arterial streets and highways element recommended in VISION 2050 and the expected revenues 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 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.

The arterial highway capacity improvement and expansion recommendations included in the FCTS are shown on Map 2 and are listed in Table 1. These represent all highway plan element projects with potential air quality impact and which are referred to in the Federal regulations as "nonexempt" projects. Table 1 and Map 3 also present the anticipated implementation stages for all highway capacity improvement and expansion recommended under the plan; more specifically, the planned capacity improvement and expansion to be open to traffic by the years 2020, 2022, 2025, 2030, 2040, and 2050 are identified. Table 2 summarizes the mileage of system improvement and expansion anticipated to be implemented at each of the identified stages of plan implementation. Given the potential for individual projects to be deferred or advanced due to considerations such as right-of-way acquisition, the anticipated

Map 2 Arterial Streets and Highways: Fiscally Constrained Transportation System

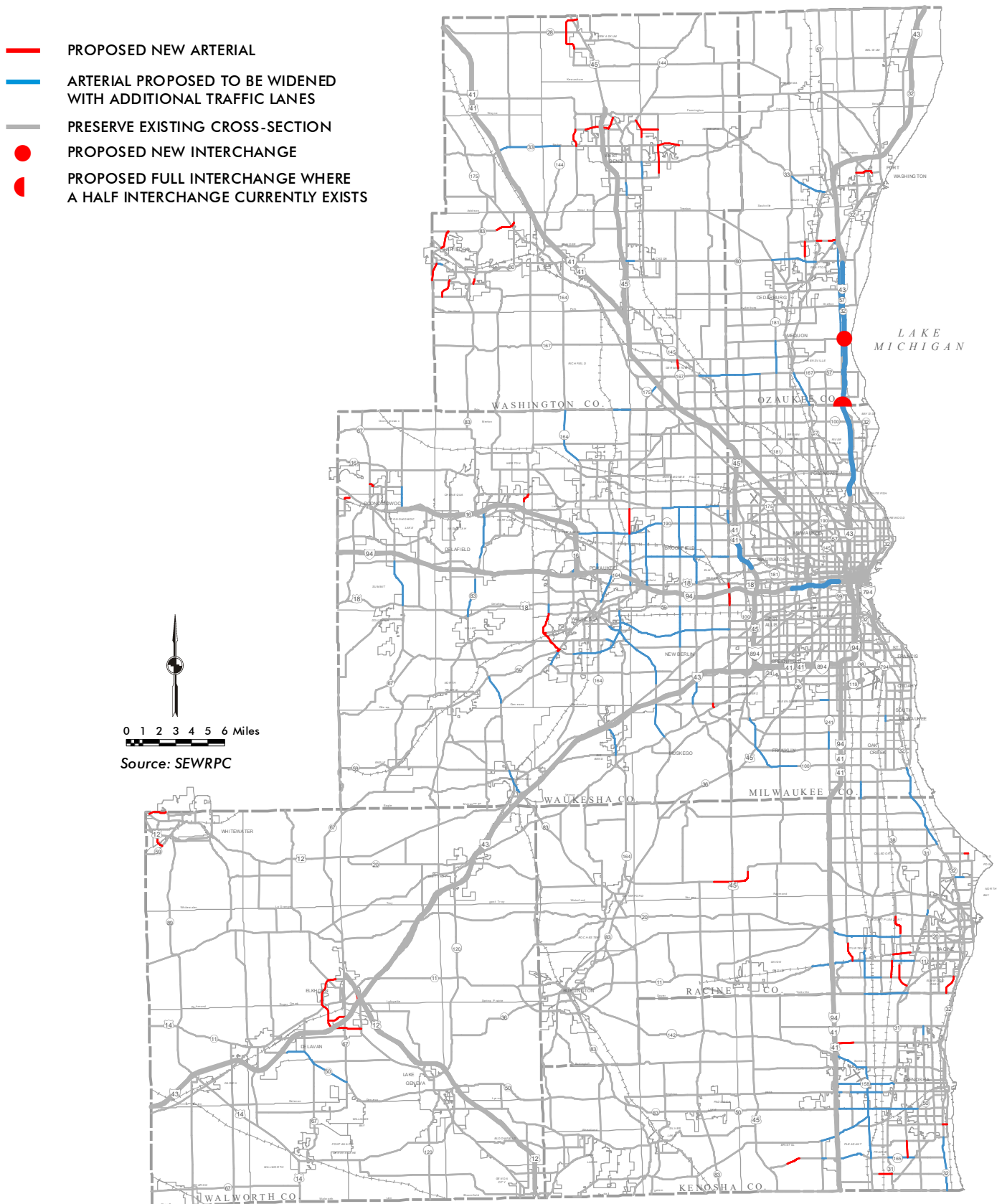


Table 1
Arterial Highway Capacity Improvement and Expansion Projects
Included in the Fiscally Constrained Transportation System

Year Open To Traffic	County	Improvement Type	Facility	Termini	Description
2022	Kenosha	Widening	STH 50	IH 94/USH 41 to 43rd Avenue	Widen from four to six traffic lanes
	Racine	Widening	Braun Road CTH KR STH 11	CTH H to 90th Street CTH H to Old Green Bay Road 56th Rd to S Sylvania Ave	Widen from two to four traffic lanes Widen from two to four traffic lanes Widen from two to four traffic lanes
	Waukesha	Widening	CTH M (North Avenue) CTH M (North Avenue) CTH M (North Avenue)	Pilgrim Road to 147th Street Calhoun Road to Pilgrim Road Lilly Road to 124th Street	Widen from two to four traffic lanes Widen from two to four traffic lanes Widen from two to four traffic lanes
2025	Kenosha	Expansion	51st Avenue extension	93rd Street to STH 165	Construct two lanes on new alignment
		Widening	CTH C CTH K	104th Avenue to CTH H CTH H to Union Pacific Railway	Widen from two to four traffic lanes Widen from two to four traffic lanes
	Milwaukee	Widening	Pennsylvania Avenue	Milwaukee Avenue to College Avenue	Widen from two to four traffic lanes
			IH 41/USH 45	North Leg of Zoo Interchange	Interchange reconstruction and modernization
	Ozaukee	Widening	STH 167	Washington County Line to N Swan Road	Widen from two to four traffic lanes
	Racine	Expansion	21st Street extension	Loni Lane to Willow Road	Construct two lanes on new alignment
			Oakes Road extension	Braun Road to STH 31	Construct two lanes on new alignment
			Oakes Road extension	Braun Road to Oakes Road	Construct two lanes on new alignment
		Widening	Three Mile Road	STH 32 to Lasalle Street	Widen from two to four traffic lanes
	Walworth	Expansion	New Facility	STH 67 to STH 11	Construct two lanes on new alignment
			W Market Street extension	CTH H to Voss Road	Construct two lanes on new alignment
	Washington	Expansion	STH 33	Trenton Road to Oak Road	Construct two lanes on new alignment
			Trenton Road extension	STH 33 to Maple Road	Construct two lanes on new alignment
		Widening	CTH Y STH 60	STH 175 to USH 41/45 Independence Avenue to Existing four lane section	Widen from two to four traffic lanes Widen from two to four traffic lanes
	Waukesha	Expansion	Oconomowoc Parkway	CTH BB (Concord Road) to Oconomowoc Parkway	Construct two lanes on new alignment
		Widening	CTH M (North Avenue) CTH M (North Avenue)	Brookfield Road to Calhoun Road Barker Road to Brookfield Road	Widen from two to four traffic lanes Widen from two to four traffic lanes
2030	Kenosha	Widening	CTH H CTH H CTH K CTH K STH 158 (52nd Street)	CTH S to STH 50 CTH C to STH 50 104th Street to CTH H IH 94 to 115th Avenue STH 31 to 95th Avenue	Widen from two to four traffic lanes Widen from two to four traffic lanes Widen from two to four traffic lanes Widen from two to four traffic lanes Widen from two/four to six traffic lanes
			STH 158 (52nd Street)	IH 94 to 95th Street	Widen from two/four to six traffic lanes
			STH 165	STH 31 to CTH EZ	Widen from two to four traffic lanes
	Milwaukee	Widening	IH 43 IH 94 STH 32 STH 38	Silver Spring Drive to STH 60 70th Street to 16th Street County Line Road to STH 100 County Line to Oakwood Road	Widen from four to six traffic lanes Widen from six to eight traffic lanes Widen from two to four traffic lanes Widen from two to four traffic lanes
			CTH W STH 181 STH 33 STH 33	Glen Oaks Lane to Highland Road STH 167 to Highland Road CTH I to Progress Drive Progress Drive to CTH O	Widen from two to four traffic lanes Widen from two to four traffic lanes Widen from two to four traffic lanes Widen from two to four traffic lanes
	Racine	Expansion	Five Mile Road extension	North Point Drive to Erie Street	Construct two lanes on new alignment
			Oakes Road extension	Oakes Road to Airline Road	Construct two lanes on new alignment
		Widening	STH 32 STH 32	STH 31 to Milwaukee County Line Five Mile Road to STH 31	Widen from two to four traffic lanes Widen from two to four traffic lanes

Project included in 2019-2022 Transportation Improvement Program

Table 1 (continued)

Year Open To Traffic	County	Improvement Type	Facility	Termini	Description
2030	Walworth	Expansion	W Market Street extension	STH 11 to CTH H	Construct two lanes on new alignment
		Widening	STH 50	North Shore Drive to CTH F	Widen from two to four traffic lanes
	Washington	Expansion	Arthur Road extension	CTH N to Arthur Road	Construct two lanes on new alignment
			Division Road extension	Main Street to Freistadt Road	Construct two lanes on new alignment
			Monroe Avenue extension	Monroe Avenue to Pond Road	Construct two lanes on new alignment
			Wacker Drive extension	Lee Road to Monroe Avenue	Construct two lanes on new alignment
	Waukesha	Widening	CTH Y	USH 45 to STH 175	Widen from two to four traffic lanes
			STH 167	Fond Du Lac Avenue to Ozaukee County Line	Widen from two to four traffic lanes
			STH 60	USH 45 to Industrial Drive	Widen from two to four traffic lanes
			Oconomowoc Parkway	STH 16 to CTH BB	Construct two lanes on new alignment
2040	Kenosha	Expansion	85th Street extension	Sheridan Road to 7th Avenue	Construct two lanes on new alignment
			CTH ML extension	79th Avenue to STH 31	Construct two lanes on new alignment
		Widening	30th Avenue	CTH E to 15th Street	Widen from two to four traffic lanes
			CTH C	CTH U to West Frontage Road	Widen from two to four traffic lanes
			CTH C	East Frontage Road to 104th Street	Widen from two to four traffic lanes
			CTH H	CTH C to STH 165	Widen from two to four traffic lanes
			CTH Q	CTH U to IH 94	Widen from two to four traffic lanes
			STH 32	128th Street to CTH T	Widen from two to four traffic lanes
			STH 50	43rd Avenue to 39th Avenue	Widen from four to six traffic lanes
			STH 100 (Ryan Road)	STH 36 (Loomis Road) to 60th Street	Widen from two to four traffic lanes
			STH 241 (27th Street)	Drexel Avenue to Puetz Road	Widen from four to six traffic lanes
			USH 45/STH 100	Rawson Avenue to Drexel Avenue	Widen from four to six traffic lanes
			USH 45/STH 100	Drexel Avenue to STH 36	Widen from two to four traffic lanes
	Ozaukee	Expansion	Cedar Creek Road	CTH O to East Cedar Creek Road	Construct two lanes on new alignment
			E. Cedar Creek Road	East River Road to CTH W	Construct two lanes on new alignment
			Maple Road extension	Cedar Creek to Rose Street	Construct two lanes on new alignment
			Walters Street extension	CTH LL to Grant Street	Construct two lanes on new alignment
	Racine	Widening	CTH W	CTH V to Lakeland Road	Widen from two to four traffic lanes
			STH 57	Milwaukee County Line to STH 167	Widen from two to four traffic lanes
			STH 60	STH 181 to 12th Avenue	Widen from two to four traffic lanes
			CTH K extension	Britton Road to 108th Street	Construct two lanes on new alignment
2040	Walworth	Expansion	Deere Road extension	Deere Road to STH 11	Construct two lanes on new alignment

Table 1 (continued)

Year Open To Traffic	County	Improvement Type	Facility	Termini	Description
2040	Walworth	Expansion	E Market Street extension	STH 11 to STH 67	Construct two lanes on new alignment
	Washington	Expansion	Jefferson Street extension	North River Road to Trenton Road	Construct two lanes on new alignment
			Kettleview Road extension	STH 28 to USH 45	Construct two lanes on new alignment
			Kettleview Road extension	CTH H to STH 28	Construct two lanes on new alignment
			Kettleview Road extension	STH 33 to Schuster Drive	Construct two lanes on new alignment
			North River Road extension	North River Road to STH 144	Construct two lanes on new alignment
			Schuster Drive extension	Schuster Drive to Beaver Dam Road	Construct two lanes on new alignment
			Wilson Avenue extension	Monroe Avenue to Lincoln Avenue	Construct two lanes on new alignment
			CTH KE realignment	CTH K to 800 feet north	Construct two lanes on new alignment
	Waukesha	Widening	Calhoun Road	Coffee Road to Cleveland Avenue	Widen from two to four traffic lanes
			Calhoun Road	Cleveland Avenue to STH 59	Widen from two to four traffic lanes
			CTH D	STH 59/164 to Calhoun Road	Widen from two to four traffic lanes
			CTH Y	CTH L to College Avenue	Widen from two to four traffic lanes
			Pilgrim Road	CTH K (Hampton Avenue) to North Avenue	Widen from two to four traffic lanes
			Pilgrim Road	North Avenue to USH 18	Widen from two to four traffic lanes
			Pilgrim Road	CTH K (Hampton Avenue) to STH 190 (Capitol Drive)	Widen from two to four traffic lanes
			Racine Avenue	Downing Drive to STH 59/164	Widen from two to four traffic lanes
			Springdale Road	STH 190 (Capitol Drive) to CTH JJ	Widen from two to four traffic lanes
			STH 164	IH 43 to Edgewood Avenue	Widen from two to four traffic lanes
			STH 164	Howard Lane to CTH Q (Washington County Line)	Widen from two to four traffic lanes
			STH 190	CTH Y (Barker Road) to Brookfield Road	Widen from four to six traffic lanes
			STH 190	STH 16 to CTH Y (Barker Road)	Widen from four to six traffic lanes
			STH 67	CTH DR to USH 18	Widen from two to four traffic lanes
			STH 83	Bay View Road to CTH NN	Widen from two to four traffic lanes
			Sunset Drive	Tenny Avenue to STH 59/164	Widen from two to four traffic lanes
2050	Kenosha	Expansion	CTH Q realignment	Winfield Road to 104th Street	Construct two lanes on new alignment
			Lichter Rd	E Frontage Rd to 100th Ave	Construct two lanes on new alignment
	Milwaukee	Widening	124th Street	Lisbon Avenue to Ruby Avenue	Widen from two to four traffic lanes
			CTH ZZ (W College Avenue)	35th Street to 27th Street	Widen from two to four traffic lanes
	Ozaukee	Widening	CTH W	Lakeland Road to Highland Road	Widen from two to four traffic lanes
	Racine	Expansion	Four and a Half Mile Rd	STH 32 to Erie St	Construct two lanes on new alignment
			Memorial Drive extension	Chicory Road to CTH KR	Construct two lanes on new alignment
			Willow Road extension	STH 11 to Braun Road	Construct two lanes on new alignment
		Widening	STH 11	CTH H to Willow Road	Widen from four to six traffic lanes
	Walworth	Expansion	Indian Mound Parkway extension	Indian Mound Parkway to STH 59	Construct two lanes on new alignment
			New East-West Arterial	Main Street to Tratt Street	Construct two lanes on new alignment
			Outer Ring Road	CTH H to Inner Ring Road	Construct two lanes on new alignment
	Washington	Expansion	18th Avenue extension	Jefferson Street to CTH D	Construct two lanes on new alignment
			Taylor Road extension	Pond Road to STH 60	Construct two lanes on new alignment
		Widening	CTH P (S. Main Street)	Humar Street to CTH NN (Rusco Road)	Widen from two to four traffic lanes

Table 1 (continued)

Year Open To Traffic	County	Improvement Type	Facility	Termini	Description
2050	Washington	Widening	River Road STH 33	Decorah Road to Paradise Drive USH 41 to STH 144	Widen from two to four traffic lanes Widen from two to four traffic lanes
	Waukesha	Expansion	124th Street extension	Bluemound Road (USH 18) to Greenfield Avenue (STH 59)	Construct two lanes on new alignment
			Capitol Dr extension	Reddelien Rd to Capitol Dr	Construct two lanes on new alignment
			Lake Drive extension	Yosemite Rd to STH 67	Construct two lanes on new alignment
			Sunnyslope Road extension	CTH HH to CTH L	Construct two lanes on new alignment
			Town Line Road extension	Weyer Road to STH 190	Construct two lanes on new alignment
		Widening	CTH K	Brookfield Road to Calhoun Road	Widen from two to four traffic lanes
			CTH K (Lisbon Road)	Calhoun Road to Hampton Road	Widen from two to four traffic lanes
			CTH O	IH 43 WB Ramp to W Grange Ave	Widen from four to six traffic lanes
			CTH T	Golf Road to CTH SS	Widen from two to four traffic lanes
			Hampton Road	Lisbon Road to 132nd Street	Widen from two to four traffic lanes
			Moorland Road	College Ave to Grange Avenue	Widen from two to four traffic lanes
			STH 164	Riverwood Drive (North) to IH 94	Widen from four to six lanes
			STH 59	CTH XX to Sunset Drive	Widen from four to six lanes
			STH 59	Sunset Drive to Arcadian Avenue	Widen from six to eight traffic lanes
			STH 83	STH 59 to CTH X	Widen from two to four traffic lanes

Source: SEWRPC.

CTH/cth
#253729
5/12/2020

Map 3

Highway Improvement and Expansion Project Staging: Fiscally Constrained Transportation System

YEAR OPEN TO TRAFFIC BY

- 2020
- 2022
- 2025
- 2030
- 2040
- 2050

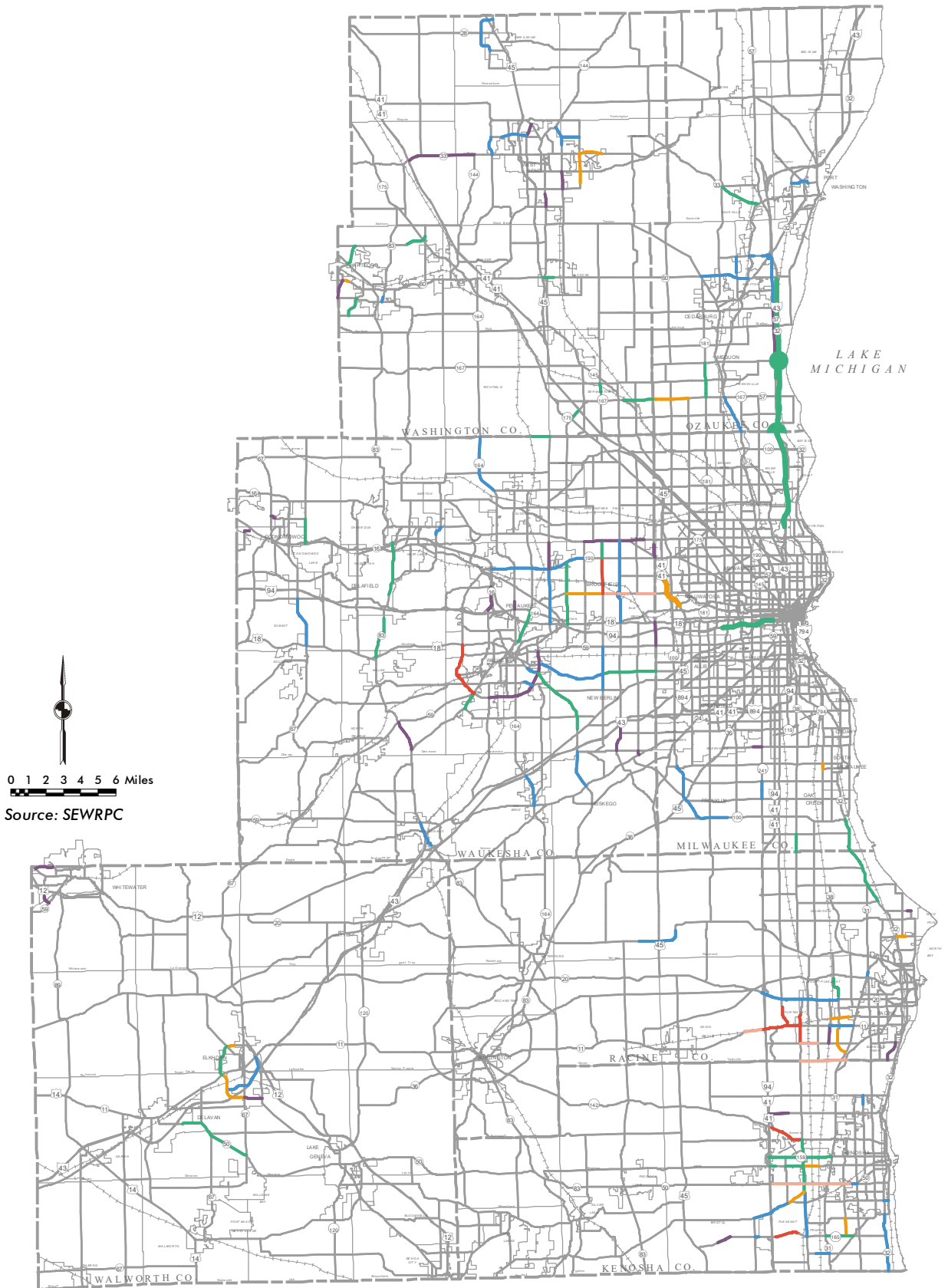


Table 2
Implementation Schedule for the Arterial Street and Highway Element
Capacity Improvement and Expansion: 2020- 2050

Southeastern Wisconsin Region	Proposed Incremental Arterial System Improvement and Expansion Route Miles						Total
	2020	2022	2025	2030	2040	2050	
State Trunk Highway	7	8	6	42	37	11	111
County and Local Trunk Highway	7	3	13	34	42	25	124
Total Regional Arterial System	14	11	19	76	79	36	235

Source: SEWRPC

implementation schedule for the plan is quantified via the mileage of county and local arterial system improvement and expansion, and the mileage of state trunk highway improvement and expansion as set forth in Table 2.

Given that transportation system management (TSM), travel demand management (TDM), freight, and bicycle and pedestrian facility costs are primarily included in the costs for surface arterial streets and highways, and typically represent a fraction of the cost to reconstruct an arterial facility, there would also likely be enough revenue to fund the TSM, TDM, freight, and bicycle and pedestrian elements as proposed under the Plan. As discussed in Chapter III of Volume I, of VISION 2050, the TSM and bicycle and pedestrian elements of the year 2035 regional transportation plan have also been substantially implemented since that plan was adopted, further supporting this conclusion.

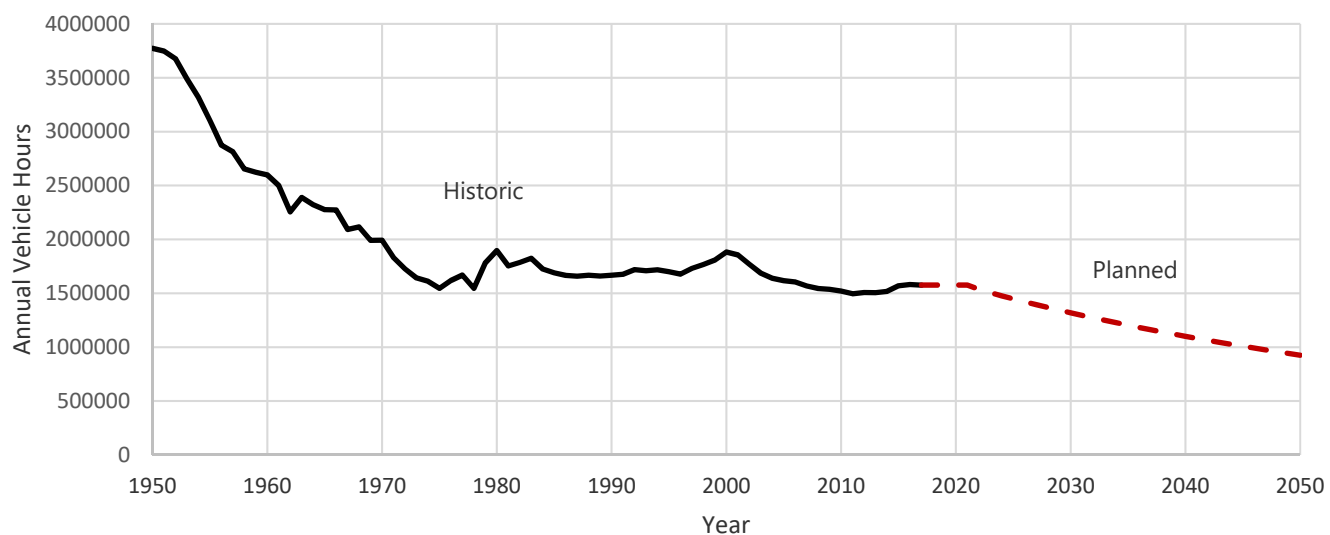
As shown in Figure 2 and Table 3, under the updated FCTS, service levels on the regional transit system would decline from about 1,576,000 annual revenue vehicle-hours of service in the year 2017 to 925,800 vehicle-hours of service in the year 2050. In terms of the recommended expansion and improvement of transit in VISION 2050, the updated FCTS only includes 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. A map of the public transit system expected under the FCTS is shown on Map 4.

2019 THROUGH 2022 TRANSPORTATION IMPROVEMENT PROGRAM (TIP) FOR SOUTHEASTERN WISCONSIN

The 2019-2022 TIP for Southeastern Wisconsin is documented in the SEWRPC report entitled, *A Transportation Improvement Program for Southeastern Wisconsin: 2019-2022*. The TIP includes all Federally and otherwise funded arterial highway and public transit projects programmed within the seven-county Region both inside and outside the five urbanized areas within the Region—Milwaukee, Racine, Kenosha, and West Bend urbanized areas, and the Wisconsin portion of the Round Lake Beach urbanized area. The TIP also includes both arterial highway and public transit projects that receive Federal assistance and projects that are funded solely with State and/or local funds. The Commission's TIP has historically included both Federally funded and otherwise funded projects and has included projects for the entire Southeastern Wisconsin Region as well, not just the five urbanized areas within that Region. The TIP has included more than the Federally required listing of Federally assisted projects in the five urbanized areas in order to provide a more complete picture of proposed arterial highway and public transit improvements. The continuation of the preparation of such a comprehensive TIP for Southeastern Wisconsin permits a comprehensive evaluation of transportation improvements with respect to air quality impacts.³ The TIP has been developed to be fiscally constrained, pursuant to USDOT metropolitan planning regulations (23 CFR Part 450) and USEPA conformity regulations (40 CFR Part 93.108). The funding needed to implement the TIP has been determined to be consistent with existing available Federal, State, and local funding levels. A current listing of all projects included in the TIP can be found at the Commission's website (www.sewrpc.org/tip)

³All TIP projects with potential impact on air quality, or "nonexempt" projects, are listed later in this report in Table 5.

Figure 2
Historic and Planned Vehicle-Miles of Public Transit Service
Under the Fiscally Constrained Transportation Plan



Source: SEWRPC.

CTH/cth
 #253784 v1 (source: #253734)
 5/15/2020

Table 3
Potential Stages of the Transit Element: Fiscally Constrained Transportation System

Year	Description
2022	Annual transit service reduced to approximately 1,536,600 hours, maintain transit service area. <ul style="list-style-type: none"> • Initiate operation of Milwaukee County Bus Rapid Transit Line between the Milwaukee Regional Medical Center and Downtown Milwaukee^a • Initiate operation of the Arena Extension of the City of Milwaukee Streetcar^a
2025	Annual transit service reduced to approximately 1,447,900 hours, maintain transit service area.
2030	Annual transit service reduced to approximately 1,319,100 hours, maintain transit service area.
2040	Annual transit service reduced to approximately 1,101,100 hours, maintain transit service area.
2050	Annual transit service reduced to approximately 925,800 hours, maintain transit service area.

^a Project included in the 2019-2022 Transportation Improvement Program

Source: SEWRPC

Map 4

Transit Services: Fiscally Constrained Transportation System as Updated

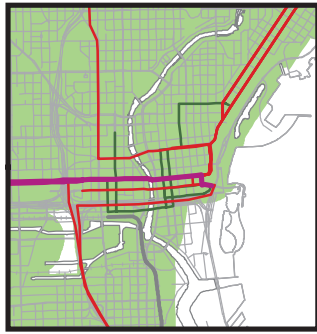
TRANSIT SERVICES

- 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

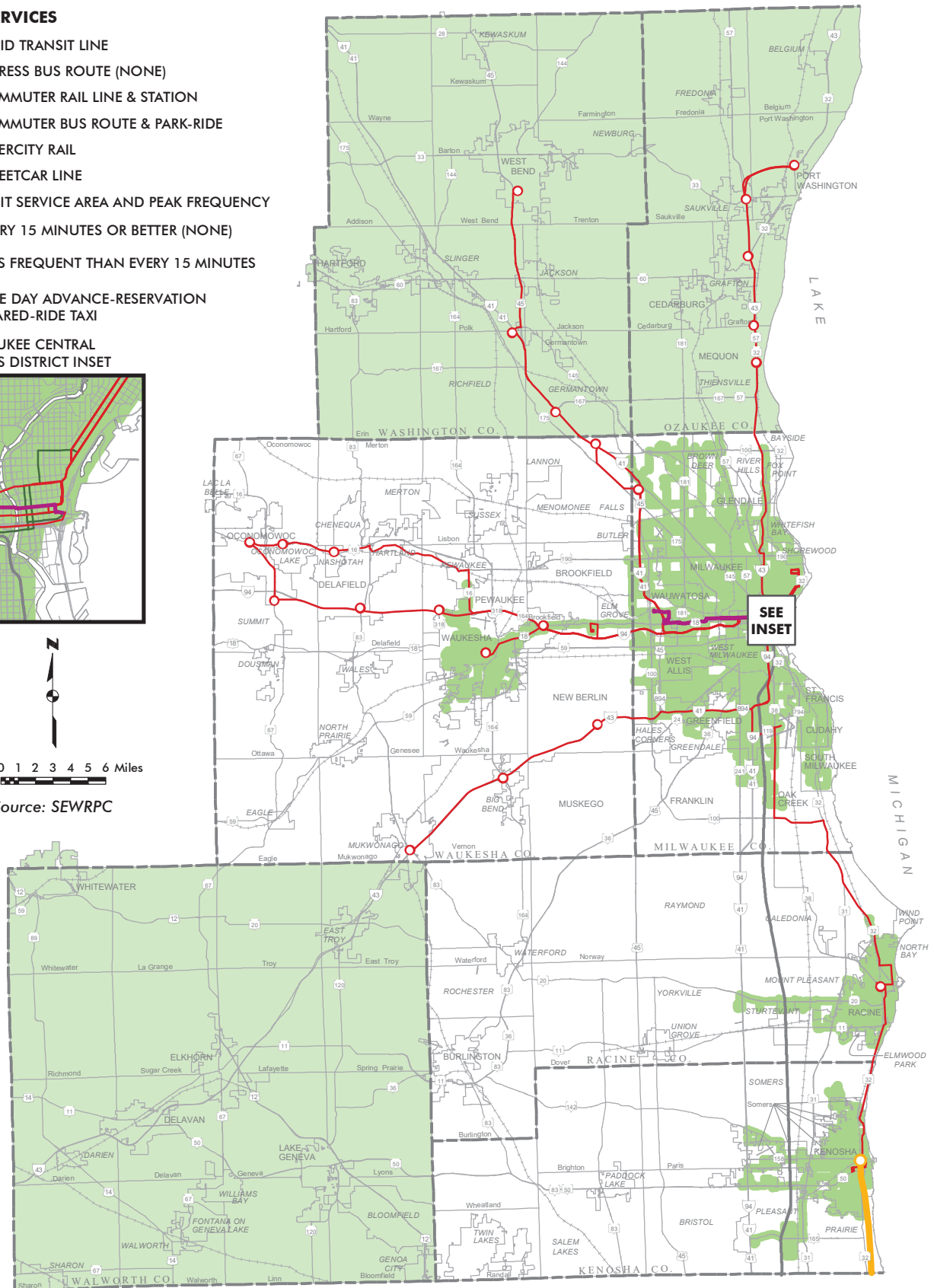
- EVERY 15 MINUTES OR BETTER (NONE)
- LESS FREQUENT THAN EVERY 15 MINUTES
- ONE DAY ADVANCE-RESERVATION
SHARED-RIDE TAXI

MILWAUKEE CENTRAL
BUSINESS DISTRICT INSET



0 1 2 3 4 5 6 Miles

Source: SEWRPC



ASSESSMENT OF CONFORMITY OF THE FCTS AND TIP

This section of the report demonstrates the conformity of the FCTS and TIP for Southeastern Wisconsin with respect to each of the conformity criteria, as well as with respect to the procedures to be used to demonstrate conformity as established by USEPA for such conformity assessments. This conformity demonstration is for the 2008, and 2015 8-hour ozone, and the 2006 24-hour PM_{2.5} nonattainment and maintenance areas shown on Map 1.

Conformity Determination Procedural Requirements

The procedures to determine conformity set forth in the *Federal Register* (40 CFR Parts 51 and 93) are: 1) use of latest planning assumptions, 2) use of latest emission model, 3) interagency and public consultation, 4) provision for timely implementation of transportation control measures, 5) transportation plan content, and 6) procedures for determining RTP related emissions.

Use of Latest Planning Assumptions

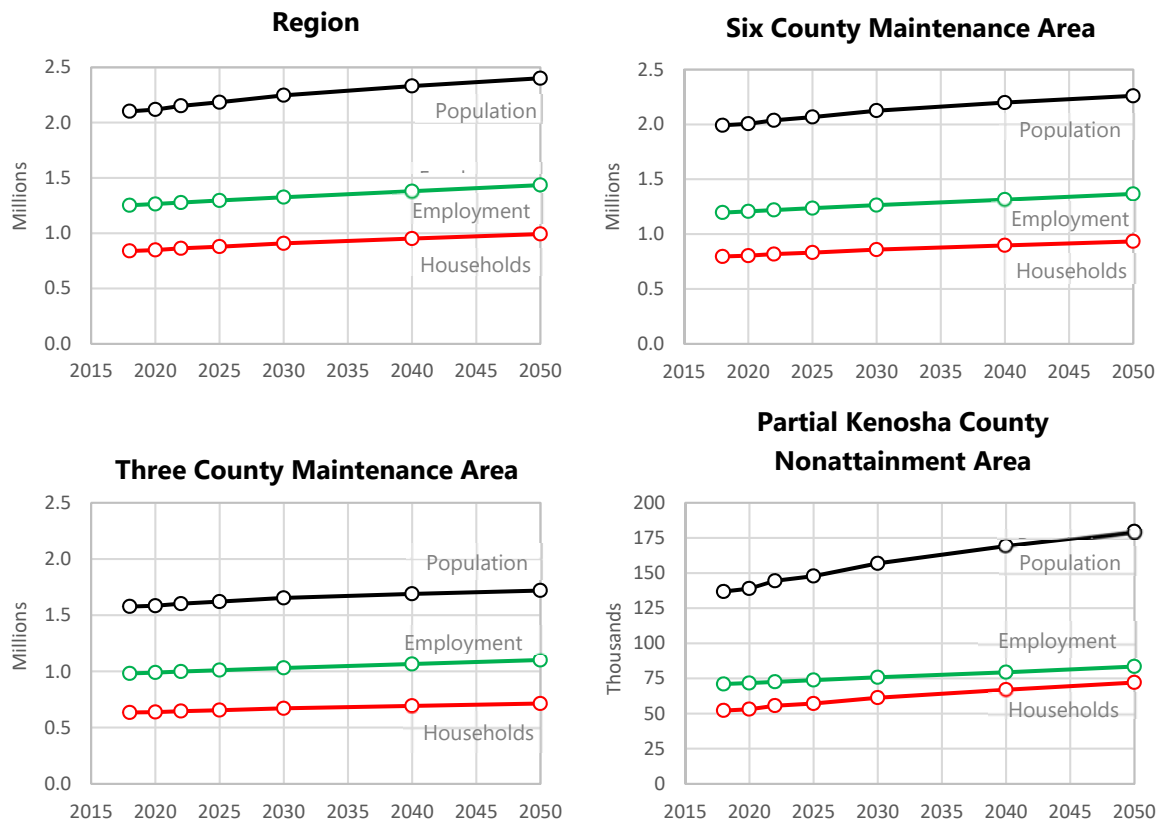
This conformity determination procedural requirement (40 CFR, Part 93.110) specifies that the conformity assessment must be based upon the official and most current planning assumptions, including current and future population levels, employment levels, travel demand, traffic volumes, and transit ridership.

SEWRPC is the gubernatorially-designated MPO for the Kenosha, Milwaukee, Racine, and West Bend urbanized areas, and the Wisconsin portion of the Round Lake Beach urbanized area and also the statutory official areawide planning agency for the seven-county Southeastern Wisconsin Region, which contains these five urbanized areas. The Commission is the agency within Southeastern Wisconsin responsible under State law for the preparation of current population, household, employment, travel, and traffic estimates and also for the preparation of future household, employment, travel, and traffic forecasts. The Commission also maintains the travel and traffic simulation models that are used within Southeastern Wisconsin for transportation and air quality planning. The models used in this conformity analysis are the same as used by the Commission in its regional planning efforts, and in support of air quality planning by WDNR.

The determination of conformity of the FCTS and TIP requires specific travel and emission forecasts for the years 2020, 2022, 2025, 2030, 2040 and 2050. The population, household, and employment data at regional and subregional levels for the intermediate implementation stages of the plan have been projected by interpolating between existing regional and subregional estimates and the year 2050 regional forecasts and subregional planned forecast allocations based upon the regional land use plan. The Region level, nonattainment area, and maintenance area level forecasts for population, households, and employment are set forth in Figure 3.

As part of regional transportation planning over the years, the implications of a range of different future development scenarios for Southeastern Wisconsin have historically been explored, including such scenarios with respect to VMT. The different scenarios included intermediate- and high-growth scenarios for the Region as a whole, centralized and decentralized land use patterns, and alternative regional transportation systems ranging from a "no-build" option, to an alternative that would substantially increase the price of automobile transportation, to the recommended system plan. The results of analyses of these scenarios indicated that the future annual growth in VMT within the Region is expected to range from about 1.0 percent to 2.0 percent. The analyses indicated that alternative land use patterns and

Figure 3
Forecast Population, Household, and Employment Levels: 2018-2050



Source: SEWRPC.

transit and highway improvements are expected to have little impact on VMT, accounting for less than 0.1 percent variation in annual growth. Variations in regional economic growth and substantial changes in the perceived cost of automobile use may be expected to each account for about 0.5 percent variation in growth annually.

The determination of conformity utilizes the travel simulation models that have been maintained, refined, and validated by the Commission since the 1960s. These travel simulation models have been employed in the preparation of the RTP and for the motor vehicle emissions forecasts for the SIPs and Maintenance Plans developed by the WDNR. These models and their validation are described in SEWRPC Technical Report No. 51, *Travel Simulation Models of Southeastern Wisconsin*. The Commission travel models were revalidated and recalibrated, using new data provided by a major origin and destination travel survey completed within the Region in 2011 and 2012. The models were validated for the years 2001 and 2011 by applying the models with U.S. Census Bureau data and 2001 and 2011 transportation network data and comparing model estimates of trip generation, trip distribution, highway traffic, and transit ridership to estimates derived from travel surveys and actual traffic and transit ridership counts. The validation indicated that the models were able to accurately replicate not only observed trip generation, travel pattern, modal choice, and VMT data, but also model-estimated individual arterial street traffic volume.

Under this procedural requirement, changes in the transit system with respect to service levels and fares since the last plan and improvement program conformity determination are to be described. The last conformity demonstration was completed in December 2018 on the year 2050 FCTS and the 2019-2022 TIP. Since December 2018, transit fares have remained essentially unchanged and though service levels have decreased due to the discontinuation of the Zoo Interchange transit routes. The last conformity demonstration of the FCTS and TIP—completed in December 2018—projected that transit service levels measured in vehicle-miles of service would decline 12 percent to the year 2050 and transit fares would increase at the rate of inflation. The reduction in transit service levels would be expected to be achieved primarily through reductions in local transit service frequency and the elimination of freeway flyer service in Milwaukee County. As the fiscal environment for transit has changed since the last demonstration, this analysis is based on new assumptions as described in FCTS section of this report, and are shown in Figure 2 and Table 3.

This conformity demonstration is based upon the Commission's adopted intermediate growth year 2050 forecasts under the FCTS with an attendant 0.8 percent annual increase in vehicles miles travel from the year 2011 to the year 2020, an 0.6 percent annual increase from 2020 to 2025, an 0.6 percent annual increase from 2025 to 2030, an 0.5 percent annual increase from 2030 to 2040, and an 0.5 percent annual increase from 2040 to 2050. The VMT forecasts in the state implementation plan (SIP) or maintenance plans and the FCTS are consistent, with the SIPs and maintenance plan forecasts being equal to, or greater than, the FCTS forecasts. The higher rate of growth assumed in the SIP and maintenance plans provide latitude for potential VMT increases in a year or short-term period of years which may exceed long-term average increases, for example, during short-term periods of rapid economic growth and gasoline price decline. Lower rates of increase in VMT are anticipated in the future due to anticipated slower growth in employment and labor force levels, slower declines in household size, and slower growth in household levels.

Use of Latest Emissions Model

A second procedural requirement for the plan and program conformity determination (40 CFR 93.111) requires use of the latest air pollutant emissions estimation model. Accordingly, this determination of conformity utilizes the latest emission estimation model available, the USEPA MOVES2014b air pollutant emissions estimation model. The assumptions in the emissions estimation model for the years 2020, 2022, 2025, 2030, 2040 and 2050 in this conformity analysis are presented in Table 4. This conformity analysis utilizes the March 2020 update to the vehicle fleet age distribution, which is summarized in Figure 4, and assumes implementation of, and credit for, Tier 3 motor vehicle standards and low sulfur gasoline regulations. The conformity analysis accounts for vehicle fleet turnover and its impact on reducing emissions.

Interagency and Public Consultation

A third procedural requirement for plan and program conformity determination (40 CFR 93.112) relates to interagency and public consultation. The development of VISION 2050 and the FCTS has involved significant interagency and public consultation, including, specifically, such consultations with respect to air quality impacts and the implications for conformity of the new plan and its alternatives. The 2019-2022 TIP directly implements the FCTS and is consistent with the plan schedule for implementation. In particular, WisDOT, WDNR, USDOT, and the county and local units of government have all been extensively involved in the development of VISION 2050 and the FCTS, including the consideration and evaluation of alternatives. These Federal, State, county, and local units and agencies of government have also been consulted, and have, as members of the Commission's Advisory Committees, guided the preparation and level of detail of VISION 2050 and the FCTS.

In December 2014, the Commission's fourth-generation travel demand models were peer reviewed for consistency with current modeling practice. Potential model enhancements suggested by the peer review panel were considered and incorporated, as appropriate, during the development of the fifth-generation travel simulation models.⁴ These models were presented to the Commission's Advisory Committees guiding the preparation of VISION 2050.

VISION 2050 and the FCTS also incorporate the entire arterial street and highway network of the Region, including all arterials in both urban and rural areas and major collectors in rural areas. The agencies concerned have also given consideration to the treatment in the travel simulation modeling and in VISION 2050 and the FCTS of transportation control measures. In addition, there has been extensive public consultation with respect to VISION 2050 and the FCTS, including significant consultation on the land use and transportation components. The public consultation on VISION 2050 and the FCTS is documented in a series of reports that present the comments received on the plan and its social, economic, and environmental impacts, and the consideration and response to the public comment.

State, county, and municipal governments have also been directly involved in the preparation of the 2019-2022 TIP through their submittal of projects for inclusion in the TIP and their consideration and approval of the TIP.

⁴ The peer review of the fourth-generation travel demand models are documented in Chapter 3 of SEWRPC Technical Report 51, Travel Simulation Models of Southeastern Wisconsin.

Table 4
Assumptions Associated with the MOVES2014b Emissions Estimating Model

Category		8-Hour Ozone and Fine Particulate Nonattainment and Maintenance Areas
		2020, 2022, 2025, 2030, 2040, and 2050
Fuel Inputs	Gasoline	MOVES Default
	Diesel	MOVES Default
	Compressed Natural Gas	MOVES Default
	Ethanol (E85)	MOVES Default
Inspection/Maintenance Program Inputs	Fuel Type Tested	Gasoline
	Inspection Frequency	Biennial
	Tests Conducted	Exhaust and Evaporative On-Board Diagnostic Check
	Passenger Cars (All Model Years)	
	Model Years Tested	1996 to Modeled Stage Less 3 Years ^a
	Compliance Factor	84.2%
	Passenger Trucks	
	Pre-2007 Model Years	
	Model Years Tested	1996 to 2006
	Compliance Factor	82.6%
	2007 and later Model Years	
	Model Years Tested	2007 to Modeled Stage Less 3 Years ^a
	Compliance Factor	84.2%
	Light Commercial Trucks	
	Pre-2007 Model Years	
	Model Years Tested	1996 to 2006
	Compliance Factor	77.5%
	2007 and later Model Years	
	Model Years Tested	2007 to Modeled Stage Less 3 Years ^a
	Compliance Factor	84.2%
Other Inputs	Meteorological Inputs	
	Range of Hourly Temperature	Ozone: 65.0 to 94.0°F/Fine Particulate: 11.9 to 29.8°F
	Range of Hourly Relative Humidity	Ozone: 55.5% to 87.0%/Fine Particulate: 67.0% to 82.5%
	Month Modeled	Ozone: July/Fine Particulate: January
	Weekday VMT	SEWRPC
	VMT by Hour of the Day	MOVES Default/SEWRPC
	VMT by Vehicle Class	SEWRPC/WDNR
	Average Speed Distribution	SEWRPC/WDNR
	Vehicle Age Distribution	
	Motorcycles	WDNR
	Passenger Cars	WDNR
	Passenger Trucks	WDNR
	Light Commercial Trucks	WDNR
	Intercity Buses	WDNR
	Transit Buses	WDNR
	School Buses	WDNR
	Refuse Truck	WDNR
	Single Unit Short-haul Trucks	WDNR
	Single Unit Long-haul Trucks	MOVES Default
	Motor Homes	WDNR
	Combination Short-haul Trucks	WDNR
	Combination Long-haul Trucks	MOVES Default
	Vehicle Population	MOVES Default/WDNR
	Road Type Distribution	SEWRPC/WDNR
	Ramp Fraction	SEWRPC/WDNR
	Annual Mileage Accumulation	MOVES Default

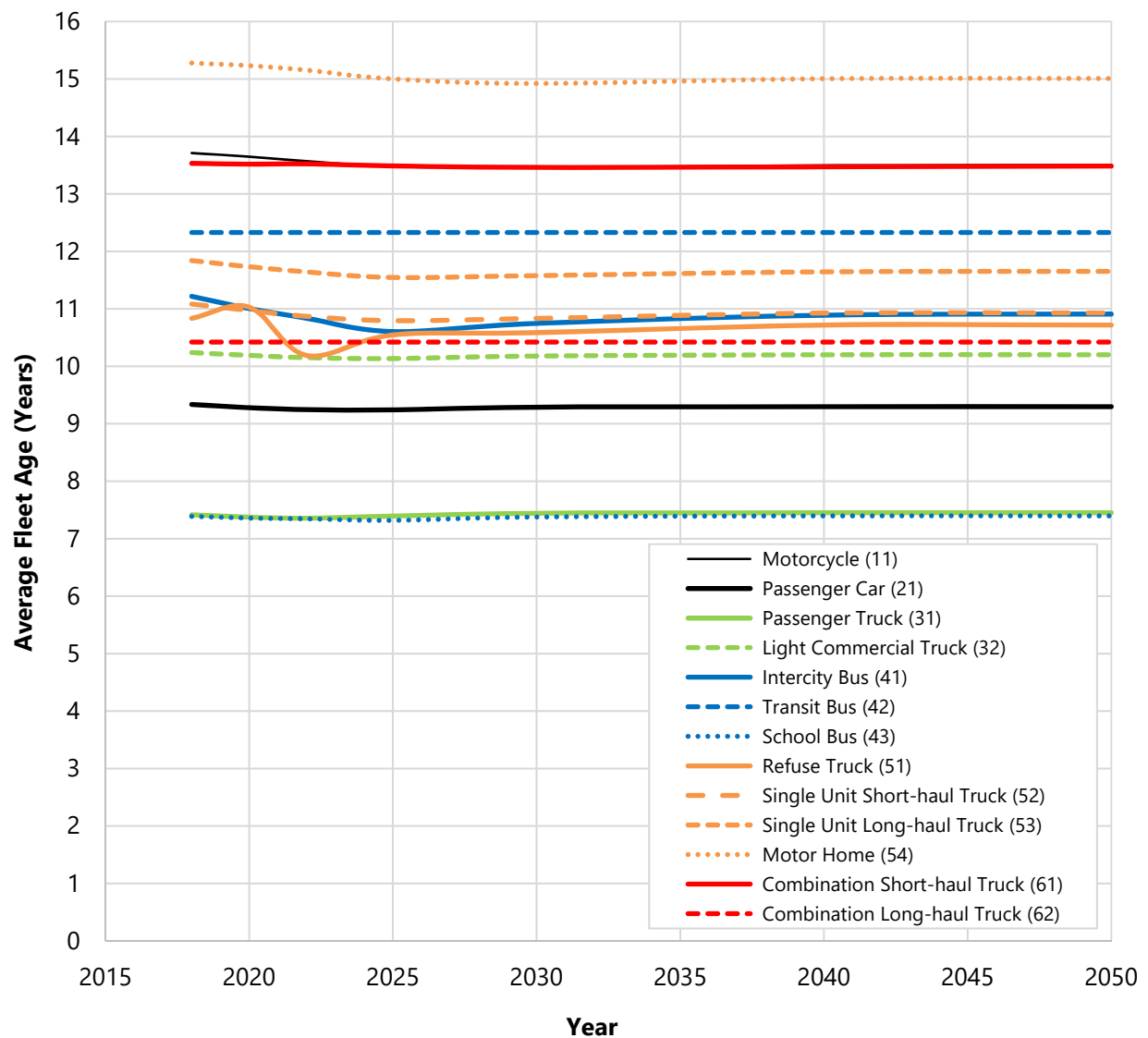
Note: MOVES = United States Environmental Protection Agency's Motor Vehicle Emissions Simulator (version 2014b)

^a For 2020 the range of model years tested would be through 2017, for 2022 the range of model years tested would be through 2019, for 2025 the range of model years tested would be through 2022, for 2030 the range of model years tested would be through 2027, for 2040 the range of model years tested would be through 2037, and for 2050 the range of model years tested would be through 2047

Source: Wisconsin Department of Natural Resources and SEWRPC

#253773

Figure 4
March 2020 Updated Average Vehicle Fleet Age
by MOVES Vehicle Classification and Plan Stage



Source: Wisconsin Department of Resources

Provision for Timely Implementation of Transportation Control Measures

A fourth procedural requirement for plan and program conformity determination, (40 CFR Part 93.113) is that the FCTS and TIP must provide for timely implementation and may not interfere with the implementation of any transportation control measures included in an applicable implementation plan (SIP, maintenance plan, or early progress plan). There are no transportation control measures included in the SIPs or maintenance plan for the nonattainment areas within Southeastern Wisconsin.

Transportation Plan Content

A fifth procedural requirement for plan and program conformity determination is the content, or level of detail, of the transportation plan. The FCTS and the travel simulation modeling analysis of attendant plan emissions fully meet the requirements of transportation plan content (40 CFR 93.106). The FCTS includes all additions to the transportation system with respect to both highway and public transit that can be expected to be completed by the year 2050 based on existing and reasonably expected revenues.

All additions of arterial street system highway capacity which can be expected to be completed by the year 2050, based on existing and reasonably expected revenues, including widening of arterial streets to provide additional traffic lanes and construction of new arterial facilities, are included in the FCTS. This arterial street system includes approximately 3,600 miles of streets within the seven-county Southeastern Wisconsin Region, or about one-third of the total street system, and includes all State, county, and municipal arterials within urban areas and all arterials and major collectors within rural areas of the Region. The plan also includes 1) the total existing transit system, including the existing local, express (the only exception being Milwaukee County Freeway Flyer Service) and rapid transit system components, 2) an expected significant reduction in local and express service levels and maintenance of the geographic coverage of the existing transit systems, and 3) the planned construction and operation of the City of Milwaukee streetcar and Milwaukee County's bus rapid transit line between the Milwaukee Regional Medical Center and downtown Milwaukee.

The travel simulation modeling conducted under this conformity analysis of the FCTS and TIP is fully consistent with, indeed identical to, the travel simulation modeling conducted by the Commission for the preparation of VISION 2050 and the FCTS and for the preparation of the maintenance plan. The travel simulation modeling for the conformity determination is sensitive to the added capacity and service provided by each highway and transit plan proposal, accurately reflecting its potential effect through changes in travel time and attendant route choice, mode choice, travel patterns, and trip generation. VISION 2050 (including the FCTS) and its treatment in the travel simulation modeling analysis goes beyond the Federally-required consideration of Federally-recognized regionally significant projects, that is, principal arterials and transit fixed guideways, in that it includes all arterial and public transit facilities. The transportation and land use components of VISION 2050 were designed to be consistent with each other. The transportation component of VISION 2050 was designed to serve and promote implementation of the development pattern envisioned for the year 2050, and the land use component was designed to support the transit recommendations envisioned in the transportation system component, through increased development densities proximate to the proposed rapid transit lines. Because the projects included in the FCTS come out of VISION 2050, the accessibility provided by the FCTS should also serve and promote implementation of the land use plan.

Transportation Emissions and Travel Modeling Procedures

The procedures for estimating the FCTS and TIP emissions also fully meet the emission and travel modeling requirements, (40 CFR 93.122).⁵ Specifically, the travel simulation modeling analysis for this conformity determination incorporates all planned highway capacity improvements and expansion for all arterial facilities, including major collectors in rural areas, and for all transit improvements and expansion included in the FCTS. The travel simulation modeling analysis does not assume emission reductions for any transportation control measures or control programs external to the transportation system, as, for example, changes in motor fuel volatility or vehicle inspection and maintenance programs, except with respect to such programs incorporated in the maintenance plan.

The Federal requirements for determination of conformity after January 1, 1997, (40 CFR 93.122(d)), have been met under this conformity determination. The travel and traffic simulation models used to estimate the air pollutant emissions are network-based models that forecast travel demand and traffic volume based upon economic and demographic forecasts, planned land use allocation patterns, and the characteristics of the transportation system. As already noted, the travel models are fully described in Chapter IV, of SEWRPC Technical Report No. 51, *Travel Simulation Models of Southeastern Wisconsin*. The models were calibrated with year 2011-2012 large-scale travel survey data and are consistent with current accepted modeling practice. The fifth-generation travel simulation models incorporate many of the potential model enhancements identified during a peer review of the Commission's fourth-generation travel simulation models. The resulting fifth-generation travel simulation models were reviewed by the Commission's Advisory Committee on Regional Land Use and Transportation Planning, which includes representation from Federal, State, and local governments.

The fifth-generation travel demand model is a time-of-day model and as such incorporates sensitivity to peak- and off-peak travel times by modeling the trip distribution, modal choice, and a capacity restrained traffic assignment for four different periods of the day: AM (6:00 am to 9:00 am), Midday (9:00 am to 2:30 pm), PM (2:30 pm to 6:00 pm), and Night (6:00 pm to 6:00 am). The models incorporate an iteration, or feedback, of model steps so that the travel times attendant to each period used to determine travel patterns, transit ridership, and route choice are consistent with the travel times established in capacity restraint traffic assignment specific to each period. This feedback of congested travel times within each of the four periods is iterated until the traffic volumes assigned to the system stabilize, thus insuring that the travel times, pattern of travel, and mode choice are consistent and stable.

The constrained peak hour, and the free flow, or off-peak, travel speeds incorporated in the models are based upon actual field surveyed speeds and travel times. The last such analysis was conducted in 2014 utilizing GPS data collected as part of the 2011-2012 travel inventory. The models estimate travel times attendant to the traffic assigned within

⁵ A U.S. Department of Transportation, Federal Highway Administration report issued May 21, 1997, on the Federal Review of the travel modeling conducted by the Commission, is documented in Appendix E of SEWRPC Memorandum Report No. 147, entitled, Assessment of Conformity of the Amended Year 2000-2002 Transportation Improvement Program and Amended Year 2020 Regional Transportation Plan With Respect to the State of Wisconsin Air Quality Implementation Plan—Six-County Severe Ozone Nonattainment Area and Walworth County Ozone Maintenance Area, along with a Commission report which cites how each requirement in 40CFR 93.122 is met. In addition, the Commission's fourth-generation travel demand models were peer reviewed by a panel of three national modeling experts in December 2014. The recommendations for potential model enhancements were considered and incorporated where appropriate into the Commission's fifth-generation travel simulation models. This peer review is documented in Chapter 3 of SEWRPC Technical Report No. 51, entitled Travel Simulation Models of Southeastern Wisconsin.

each model period and utilize these travel times within the trip distribution and modal choice for work, shopping, and other purposes. The trip distribution step is sensitive to the modes available and both the trip distribution and mode choice steps are directly sensitive to the price of travel, as well as travel time, including public transit travel time.

The future travel and traffic forecasts from the models have been compared to historical trends. The models were validated for the years 2001 and 2011 using 2000 and 2010 census and land use inventory data, and 2001-2002 and 2011-2012 travel survey and transportation system inventory data with respect to simulation of both transit ridership and arterial street and highway traffic by comparing model estimates to actual counts. The VMT estimated by the models in the base year of their validation (2011) have been compared to estimates prepared with the WisDOT traffic counts included in the Highway Performance Monitoring System (HPMS), and it has been determined that the 2011 model estimate is consistent with the 2011 inventory estimate. This validation is documented in Chapter IV of Technical Report No. 51. Also, as previously noted the FCTS-based annual growth in VMT is between 0.9 and 0.5 percent to the year 2050, which is less than the historical growth rates, but consistent with the trend of declining VMT growth rates since the 1960s.⁶

In addition, for over 20 years the Commission has maintained procedures to estimate off-network roadway travel. The procedures have been periodically reevaluated and validated. Such procedures were developed as part of the first SIP for air quality, prepared by the Regional Planning Commission in 1978, and provide estimates for use in RTP and SIP preparation and conformity determination. The method is based on analyses that estimate off-network travel by calculating total intrazonal travel and trip lengths, based upon zone size and development distribution. The analyses indicate off-network travel represents about 9 percent of total travel. This is consistent with independent highway performance monitoring system estimates. Off-network travel is estimated for each alternative by factoring network travel forecasts by approximately 10 percent.

As previously noted, consistency of the land use and transportation system components of VISION 2050 is directly established, as both the land use and transportation components were designed to be consistent with each other. As the projects included in the FCTS come out of the transportation component of VISION 2050, the accessibility provided by the FCTS should also serve and promote implementation of the land use plan. The population, employment, land use, and other assumptions attendant to the travel and traffic forecast are documented in Volume III, Chapter 1 of SEWRPC Planning Report No. 55, *VISION 2050: A Regional Land Use and Transportation Plan for Southeastern Wisconsin*. These forecasts anticipate more moderate growth as compared to historical trends.

Conformity Determination Criteria--Consistency with Motor Vehicle Emissions Budgets

The test of FCTS and TIP conformity requires that the transportation system emissions forecasts under the FCTS and TIP must be consistent with—that is, equal to or less than—the motor-vehicle emission budgets (MVEB) established for each of the nonattainment and maintenance areas within Southeastern Wisconsin. A description of the source of the conformity demonstration budgets is provided in Figure 1 and in more detail below:

⁶ Table 4.4 of Chapter 4 of Volume 1 of SEWRPC Planning Report No. 55, *VISION 2050: A Regional Land Use and Transportation System Plan for Southeastern Wisconsin*.

- ***Wisconsin portion of the Chicago-Naperville, IL-IN-WI***

- ***Moderate 2008 8-Hour Ozone NAAQS Nonattainment Area***

With respect to the Wisconsin portion of the Chicago-Naperville, IL-IN-WI moderate nonattainment area, the demonstration of conformity was established using the budget test. The 2018 VOC and NO_x MVEB's established in the attainment plan for the 2008 8-hour ozone NAAQS submitted to USEPA in April 2017 and determined adequate effective November 15, 2017 (82 FR 50418) and the 2025 and 2030 VOC and NO_x MVEB's established in the redesignation request submitted for the 2008 8-hour ozone NAAQS submitted to USEPA in January 2020 and determined adequate effective May 2, 2020 (85 FR 21351).

- ***Wisconsin portion of the Chicago, IL-IN-WI***

- ***Marginal 2015 8-Hour Ozone NAAQS Nonattainment Area***

With respect to the Wisconsin portion of the Chicago-Naperville, IL-IN-WI moderate nonattainment area, the demonstration of conformity was established using the budget test. The 2018 VOC and NO_x MVEB's established in the attainment plan for the 2008 8-hour ozone NAAQS submitted to USEPA in April 2017 and determined adequate effective November 15, 2017 (82 FR 50418) and the 2025 and 2030 VOC and NO_x MVEB's established in the redesignation request submitted for the 2008 8-hour ozone NAAQS submitted to USEPA in January 2020 and determined adequate effective May 2, 2020 (85 FR 21351).

- ***Northern Milwaukee/Ozaukee Shoreline, WI***

- ***Marginal 2015 8-Hour Ozone NAAQS Nonattainment Area***

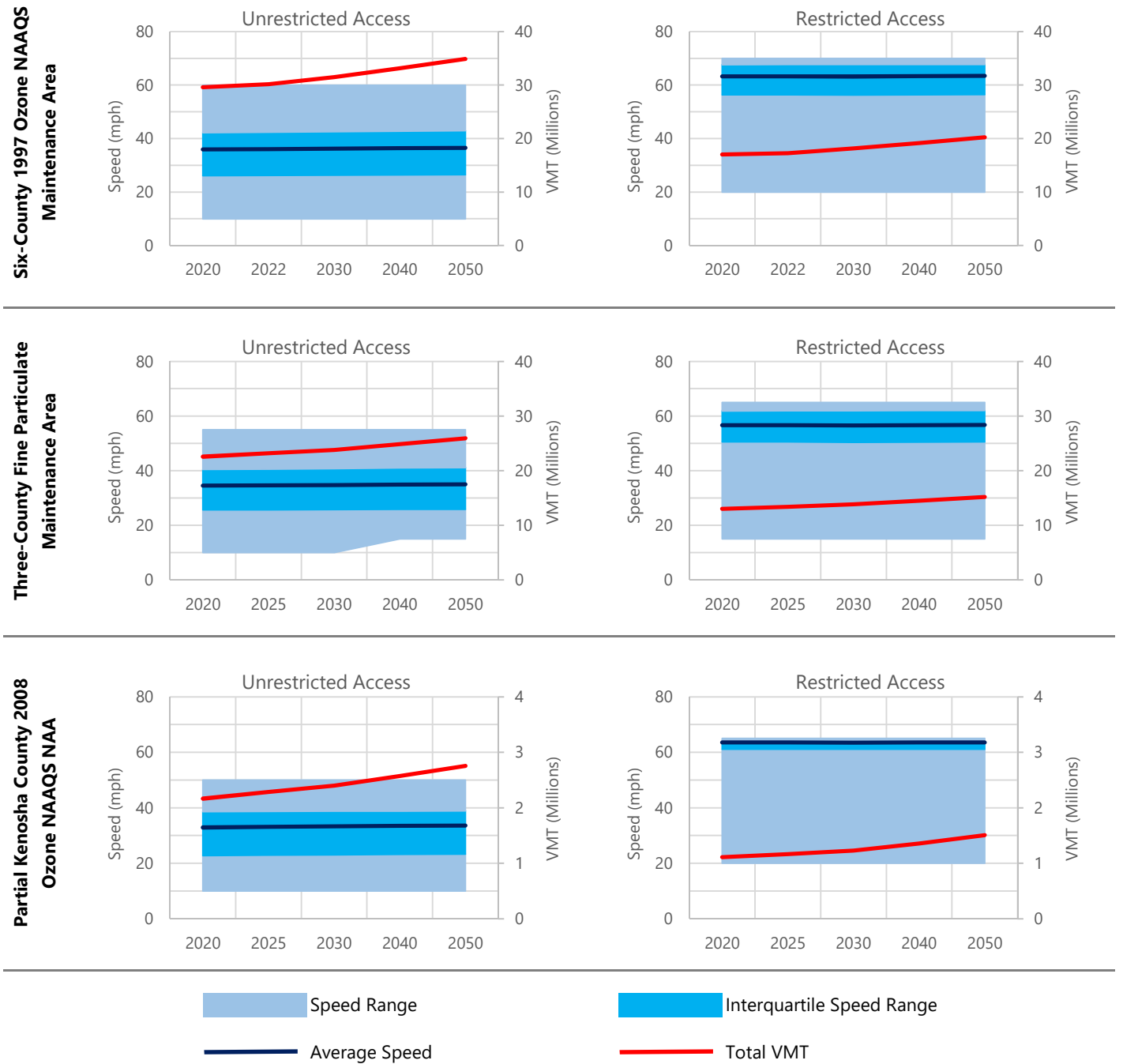
With respect to the Northern Milwaukee/Ozaukee Shoreline, WI moderate nonattainment area, the demonstration of conformity was established using the budget test. As budgets attendant to the 2015 ozone nonattainment areas have not been established, and this nonattainment area is entirely within the 1997 ozone maintenance area the budget test will use the VOC and NO_x MVEB's established in the maintenance plan for the 1997 8-hour ozone NAAQS submitted to USEPA in 2011 (77 FR 6727).

- ***2006 24-hour PM_{2.5} NAAQS maintenance Area***

With respect to the 2006 24-hour PM_{2.5} NAAQS maintenance area, the demonstration of conformity was established using the budget test. The budgets to be utilized were established in the attainment demonstration submitted to USEPA in June 2012 that established VOC, NO_x, PM_{2.5}, and SO₂ MVEB's for 2020 and 2025. In December 2015, WDNR submitted a SIP revision for the three county area which established new 2020 and 2025 MVEBs for VOC. Effective April 22, 2016, these updated VOC MVEBs will be used to demonstrate conformity (81 FR 8654).

The transportation system emissions attendant to the FCTS and 2019-2022 TIP through the year 2050 were forecast through application of the Commission's fifth-generation travel and traffic simulation models under the year 2050 population, households, and employment forecasts and regional land use plan. Figure 5 presents the forecast VMT attendant to the forecast years 2018 through 2050. The transportation plan projects incorporated in each forecast year are listed in Tables 3 (transit) and 1 (arterial street and highway).

Figure 5
Speed Distribution of Average Weekday Vehicle Miles of Travel
Within Southeastern Wisconsin: 2020-2050



Source: SEWRPC.

The 2019-2022 TIP is consistent with the FCTS and the plan's implementation schedule. All TIP projects, that is, projects with air quality impacts, are included in the plan. Also, the TIP includes all projects essential to implement the plan on schedule. The satisfaction of these two tests is demonstrated in Tables 1, 3, and 5.

Tables 1 and 3 list all projects with air quality impacts proposed in the FCTS, along with the plan-recommended implementation schedule, and they identify the plan projects that are included in the TIP. Table 5 lists all projects with air quality impact, so-called "nonexempt" projects in the TIP, confirms that they are included in the FCTS, and confirms that their schedule in the improvement program is consistent with their schedule for project completion proposed in the FCTS.⁷

Table 6 presents the forecast emissions from the transportation system within the five nonattainment and maintenance areas under the FCTS and 2019-2022 TIP, and compares the forecast emissions to the MVEBs attendant to each. In all cases, the FCTS and TIP forecast emissions are less than the emissions budgets. Thus, this conformity criterion is shown to be fully met for the 2008, and 2015 ozone, and 2006 24-hour PM_{2.5} NAAQS by the FCTS and 2019-2022 TIP.

⁷All 2019-2022 TIP projects can be found at the Commission's TIP webpage (www.sewrpc.org/tip).

Table 6
Conformity Test of the Fiscally Constrained Transportation System and
2019-2022 Transportation Improvement Program

Nonattainment/ Maintenance Area	Month	Emission	Plan Stage and Budgets to be Used (tons)					
			2020	2022	2025	2030	2040	2050
Partial Kenosha County 2008 Ozone Nonattainment Area	July	NOx	2.750		1.470	1.140	1.140	1.140
		VOC	1.440		0.950	0.730	0.730	0.730
Partial Kenosha County 2015 Ozone Nonattainment Area	July	NOx	2.750		1.470	1.140	1.140	1.140
		VOC	1.440		0.950	0.730	0.730	0.730
Northern Milwaukee/ Ozaukee Shoreline 2015 Ozone Nonattainment Area	July	NOx	51.220	31.910		31.910	31.910	31.910
		VOC	21.080	15.980		15.980	15.980	15.980
Three-County Fine Particulate Maintenance Area	January	NOx	32.620		28.690	28.690	28.690	28.690
		VOC	18.274		13.778	13.778	13.778	13.778
		PM2.5	2.330		2.160	2.160	2.160	2.160
		SO2	0.390		0.380	0.380	0.380	0.380

Nonattainment/ Maintenance Area	Month	Emission	Forecast Emissions (tons)					
			2020	2022	2025	2030	2040	2050
Partial Kenosha County 2008 Ozone Nonattainment Area	July	NOx	2.154		1.334	1.010	0.824	0.833
		VOC	1.155		0.859	0.655	0.499	0.493
Partial Kenosha County 2015 Ozone Nonattainment Area	July	NOx	2.154		1.334	1.010	0.824	0.833
		VOC	1.155		0.859	0.655	0.499	0.493
Northern Milwaukee/ Ozaukee Shoreline 2015 Ozone Nonattainment Area	July	NOx	26.982	22.158		11.435	8.771	8.805
		VOC	15.787	13.927		8.643	6.339	6.125
Three-County Fine Particulate Maintenance Area	January	NOx	21.617		12.794	9.555	7.633	7.655
		VOC	15.272		11.324	9.530	8.246	8.314
		PM2.5	1.127		0.685	0.551	0.459	0.465
		SO2	0.111		0.102	0.095	0.090	0.093

Nonattainment/ Maintenance Area	Month	Emission	Remaining Safety Margin (tons)					
			2020	2022	2025	2030	2040	2050
Partial Kenosha County 2008 Ozone Nonattainment Area	July	NOx	0.596		0.136	0.130	0.316	0.307
		VOC	0.285		0.091	0.075	0.231	0.237
Partial Kenosha County 2015 Ozone Nonattainment Area	July	NOx	0.596		0.136	0.130	0.316	0.307
		VOC	0.285		0.091	0.075	0.231	0.237
Northern Milwaukee/ Ozaukee Shoreline 2015 Ozone NAAQS Nonattainment Area	July	NOx	24.238	9.752		20.475	23.139	23.105
		VOC	5.293	2.053		7.337	9.641	9.855
Three-County Fine Particulate Maintenance Area	January	NOx	11.003		15.896	19.135	21.057	21.035
		VOC	3.002		2.454	4.248	5.532	5.464
		PM2.5	1.203		1.475	1.609	1.701	1.695
		SO2	0.279		0.278	0.285	0.290	0.287