

## CHAPTER 14

# WORK PROGRAM

The Metropolitan Council will carry out or participate in many studies and plans over the next three years. This is not an exhaustive list of all work to be completed by the Metropolitan Council, but rather a list of projects that will contribute to the work of the Metropolitan Council and will likely require coordination among agencies. Several ongoing work items that are regularly conducted by the Metropolitan Council are not included here. The studies listed here will be used to gather additional information and perform further analysis to inform future revisions to this policy plan. The next scheduled update of the Transportation Policy Plan, as required by state and federal law, is due in 2023.

### Highway Related Studies

#### Congestion Management Process (CMP) Plan

The Congestion Management Process (CMP) is a cooperative, cohesive, data-driven, and regionally-agreed upon process to identify and mitigate congestion along the transportation network. To assist in strengthening the regional congestion management process, the Metropolitan Council has added an item to the work program specifically addressing CMP-related items.

The plan will be used to determine the extent of the CMP network, develop methodologies for analyzing and measuring congestion, establish a comprehensive data collection program for regional coordination and monitoring, and assess the effectiveness of previous CMP strategies in mitigating congestion within the region. The end result of this effort will be a report that is organized around the federal eight-action step process and will serve to guide the regionally coordinated Congestion Management Process.

As part of the CMP, the Metropolitan Council will assess the thresholds for determining if a roadway is congested, particularly on the arterial network. Different ways to measure, display, and communicate congestion to the public will also be further explored.

#### Freeway System Interchange Study

System-to-system interchanges serve as the connection of two freeways and are critical links in the region's highway system. Over the past 15 years, the congestion and crash problems at these locations have increased significantly. Major investments have recently been made at system interchanges, such as U.S. Highway 169/I-494, I-35W/Minnesota Highway 62 and I-35E/I-694. Other system interchanges are often cited for needing improvements including I-35W/I-494 (a northbound I-35W to westbound I-494 flyover ramp was recently programmed for construction), I-94/I-494/I-694 (ramp improvements programmed for construction) and I-35W/I-694, as examples. The level of problem and cost of solutions at these locations overshadow most other mobility and crash problem areas in the region.

The Increased Revenue Scenario of the 2040 Transportation Policy Plan lists system interchanges as a Strategic Capacity Expansion project type. However, the analysis of the individual interchange problems, identification of solutions, and funding have proceeded independently. As such, there is currently not any prioritization of these projects if more money would become available to the region. This work program item prioritizes these interchanges, so that the region can have the best information available on where to invest limited resources. Similar regional prioritization efforts have been completed for other investment types, such as MnPASS.

This task would be a joint effort between MnDOT and the Metropolitan Council.

## **Prioritize Bridge Replacement**

MnDOT has compiled a list of major bridges (over \$5 million) statewide that need repair or replacement by 2030 but are not planned to receive funding in MnDOT's 10-year Capital Highway Investment Plan (CHIP). Over 50% of the 60-plus statewide bridges that meet this threshold are in the Twin Cities Metropolitan Area.

The order in which these bridges are repaired or replaced, and level of investment received, will be determined in large part by each bridge's condition. While the bridge's condition and sufficiency ratings are important criteria to use in these decisions, there are other factors that should also be considered given the region's multiple needs and limited resources. If multiple objectives such as mobility, safety, bicycle, pedestrian, and transit can be met with bridge construction or reconstruction, the region can benefit. These other factors should also be considered when investment decisions are made.

This task would be a joint effort between MnDOT and the Metropolitan Council.

## **Highways Performance Measures and Funding Decisions**

As highway assets degrade, more and more of the transportation revenues are needed to preserve the existing system. This effort will look at existing pavement and bridge performance targets. It will also analyze the assumptions used in the pavement and bridge models to allocate resources to see if they adequately account for the high the amount of traffic and freight in the region. The study will also examine other performance measures, such as mobility, to see how they might play a role in MnDOT funding decisions.

This task would be a joint effort between MnDOT and the Metropolitan Council.

## **Connected and Autonomous Vehicles**

The advent of more connected vehicles, the rapid development of autonomous vehicles, and the evolution of new models of new transportation ownership/provision will have profound impacts on the region's transportation use, economics, and infrastructure. The Metropolitan Council is well positioned to convene regional stakeholders to formulate policy responses to technology change and to study impacts to all transportation modes and systems.

Collaboration among state, regional, local, and corporate stakeholders will be necessary to address the myriad of issues in how legislation, regulation, policy, and planning tools address issues across all

transportation modes resulting from connected and autonomous vehicle adoption. The Metropolitan Council, with MnDOT, will work together on developing regional collaboration among all transportation stakeholders on connected and autonomous vehicle technology, deployment, policy, and planning. The collaboration may take the form of a new committee, a set of workshops, and dedication of staff resources.

Metropolitan Council staff will continue to participate in national conversations regarding connected and autonomous vehicles and will become local experts on planning efforts, integrating work being done by USDOT, the Association of Metropolitan Planning Organizations, the Transportation Research Board, researchers, other peer regions and states into regional planning work.

The following list of Work Program items are related to the topic of connected and autonomous vehicles. The field of vehicle automation continues to evolve rapidly. It is expected that any specific work plan will become out-of-date rapidly, and these items will be revisited and potentially amended annually.

## **Connection to TPP Goals and Objectives, Issue Analysis**

A matrix will be continuously updated with links to relevant materials on connected and autonomous vehicle attributes, development and implementation status, and positive/negative benefits relative to Transportation Policy Plan goals and objectives and to Thrive MSP 2040 outcomes. A key objective of this matrix will be to give access to Metropolitan Council Members and other policymakers to structured information on multiple sides of emerging issues.

## **Scenario Development and Performance Measurement**

Connected and autonomous vehicle development will be integrated into a performance-based planning framework. Measures will be developed to track the trajectory for various potential scenarios that the region, or parts of it, may be experiencing. Scenarios may include adoption rate of autonomous and/or connected technology, public acceptance of a particular technology, and the degree to which public and private shared mobility technologies exist and affect travel behavior. How and at what rate connected and autonomous vehicles will exist in the market in the planning horizon is uncertain, and planners and policymakers need to begin to plan for the possibility of multiple futures.

## **Integration into Congestion Management Process**

Connected and autonomous vehicles scenarios will be integrated into potential Transportation System Management and Operations planning.

## **Emerging Truck Technologies**

A review will be conducted of new and emerging technologies related to freight transportation. Among other issues, this review will include a planning and implementation assessment of automation technology for the commercial trucking industry. This effort will document current and planned deployment of autonomous trucks, the implications for street/highway planning, and the potential impacts to the freight transportation workforce.

## Forecasting and Investment Assessment

Work will continue on quantifying the outcomes of multiple potential future scenarios on key transportation metrics. Transportation models will be developed and enhanced to respond to the types of change that experts anticipate under these scenarios. This work will ultimately provide a risk-assessment of Transportation Policy Plan investments in light of connected and autonomous vehicle adoption.

## Regional Transportation Research and Modeling

The Metropolitan Council has historically, in coordination with MnDOT and regional partners, conducted a battery of data collection to learn about where, how, when, how often, and why people in the region travel. The Travel Behavior Inventory (TBI) is used to provide policymakers and researchers current data about travel in the region and to develop updates to the region's travel demand forecasting models. During the last four years, the region has transitioned the TBI program from a decennial project to a continuing program of data collection and travel model improvement activities.

## Travel Behavior Inventory Program

The centerpiece of the TBI program will be a biennial household travel survey, beginning in 2018. A transit on-board survey will be conducted every five years, with the next occurring in 2021. Other data collection activities may be done as custom surveys or as third-party data purchases.

## Regional Travel Demand Model

Work will continue on implementing and enhancing the Activity Based Model that has been released over the past couple of years. Several projects to add analytical components to the model, in coordination with planning needs and to update the model in light of new survey data, will occur over the next five years.

## Transit Related Studies

### Comprehensive Transit Financial Report

Minnesota Statute requires the Metropolitan Council to work with regional transit providers and funders to prepare a comprehensive report on metropolitan area transit finance every two years, starting with the first report in 2018. The report will provide a catalog of all funding sources and expenditures related to transit in the metropolitan area. The report will include a section summarizing the status of "guideway" and "busway" projects (referred to as transitways in this plan) in the metropolitan area, including past and projected expenditures for each project and updates on project status. The report will also include an analysis of the performance of the transit network at the route and line level, an analysis that is largely already prepared every year. A new requirement for this analysis will require the development of performance standards for farebox recovery and the identification of routes not meeting those standards, which may impact Appendix G: Regional Transit Design Guidelines and Performance Standards.

## **Bus Service Allocation Study**

The plan stresses the importance of transit investments in making progress toward the transportation goals for the region. However, there are different roles for transit that require different types of service with conflicting priorities with limited resources. One role transit can play is serving a limited number of the highest demand corridors, where land use and development can support strong ridership. Another role transit can play is providing access to a large number of people and jobs across the region to provide an alternative to driving, regardless of the ridership potential. The transit system can be designed to address these two roles on opposing ends of a spectrum, maximizing efficiency or maximizing coverage. The Metropolitan Council will work with regional transit providers to conduct a study that will analyze how current transit service is allocated between service meant to maximize efficiency and service meant to increase transit coverage. The study will explore the trade-offs of the different approaches, identify a target balance of investment, and identify possible transit solutions to serve areas of the region that can't be effectively served with fixed-route service.

## **Employment Last Mile Transit Connection Study**

One of the major challenges facing the Twin Cities is improving accessibility to suburban employment opportunities; these areas are difficult to serve cost effectively with fixed route transit. The plan states that new advances in mobility technology should be used to complement the fixed-route transit network. Emerging transportation technology has created new forms of “shared mobility”, modes of transportation characterized by dynamic routing and the integration of improved user interaction with services. Examples of shared mobility modes include transportation network companies, bikeshare, and microtransit. The Metropolitan Council will work with regional transit providers, local governments, and regional employers to explore and analyze options for completing last mile gaps in the regional transit system that could connect riders to suburban employment opportunities. The study will evaluate potential market areas and service delivery models that could lead to the launch of a pilot project providing last-mile transit connections.

## **Local Bus Speed and Reliability Initiative**

The plan's strategies address the need to work collaboratively as a region to build transit advantages that provide fast and reliability transit as an alternative to single-occupant vehicles. Chapter 6, “Transit Investment Direction and Plan,” describes the extensive network of highway transitway advantages and transitways, but there is not a significant discussion of transit advantages or other strategies for providing faster, more reliable service on the local bus network. This initiative will assess the performance of routes and implement improvements to the local bus network (excluding corridors already examined, such as the arterial bus rapid transit corridors) to address reliability and speed issues. The results of this initiative, particularly the evaluation of implemented strategies on select local routes, will provide a better understanding of the impact of specific strategies that could be implemented on additional routes. This initiative may inform strategies in the Plan and Regional Transit Design Guidelines in Appendix G. The initiative will include collaborations with local municipalities and other stakeholders for implementation, since many options may involve changes to roadway design or

operations. As the region's transit network continues to grow, the Metropolitan Council can also use this information to help local governments plan for effective transit service in their community.

## **Setting Regional Transitway Priorities – Data Coordination**

During the development of this 2040 Transportation Policy Plan, data was collected on transitways to provide a table of basic facts about projects in the Plan (Current and Increased Revenue Scenarios). It was discovered that the methodology behind the data was not consistent across projects to allow for a reasonable comparison, particularly for estimated costs impacted by inflation. The Metropolitan Council intends to work with transitway project sponsors to develop consistent information for all projects to include in a future TPP update.

## **Downtown Transit Capacity and Transit Advantages Analysis**

One of the goals in Chapter 6, "Transit Investment Direction and Plan," is to improve access to destinations. Consequently, the strategies to do so include expanding the transitway and bus network that connects in downtown Minneapolis and downtown Saint Paul. There are 16 local bus routes that travel through downtown Minneapolis or Saint Paul and 16 local bus routes that terminate in either downtown along with the substantial number of peak period express bus routes. The Blue Line and Green Line will travel through downtown Minneapolis when the light rail extensions open. There are also several other transitways planned to serve downtown Minneapolis or downtown Saint Paul. The Marquette and 2nd Avenue express bus lanes provide a good example of adding transit advantages in downtown to address capacity, reliability, or travel time concerns. This analysis will consider strategies for maximizing transit capacity in downtown Minneapolis and potentially downtown Saint Paul, as well as strategies to increase reliability and speed of transit in or passing through the downtowns. The cities of Minneapolis and Saint Paul will be partners on this work and these efforts may be integrated into local planning efforts as opposed to a Metropolitan Council-led project.

## **Public Transit and Human Services Transportation Coordinated Action Plan Update**

This plan is required by federal transportation legislation. The current plan was adopted in 2013 and needs to be updated. This plan update will assess currently available services from public, private, and non-profit providers; assess current transportation needs for people with disabilities, older adults, and people with low incomes; and identify and prioritize strategies, activities, or projects to address identified gaps between current services and needs.

## **Arterial Bus Rapid Transit Corridor Study**

Successful implementation and operation of the A Line has created significant interest in identifying and selecting new arterial bus rapid transit corridors. In 2019, Metro Transit plans to conduct an evaluation of arterial BRT corridors beyond the five lines currently in development. The study will re-evaluate seven corridors previously studied and will identify and evaluate new corridors for potential arterial BRT service. In partnership with agencies and local communities, an evaluation framework will include technical performance and corridor readiness factors. Study results are anticipated to guide

prioritization and selection of the region's next arterial BRT lines. This study will advance in coordination with Metro Transit's Service Improvement Plan update. The Metropolitan Council will work closely with local communities, transit riders, and the public to conduct this corridor evaluation.

## **Bicycle and Pedestrian Related Studies**

### **Regional Bicycle Transportation Network (RBTN) Refinement and Concept Progression**

To further refine the physical RBTN and to advance the overall RBTN concept, several ongoing and new efforts will need to be undertaken. The following items and issues will be addressed in collaboration with local and state agency stakeholders:

- Identify specific bikeway alignments within the broad RBTN corridors
- Review RBTN corridors and alignments to develop regional expectations for bicycle facility treatments and future spacing criteria for new corridors that vary across regional sub-areas.
- Investigate a range of RBTN on-road facility treatments within the context of roadway functional classification. This effort will evaluate and compare potential synergies and conflicts between bicycling and vehicular traffic.
- Conduct a regional study to identify and evaluate a set of transportation corridors to determine opportunity corridor locations to implement protected or separated bikeways along RBTN corridors and alignments and local bicycle corridors. Protected bikeways can provide a high-quality facility for safe and high-capacity bicycle travel for a broader range of cyclist ages and abilities.
- Develop a more structured process for local agencies and the Council to update RBTN corridors or alignments at interim points between TPP updates and during the TPP update process.

### **Bicycle Parking: Review of Land Use and Urban Design Best Practices**

Many popular urban and neighborhood commercial districts have very limited bicycle parking facilities available to serve the growing numbers of people using bicycles for transportation to access jobs, school, parks, and entertainment centers. Met Council will conduct a review of cities in peer regions with respect to the application of zoning mechanisms, evaluation of bike parking demand, and urban design principles and best practices relating to the placement, orientation and design of bike parking stands, bike lockers, and large bicycle storage facilities to serve multiple businesses and employers. These reviews will offer suggestions for how each "best practice" could be applied in the Twin Cities region.

### **Pedestrian Crash Data Analysis**

The Twin Cities area has almost 55% of Minnesota's pedestrian fatalities from 2013-2015 compared to 26 percent of all traffic fatalities in the state. While walking trips are 6 percent of all trips made within the

region, almost 17% of all traffic fatalities are pedestrians. This analysis would look at pedestrian crash data for the Twin Cities region to identify common contributing factors for high-severity pedestrian crashes in the region and potential countermeasures. This analysis would also include looking at crashes in areas with higher percentages of people of color or people with low incomes; other studies done throughout the nation show disproportionate numbers of high-severity crashes in neighborhoods with environmental justice populations.

## **Bicycle and Pedestrian Count Program**

Metropolitan Council staff will procure automated counters for pedestrians and bicyclists to use with local partners to collect standard count data and develop a regional count program for use in regional pedestrian and bicycle planning. MnDOT's Bicycle and Pedestrian Counting Initiative started to institutionalize bicycle and pedestrian counts by providing annual training for local partners in how to conduct counts; the installation of permanent monitoring stations throughout the state, including the Twin Cities region; and a MnDOT district-based portable counting equipment loan program to support local partners in conducting bicycle and pedestrian counts. Metropolitan Council procurement of similar equipment would enable a focus on locations of interest to regional planning.

## **Review of Best Practices for Walkable Neighborhoods and Connections to Transit**

Metropolitan Council staff will review best practices for infrastructure treatments supporting walkable neighborhoods and enabling better pedestrian connections to transit in different types of communities. For the majority of transit trips, riders reach their stops by walking. Identifying best practices can help to address gaps in the pedestrian system and its connection to transit.

## **Freight Related Studies**

### **Regional Truck Data Collection Framework**

In collaboration with MnDOT, the Metropolitan Council will develop a framework for collecting truck classification data on regional truck freight corridors that responds to short-term and long-term data needs. Development of the framework will include:

- Coordination with MnDOT and County highway departments to review existing and planned data collection efforts for the Twin Cities metro area relevant to truck volumes and regional trip patterns on principal and minor arterials.
- Contacting staff from peer state DOTs and regional MPOs to determine the most promising truck data collection methods and technologies to employ in this region.

## Aviation Related Studies

### Regional Aviation System Plan

The 2009 aviation system technical report, (Regional Aviation System Plan) should be updated before the adoption of the next Transportation Policy Plan. The update will include an analysis of the system changes and improvements since 2009, system performance evaluation, and local and national system forecasts and trends. This study will also look at the impacts of the recent Long-Term Comprehensive Plans that will have been adopted by the Metropolitan Council for the regional aviation system. This study will also look at the impacts of the Unmanned Aerial Systems (UAS) on the regional system as well as the effects of the evolution of Light Sport Aircraft. This study could be financed in part through a planning grant from the Federal Aviation Administration.

## Performance Measures and Data-Related Studies

### Safety Planning and Priorities in the Region

Significant safety planning has been done in the region through MnDOT's Toward Zero Deaths initiative and development of an updated statewide Strategic Highway Safety Plan 2014-2019 that was finalized in 2014. MnDOT also partnered with each county in the state to develop County Road Safety Plans and has piloted plans for cities. To assist with the goal of improving safety for all users of the system in the region, the Metropolitan Council will review statewide and local safety plans, crash data, and other safety planning efforts to identify safety needs and priorities for all modes within the region, in coordination with other local partners.

### Congestion Mitigation and Air Quality Performance Plan

The federal law MAP-21 established requirements for a Congestion Management/Air Quality performance (CMAQ) plan, which applies to metropolitan planning organizations with a population of over one million in air-quality nonattainment or maintenance areas. The Metropolitan Council will work with MnDOT on this plan as well as their annual CMAQ report to the USDOT. Performance measures and target setting for emissions and traffic congestion reduction for the CMAQ program will be established through rulemaking, which is tentatively scheduled for late 2015. Results from rulemaking are expected to include the following:

- Completion and updates expected biennially
- Baseline levels for traffic congestion and on-road mobile source emissions
- A progress report on achievements in reaching performance targets described in 23 U.S.C. 150(d)
- A description of the projects identified for CMAQ funding and a projection of how these projects will contribute to achieving the emission and traffic congestion reduction targets pursuant to 23 U.S.C. 150(d)
- A separate report assessing the progress of the projects under the previous plan in achieving the air quality and congestion targets of the previous plan

- Submission of this plan with the CMAQ annual report for that year, which is submitted by MnDOT

## Equity

### Equity Analysis for Transportation

The Metropolitan Council's *Choice, Place and Opportunity: An Equity Assessment of the Twin Cities Region* (2014) analyzed the region and its investments to understand patterns of need and opportunities. To fully integrate equity into the transportation planning process, the Metropolitan Council will conduct additional analysis on transportation-related issues. Two potential areas for study are safety outcomes by race and income and spending on preservation and maintenance and condition of transportation facilities by race and income. Putting into operation the use of the equity lens throughout transportation planning decision making is another step in ensuring that transportation policies, practices, and procedures advance equity rather than create barriers to equity. The use of this lens should be done in combination with using disaggregated data when possible and leveraging existing assets to make any necessary changes to transportation policies, practices, and procedures.