

## CHAPTER 11

# ENVIRONMENT AND AIR QUALITY

Chapter 11 of the *2040 Transportation Policy Plan* responds to federal planning requirements related to the environment and air quality contained in the Fixing America's Surface Transportation (FAST) Act legislation and other requirements for transportation planning in federal statute, regulation, or guidance and provides references to other sections in this policy plan or to other Council documents that address the requirements. Portions of this section respond to guidance from other sources, including, but not limited to, the air quality discussion as directed by the Minnesota Pollution Control Agency (MPCA).

## Air Quality

### Clean Air Act Conformity Determination

The Minneapolis-Saint Paul region is within an Environmental Protection Agency (EPA)-designated limited maintenance area for carbon monoxide (CO). A map of this area, which for air quality conformity analysis purposes includes the seven-county Metropolitan Council jurisdiction plus Wright County and the City of New Prague, is included in Appendix E. The term "maintenance" reflects to the fact that regional CO emissions were unacceptably high in the 1970s when the National Ambient Air Quality Standards (NAAQS) were introduced, but were subsequently brought under control. A second 10-year maintenance plan was approved by EPA on November 8, 2010, as a "limited maintenance plan." Every Transportation Policy Plan (TPP) or Transportation Improvement Program (TIP) approved by the Council must be analyzed using specific criteria and procedures defined in the Federal Transportation Conformity Rule to verify that it does not result in emissions exceeding this current regional CO budget. (The U.S. Environmental Protection Agency's 40 CFR Parts 51 and 93 are referred to together with all applicable amendments as the "Conformity Rule.") A conforming TIP and TPP must be in place in order for any federally funded transportation program or project phase to receive federal approval.

The analysis described in Appendix E has resulted in a Conformity Determination that the projects included in the 2040 Transportation Policy Plan meet all relevant regional emissions analysis and budget tests as described herein. The 2040 Transportation Policy Plan conforms to the relevant sections of the Federal Conformity Rule and to the applicable sections of Minnesota State Implementation Plan for air quality.

More details on specific federal requirements of a conformity determination can be found in Appendix E.

### Public Involvement & Interagency Consultation Process

The Council remains committed to a proactive public involvement process used in the development and adoption of the plan as required by the Council's [Public Participation Plan for Transportation Planning](#).

An interagency consultation process was used to develop the Transportation Policy Plan. Consultation continues throughout the public comment period to respond to comments and concerns raised by the public and agencies prior to final adoption by the Council. The Council, MPCA, and MnDOT confer on the application of the latest air quality emission models, the review and selection of projects exempted from a conformity air quality analysis, and regionally significant projects that must be included in the conformity analysis of the plan. An interagency conformity work group provides a forum for interagency consultation on technical conformity issues, and has met in person and electronically over the course of the development of the 2040 Transportation Policy Plan.

## Project Lists & Assumptions

As required by the Conformity Rule, projects listed in the plan were reviewed and categorized through the interagency process to identify projects exempt from a regional air quality analysis as well as regionally significant projects. Regionally significant projects were identified according to the definition in the Conformity Rule: "Regionally significant project means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel." Junction improvements and upgraded segments on non-principal arterials less than one mile in length are not considered to be regionally significant, although they are otherwise not exempt. The exempt air quality classification codes used in the "AQ" column of project tables of the TIP are listed in Appendix E along with additional requirements for exemption. A complete list of regionally significant projects included in the 2040 Transportation Policy Plan, including projects in the 2018-21 TIP and regionally significant local projects, can be found in Appendix E.

## Emissions Test

In 2010, the EPA approved a limited maintenance plan for the maintenance area. A limited maintenance plan is available to former non-attainment areas that demonstrate monitored concentrations of CO remain below 85% of the eight-hour NAAQS for eight consecutive quarters. MPCA monitoring data for CO shows that eight-hour concentrations have been below 70% of the NAAQS since 1998 and below 30% of the NAAQS since 2004.

Under a limited maintenance plan, the EPA has determined that there is no requirement to project emissions over the maintenance period and that "an emissions budget may be treated as essentially not constraining for the length of the maintenance period because it is unreasonable to expect that such an area will experience so much growth in that period that a violation of the CO NAAQS would result." No regional modeling analysis is required; however, federally funded projects are still subject to "hot spot" analysis requirements.

The limited maintenance plan adopted in 2010 determines that the level of carbon monoxide emissions and resulting ambient concentrations continue to demonstrate attainment of the carbon monoxide NAAQS. The following additional programs will also have a beneficial impact on carbon monoxide emissions and ambient concentrations:

- Ongoing implementation of an oxygenated gasoline program as reflected in the modeling assumptions used in the State Implementation Plan.
- A regional commitment to continue capital investments to maintain and improve the operational efficiencies of highway and transit systems.
- Adoption of *Thrive MSP 2040*, which supports land use patterns that efficiently connect housing, jobs, retail centers, and transit-oriented development along transit corridors.
- The continued involvement of local government units in the regional 3C transportation planning process, which allows the region to address local congestion, effectively manage available capacities in the transportation system, and promote transit supportive land uses as part of a coordinated regional growth management strategy.
- The increased numbers of people walking and bicycling and the growing use of electric and hybrid vehicles.

For all of these reasons, the Twin Cities carbon monoxide maintenance areas will continue to attain the carbon monoxide standard for the next 10 years.

## Transportation Control Measures

Pursuant to the Conformity Rule, the Council certifies that the 2040 Transportation Policy Plan conforms to the State Improvement Plan and does not conflict with its implementation. All Transportation System Management (TSM) strategies that were the adopted Transportation Control Measures (TCM) for the region have been implemented or are ongoing and funded. There are no TSM projects remaining to be completed. There are no fully adopted regulatory new TCMs, nor any fully funded non-regulatory TCMs that will be implemented during the programming period of the TIP. There are no prior TCMs that were adopted since November 15, 1990, nor any prior TCMs that have been amended since that date. Details on the status of adopted Transportation Control Measures can be found in Appendix E.

## Compliance with National Ambient Air Quality Standards

The Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six pollutants known to cause harm to human health and the environment, known as criteria pollutants. Criteria pollutants are particulate matter, lead, ozone, nitrogen dioxide, sulfur dioxide, and carbon monoxide. The pollutants, along with other pollutants known as air toxics, are monitored by the Minnesota Pollution Control Agency. The following sections list the region's compliance status for regulated pollutants in 2017. The region is currently in compliance with all National Ambient Air Quality Standards.

## Particulate Matter

Highest measured annual average fine particulate matter concentrations were 8.7  $\mu\text{g}/\text{m}^3$ , 73% of the federal standard of 12  $\mu\text{g}/\text{m}^3$ . Daily concentrations were 22  $\mu\text{g}/\text{m}^3$ , or 63% of the federal standard of 35  $\mu\text{g}/\text{m}^3$ . Daily coarse particulate matter concentrations are 100  $\mu\text{g}/\text{m}^3$ , or 67% of the federal standard of 150  $\mu\text{g}/\text{m}^3$ . The region meets federal standards for particulate matter. However, the EPA periodically revises its standards and, if they are tightened, the region may be at risk of exceeding standards.

## Lead

Highest measured lead concentrations in the region were 0.13  $\mu\text{g}/\text{m}^3$ , or 87% of the federal standard of 0.15  $\mu\text{g}/\text{m}^3$ . This is due to non-transportation sources at one location; elsewhere concentrations are much lower.

## Ozone

Highest measured 8-hour ground level ozone concentrations were 63ppb, or 90% of the federal standard of 70 ppb. The region meets federal standards for ozone. However, the EPA periodically revises its standards and if they are tightened, the region may be at risk of exceeding standards.

## Nitrogen Oxides

Highest measured annual nitrogen dioxide concentrations were 13 ppb, or 25% of the federal standard of 53 ppb. One-hour concentrations were 46 ppb, or 46% of the federal standard of 100 ppb. The region meets federal standards for nitrogen oxides. However, the EPA has released a new standard for near-road concentrations. The Minnesota Pollution Control Agency is currently monitoring, but data on compliance with federal standards is not yet available.

## Sulfur Dioxide

Highest measured one-hour sulfur dioxide concentrations were 12 ppb, or 16% of the federal standard of 75 ppb. The region meets federal standards for sulfur dioxide.

## Carbon Monoxide

Highest measured one-hour carbon monoxide concentrations were 2.3 ppm, or 7% of the federal standard of 35 ppm. Eight-hour concentrations were 1.7 ppm, or 19% of the federal standard of 9 ppb. The region meets federal standards for carbon monoxide.

## Volkswagen Settlement and Minnesota's Beneficiary Mitigation Plan

Minnesota will receive approximately \$47 million between 2018 and 2027 from a \$2.9 billion environmental mitigation trust fund established as part of a federal court settlement with Volkswagen in 2016. Proceeds from this trust fund will be distributed to states and tribes. Volkswagen agreed to the settlement in response to allegations that it violated the federal Clean Air Act by selling vehicles that emitted more nitrogen oxides (NOx) than is allowed under federal emission limits and by cheating on federal emission tests to conceal the higher emissions. Funds available to the states from this trust fund

can be used toward replacing older heavy-duty diesel vehicles and equipment or installing charging stations to support electric vehicles to help mitigate the extra pollution caused by these VW vehicles. In Minnesota, the Minnesota Pollution Control Agency (MPCA) is the designated agency that will oversee and plan for the use of the funds that will be available to the state.

To develop the required Beneficiary Mitigation Plan for the state that will guide the use of these funds, the MPCA held public meetings and meetings with stakeholders across the state, in addition to collecting comments and conducting online surveys from residents and stakeholders. The MPCA released a draft plan for comment during February and March of 2018 and held public meetings across the state to provide information about the draft plan and seek input. The MPCA finalized the state plan and submitted it to the national Trustee on April 11, 2018. The plan addresses the first phase (2018-2019) of funding and sets up five grant programs for investing the funds. In the plan, the MPCA commits to offering grants in five categories during phase 1: school buses, heavy-duty on-road vehicles (transit buses and class 4-8 trucks), heavy-duty off-road equipment (switcher locomotives, ferries, tug boats, construction equipment, etc.), heavy-duty electric vehicles, and electric vehicle charging stations. In the first three categories, applicants are eligible to replace their old diesel equipment with equipment that runs on diesel, propane, natural gas, or electricity. In Summer 2018, the MPCA began releasing Requests for Proposals for the first grant programs, with project evaluation and selection in Fall 2018. The MPCA will release Requests for Proposals for the remaining grant programs throughout 2018 and 2019.

## Environmental Streamlining – Planning and Environment Linkages

Early integration of project planning and the environmental review and approval process improves the likelihood that projects and services can be implemented in a timely and environmentally sensitive manner. The FAST Act stresses the need for integrating the planning and environmental process, and promotes a streamlined process for reviews and permitting.

*Thrive MSP 2040* and other policy documents of the Council strongly support protection and enhancement of the environment. In developing the *2040 Transportation Policy Plan* and other system plans, the Council closely followed the direction established in *Thrive MSP 2040*.

The integration of the planning and development process will vary for projects included in the *2040 Transportation Policy Plan* and for those already in the design phase. For many projects, the planning and environmental processes have progressed to such a stage that little will change based on this update.

Almost all highway projects and most transitway projects are on existing roadway or railroad rights-of-way. Environmental approvals will be necessary but are significantly different than if the projects were proposed on new rights-of-way.

Many of the corridors included in this plan are already undergoing detailed analysis and environmental review, and in some corridors, environmental documentation has already been completed.

## Environmental Mitigation

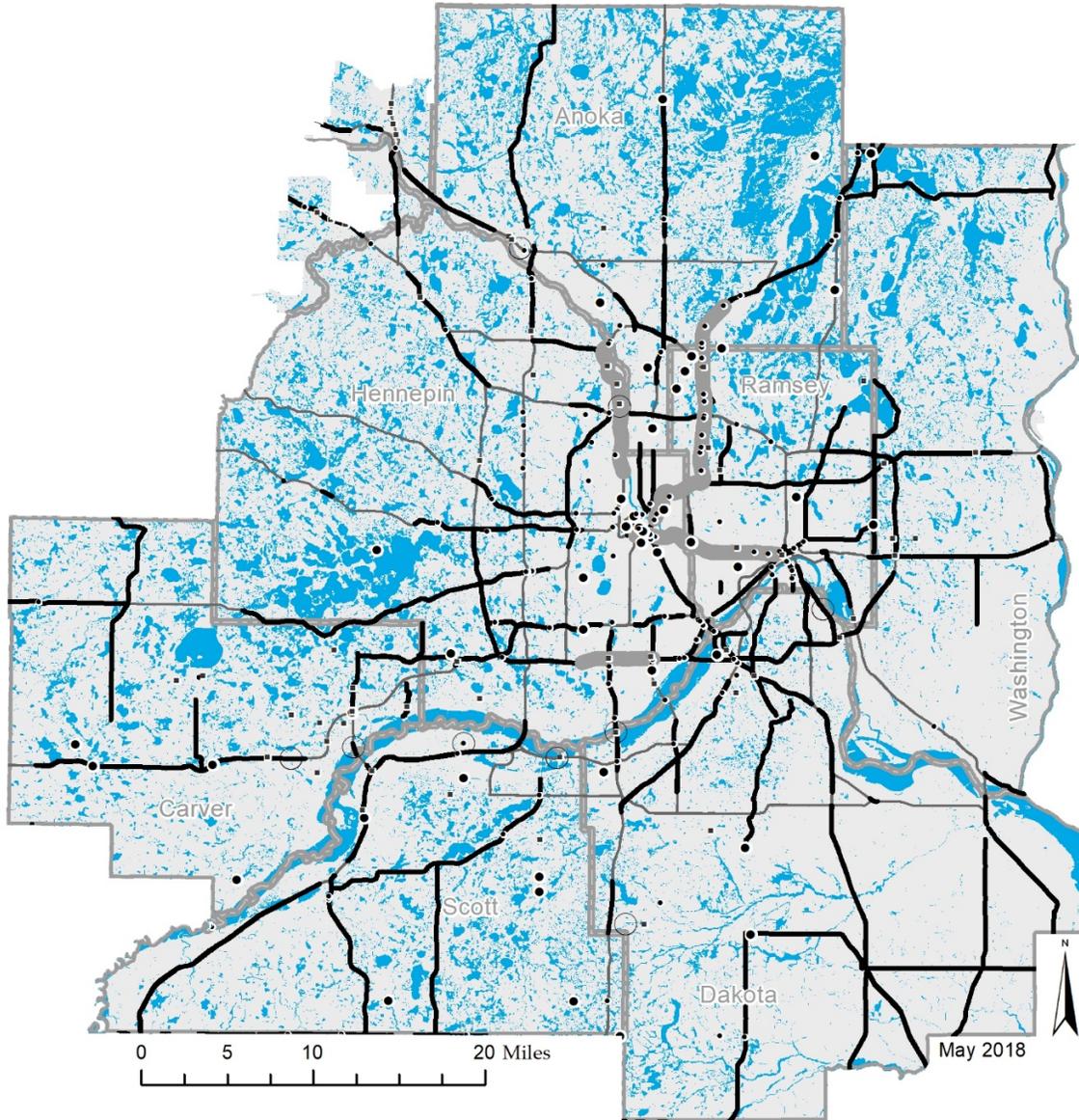
*Thrive MSP 2040* emphasizes the protection and enhancement of environmental quality through its outcomes of stewardship, livability, and sustainability. The Council supports work toward this end through the application of the Natural Resource Inventory, which provides comprehensive information about environmental resources throughout the seven-county metropolitan area.

The Transportation Policy Plan emphasizes environmental mitigation and enhancement through its Healthy Environment goal. In particular, strategy E4, "Regional transportation partners will protect, enhance and mitigate impacts on natural resources when planning, constructing, and operating transportation systems. This will include management of air and water quality and identification of priority natural resources through the Council/DNR Natural Resources Inventory," commits transportation partners to protecting and enhancing the natural environment. Strategy E5, "Transportation partners will protect, enhance and mitigate impacts on the cultural and built environments when planning, constructing, and operating transportation systems," commits to protecting and enhancing the cultural and built environment. Other strategies emphasize the importance of reductions in transportation-related air emissions, and in the central role of environmental justice in transportation planning.

Implementation of all projects in this plan will be accompanied by appropriate project-level environmental review and mitigation. Potential mitigation should be considered at the beginning of environmental work.

To provide a higher level review of potential impacts to environmentally sensitive areas or historical sites, highway and transit projects in the current revenue scenarios were mapped to compare with natural wetlands and historic inventories. These regional maps follow as Figures 11-1 through 11-4. The historic inventory includes locations that are on the National Register of Historic Places, as well as those that have been formally or informally identified as eligible for the National Register. Because of the level of information included at the regional level, additional analysis is needed to identify potential issues and needed mitigation at the project level. Potential mitigation generally includes avoiding, minimizing, rectifying, reducing, or compensating for any impacts.

**Figure 11-1: Highway Current Revenue Scenario Projects and Wetlands Inventory**

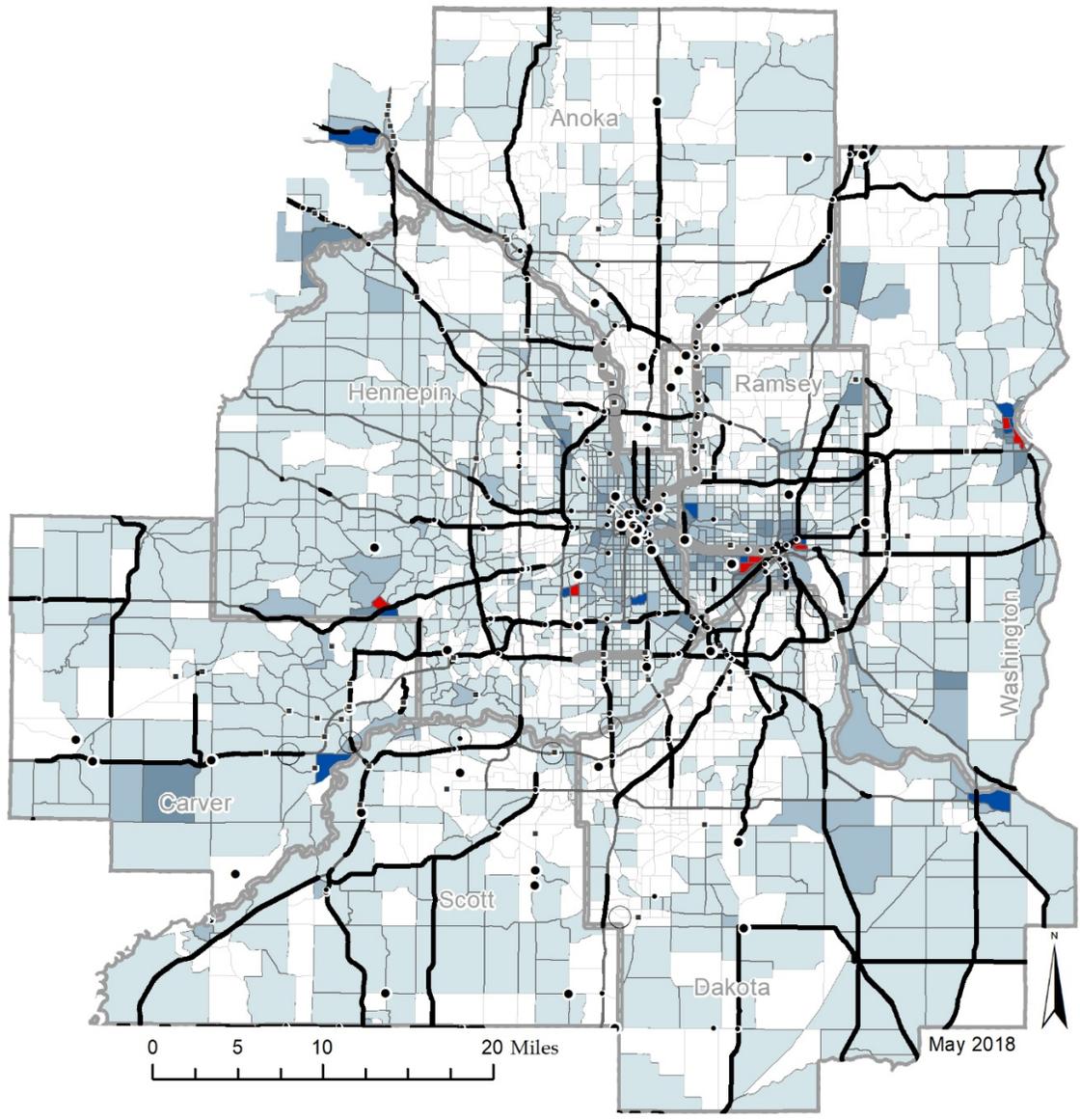


Wetlands / Water Features

Data: National Wetlands Inventory  
Minnesota Dept. of Natural Resources

- Mobility Projects
- ▲ Preservation Projects
- Safety
- Freight
- MnDOT Tier 1 MnPASS
- ~ Pavement
- Principal Arterials

**Figure 11-2: Highway Current Revenue Scenario Projects and Historically Significant Places**



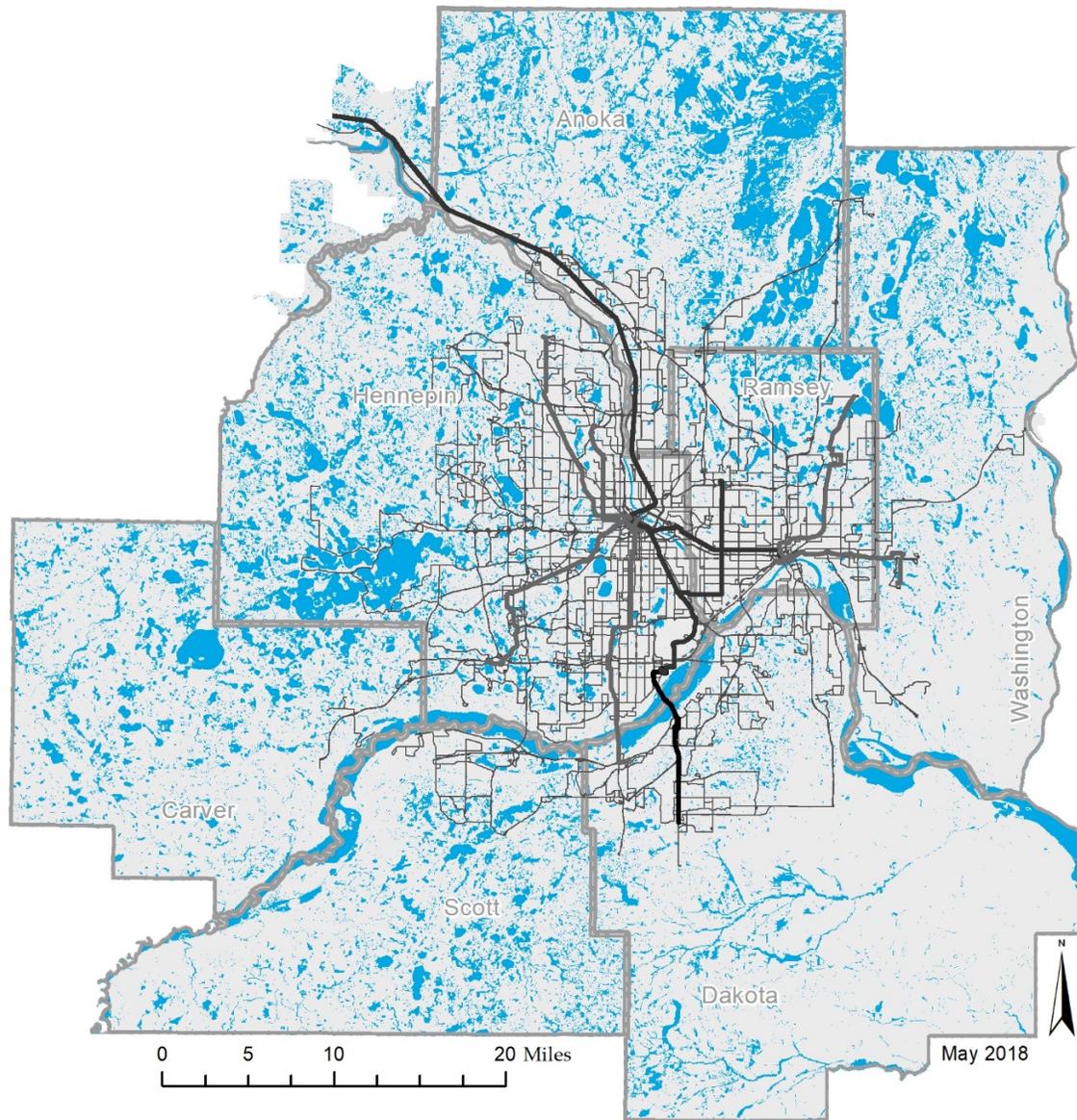
**Historic Locations (by TAZ)**

- 0
- 1 - 14
- 15 - 47
- 48 - 105
- 111 - 250
- 288 - 532

- Mobility Projects
- ▲ Preservation Projects
- Safety
- Freight
- ~ MnDOT Tier 1 MnPASS
- ~ Pavement
- ~ Principal Arterials

Data: Architecture History Inventory  
 State Historic Preservation Office, Minnesota Historical Society

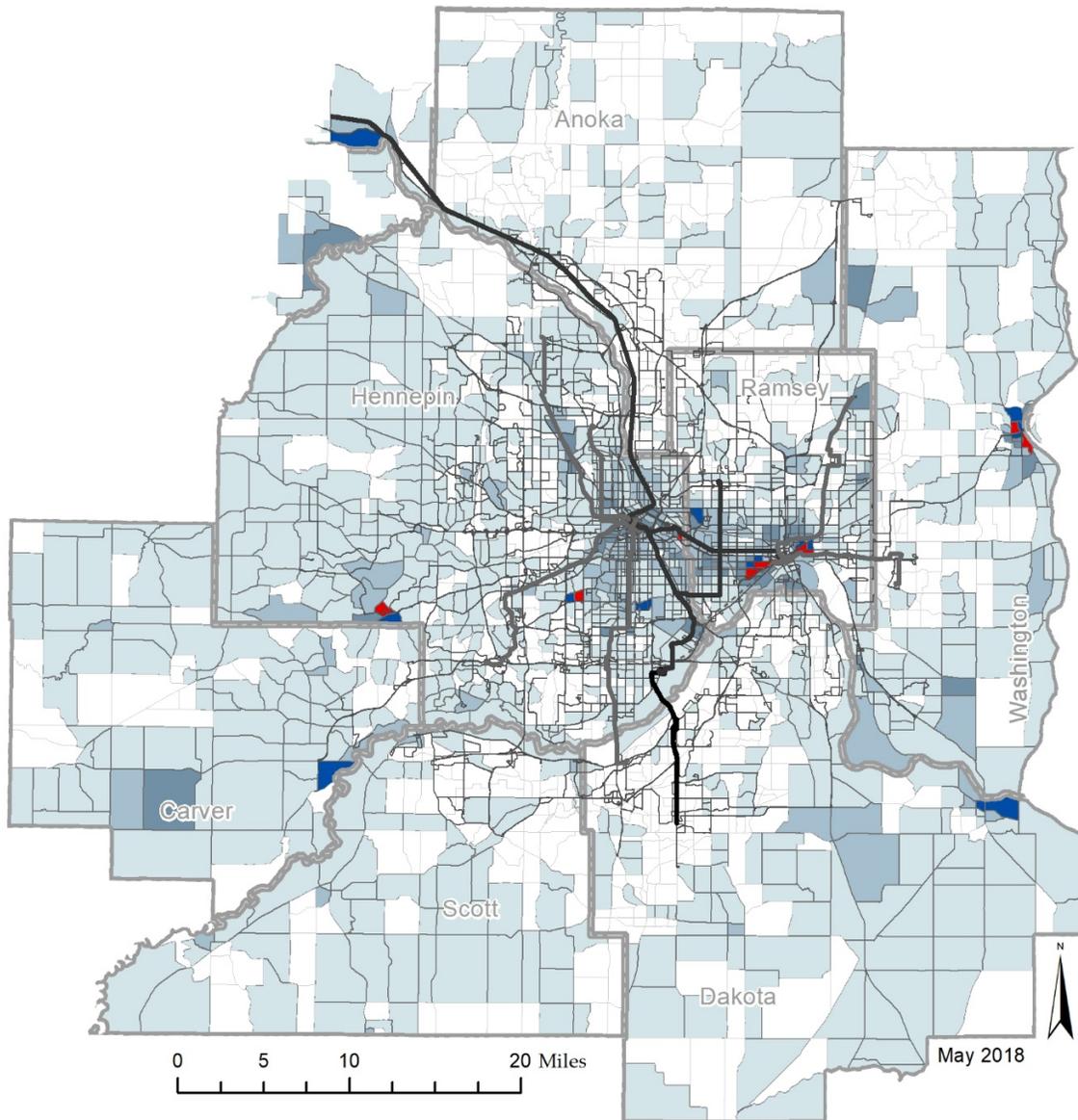
**Figure 11-3: Transit Current Revenue Scenario Projects and Wetlands Inventory**



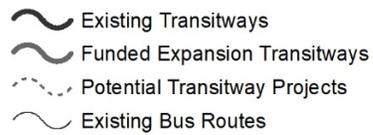
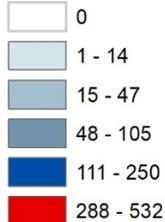
Wetlands / Water Features  
 Data: National Wetlands Inventory  
 Minnesota Dept. of Natural Resources

Existing Transitways  
 Funded Expansion Transitways  
 Potential Transitway Projects  
 Existing Bus Routes

**Figure 11-4: Transit Current Revenue Scenario Projects and Historically Significant Places**



**Historic Locations (by TAZ)**



Data: Architecture History Inventory  
 State Historic Preservation Office, Minnesota Historical Society