

# Chapter 13

## Performance Outcomes

### Overview

As discussed in Chapter 1, this document incorporates a performance-based planning approach that includes a strategic vision and direction and a process to evaluate the effectiveness of the plan's implementation. This chapter provides detail on the process and outcomes of performance measures used to evaluate the plan.

The performance measures outlined in this chapter are organized by the six overarching goals of the Transportation Policy Plan, detailed in Chapter 1, which are:

- Transportation System Stewardship
- Safety and Security
- Access to Destinations
- Competitive Economy
- Healthy and Equitable Communities
- Leveraging Transportation Investments to Guide Land Use

These six goals are supported by 20 regional objectives listed in Chapter 1. Objectives are more specific and achievable in the short term than goals and give direction to how the goals may ultimately be achieved. Objectives are also used to inform the specific Strategies and Actions the Metropolitan Council and its partners will employ to achieve the Transportation Policy Plan Goals and Objectives. The strategies are listed in Chapter 2. Performance measures are intended to be clear, quantifiable metrics that convey whether the region is achieving its goals, and which goals are not being fully met, and therefore need additional emphasis and resources.

The performance measures included in this chapter can be broadly characterized as fitting into one of the following two categories:

- *Required federal performance measures that are tracked and must be reported upon on a regular basis.* The Metropolitan Council is required to set short-term performance targets for these performance measures. The results of these measures are primarily concerned with the overall trend and whether this trend is meeting the desired expectations. These performance measures are important in that if a measure is not trending towards achieving the target, federal funds may need to be re-directed to address the problem.
- *Regional performance measures that directly support the Transportation Policy Plan's goals and objectives.* These measures are tracked regularly to ensure they are consistent with the desired outcomes as defined by the goals and objectives. Additionally, many of

these performance measures are modeled for 2040 conditions and provide a tool to guide the actions the region could take to achieve the desired system vision. The establishment of specific, quantifiable targets for these measures is included as a future work program item for the Metropolitan Council.

The specifics of both the federally required performance measures and the regional performance measures are outlined in the following sections.

## Federally Required Performance Measures

Federal law (23 CFP 490.29) requires all state Departments of Transportation and Metropolitan Planning Organizations (MPOs) adopt a performance-based program to measure system performance and set performance targets that monitor progress toward achieving the plan’s goals. The federally required performance measures are divided into the following four categories:

- Safety Performance Measures (PM1)
- Pavement/Bridge Performance Measures (PM2)
- System Performance Measures and Congestion Mitigation and Air Quality (CMAQ) (PM3); and
- Transit Asset Management (TAM).

For each of the non-transit performance measures, the state (through the Minnesota Department of Transportation) has a required deadline to set a statewide target. After the state sets a performance target, the MPO has 180 days to either concur with the DOT’s statewide target or set a different target that is specific for its region. Targets for the safety performance measures [and transit asset management](#) are set annually, while all other targets are set on a four-year basis with the option to adjust after two years. ~~As of this plan, the Metropolitan Council has only adopted targets related to the PM1 (safety) performance measures. As additional targets are set, future updates to the Transportation Policy Plan will incorporate the targets and include an evaluation of the how the system has performed with respect to the adopted targets.~~ Table 13-1 details the regional, [federal safety](#) targets adopted by the Metropolitan Council. ~~for calendar year 2018.~~

The federally required performance measures have been woven into the TPP’s goals, objectives, and strategies framework and are incorporated into the performance measures included within this chapter. Each measure directly supports one or more of the goals and objectives of the plan, and the recent trends corresponding with the specific measure have been included in the tables of this chapter. The following table details the performance measures required for the four federal performance monitoring programs [and the applicable targets, and the timeline for state and MPO target adoption.](#)

Table 13-1 – Federal Performance Measures and Adopted Targets Setting Timeline

Final Rule		Measures	Adopted Targets
<b>PM1</b>	<b>Safety Performance Measure/HSIP</b>	Annual reporting and target setting for: <ol style="list-style-type: none"> <li>1. Number of fatalities</li> <li>2. Rate of fatalities (per 100 million VMT)</li> <li>3. Number of serious injuries</li> <li>4. Rate of serious injuries (per 100 million VMT)</li> <li>5. Number of non-motorized fatalities and serious injuries</li> </ol>	201 <del>98</del> Metro Area Targets: <ol style="list-style-type: none"> <li>1. Number of fatalities: <a href="#">89108</a></li> <li>2. Fatality rate: 0.3<del>41</del> per 100 million VMT</li> <li>3. Number of serious injuries: <a href="#">748642</a></li> <li>4. Serious injury rate: 2.3<del>75</del> per 100 million VMT</li> <li>5. Non-motorized fatalities/serious injuries: <a href="#">412190 total (27 fatalities; 163 serious injuries)</a></li> </ol>
<b>PM2</b>	<b>Pavement/ Bridge Performance Measures (PM2)</b>	2- and 4-year targets for:  Bridges: <ol style="list-style-type: none"> <li>1. % NHS bridges by deck area in good condition</li> <li>2. % NHS bridges by deck area in poor condition</li> </ol> Pavement: <ol style="list-style-type: none"> <li>1. % of interstate pavement in good condition</li> <li>2. % of interstate pavement in poor condition</li> <li>3. % of non-interstate NHS pavement in good condition</li> <li>4. % of non-interstate NHS pavement in poor condition</li> </ol>	Bridges: <ol style="list-style-type: none"> <li>1. 2020: &gt;50%; 2022 &gt;50%</li> <li>2. 2020: &lt;4%; 2022: &lt;4%</li> </ol> Pavement: <ol style="list-style-type: none"> <li>1. 2020: no target; 2022: &gt;55%</li> <li>2. 2020: no target; 2022 &lt;2%</li> <li>3. 2020: &gt;50%; 2022: &gt;50%</li> <li>4. 2020: &lt;4%; 2022: &lt;4%</li> </ol>

<p>PM3</p>	<p><b>System Performance Measures (Non-CMAQ)</b></p>	<p>1. % of reliable person-miles traveled on the interstate                  2. % of reliable person-miles traveled on non-interstate NHS                  3. Truck travel time reliability along the Interstate system  <del>4. Greenhouse Gas Emissions Measure (subject to repeal)</del></p> <p>2 and 4 year targets for interstate; 4-year targets for non-interstate</p>	<p><u>1. 2020: &gt;70%; 2022: &gt;70%</u>  <u>2. 2020: &gt;75%; 2022: &gt;75%</u>  <u>3. 2020: &lt;2.20; 2022: &lt;2.20</u></p> <p><del>No target adopted at the time of this writing.</del></p>
<p>PM3</p>	<p><b>CMAQ - only applicable to Metro Area</b></p>	<p><del>2- and 4- year targets while designated nonattainment/maintenance. Only 4-year if in attainment. (Attainment anticipated in November of 2019.) Staff is working with MnDOT to establish all targets.</del></p> <p>1. On-road Mobile Source Emissions measure. Sum of emissions reductions of pollutants, in kilograms per day, for all projects funded with CMAQ funds.</p> <p>2. Non-Single Occupancy Vehicle measure. Percent of regional travel by non-SOV modes.</p> <p>3. Peak Hour Excessive Delay. Measured by annual hours of delay per capita. Delay is travel at less than 20 MPH or 60% of posted speed.</p>	<p><u>1. 2020: &gt;6,800; 2022: &gt;6,800</u>  <u>2. 2020: &gt;25%; 2022: &gt;25%</u>  <u>3. 2020: no target; 2022: &lt;8.5</u>  <del>No target adopted at the time of this writing.</del></p>

TAM	Transit Asset Management	<p>Annual Reporting and Target Setting for:</p> <p>Rolling Stock (revenue vehicles): % exceeding useful life, by vehicle type</p> <p>Equipment (non-revenue): % exceeding useful life, by vehicle type</p> <p>Facility: % rated below a 3 on condition scale, by facility type</p> <p>Infrastructure: % of track with performance restrictions</p>	<p><u>Rolling Stock: % Exceeding Useful Life</u></p> <ol style="list-style-type: none"> <li><u>1. Articulated bus: 8%</u></li> <li><u>2. Bus: 2.4%</u></li> <li><u>3. Cutaway: 14%</u></li> <li><u>4. Light Rail Vehicle: 0%</u></li> </ol> <p><u>Equipment: % Exceeding Useful Life</u></p> <ol style="list-style-type: none"> <li><u>1. Automobiles: 42%</u></li> <li><u>2. Trucks/other rubber tire vehicles: 38%</u></li> </ol> <p><u>Facility: % Rated Below 3 on Condition Scale</u></p> <ol style="list-style-type: none"> <li><u>1. Passenger/parking facilities: 0%</u></li> <li><u>2. Administrative/maintenance facilities: 0%</u></li> </ol> <p><u>Infrastructure: % of Track with Performance Restrictions</u></p> <ol style="list-style-type: none"> <li><u>1. Light Rail: 1% No target adopted at the time of this writing.</u></li> </ol>
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Per federal requirements, the TPP should include an evaluation of how the system has performed, including the identification of performance trends and the implications. The following sections discuss the current metro area performance for each of the performance measure categories and, as applicable, how performance is trending.

### Safety Performance Measures

The region has implemented a number of strategies to improve safety for all users of all modes within the metro area. The strategies include a commitment to aggressively reduce the number of fatal and serious injury crashes annually, with an aspirational goal of achieving zero fatal and serious injury crashes sometime in the future.

Pursuant to federal requirements, the Council must adopt short-range annual highway safety performance targets that are both reasonable and achievable. The Council thus adopted 2019 targets that reflect an annual reduction from the base-year data for fatal and serious injury crashes, as shown in Table 13-1. While the methodology used to determine the targets is the same as that employed by MnDOT for the state as a whole, it is applied to the metro area in order to produce a target that is specific and meaningful for the region.

Between 2015 and 2016 there was a significant change in the way that serious injury crashes were reported. In 2015 and all years prior, only confirmed serious injuries were recorded and included in the serious injury crash total. This changed in 2016, where the definition of serious injury crashes was expanded to include both confirmed serious injuries and suspected serious injuries. As a result, the number of bike/ped serious injuries reported in the metro area increased by 63% between 2015 and 2017. Critically, the 2018 metro-area bike/ped targets were based upon the lower 2015 data, which only included confirmed serious injuries. The 2019 bike/ped targets reflected the new definition for serious injury crashes and included both confirmed and suspected serious injuries. As a result, the metro area's bike/ped target increased from 2018 to 2019. This is anticipated to be one-time adjustment, as moving forward the definition of serious injury crashes will continue to include both suspected and confirmed serious injuries.

The 2019 non-motorized targets reflect a 5% annualized reduction in fatalities from the 2017 base-year data and a 6% annualized reduction in serious injuries from the 2017 base-year data. In total, there were 214 non-motorized serious injuries and fatalities in the metro area in 2017, 30 of which were fatalities and 184 of which were serious injuries. This contrasts sharply with the 2015 base-year data in which the 2018 targets were set, when there was a total of 131 combined non-motorized serious injury crashes and fatalities in the metro area.

Overall, there are significantly fewer fatal and serious injury crashes per capita and a lower crash rate in the metro than in Greater Minnesota. The fatal crash rate in the metro area is approximately half of that of Greater Minnesota, while the serious injury rate is approximately 35% lower.

From 2018 to 2019, the total number of fatal crashes, serious injuries, and non-motorized fatalities and serious injuries increased within the metro area. Similarly, the rate of fatal and serious injury crashes, which accounts for vehicle miles travelled, also increased. The Council will continue to monitor and report upon these safety measures on an annual basis, which should assist in determining whether the increase was an outlier or part of a larger trend.

### **Pavement and Bridge Performance Measures**

The Council chose to concur with MnDOT and apply the statewide bridge and pavement targets in the metro area. The targets were adopted for the first time in 2018 and coordinated closely with MnDOT. Overall, performance for the bridge and pavement measures was similar in the metro area to Greater Minnesota as a whole.

Currently, the percent of NHS bridges whose deck area is in good condition is lower in the metro area than the adopted 2020 and 2022 targets. This is offset, however, by the state-wide condition, which is on track to meet the established targets. Bridge deck condition can fluctuate significantly from year to year, and one major bridge project has the potential to skew the overall performance. While this is likely the case within the metro area, the existing

performance will be closely monitored and may indicate a need to place a greater emphasis on bridge deck condition within the region over the coming years.

Regarding pavement, while Interstate pavement condition within the metro area is performing at a level greater than the targets, non-Interstate NHS pavement is not performing at the same level. This may indicate a need to focus more explicitly on non-Interstate NHS facilities in the future in an effort to ensure the region continues to be on track to meet the 2020 and 2022 targets.

### **System Performance Measures**

Due to the more urbanized nature of the metro area as opposed to the more rural character of Greater Minnesota, the Council adopted system performance measures for system reliability that are specific to the region. The existing metro area performance for the percent of reliable person-miles traveled on the interstate system is approximately 69%. MnDOT established a state-wide target of greater than 80%, which would likely be unattainable for the near-term future within the metro area. Instead, the Council has adopted a 2020 and 2022 target of greater than 70%. This target is appropriate in that it still aspires to be better than current conditions, but is more attainable than the statewide target of 80%.

In addition to the interstate reliable person-miles target, the Council has also elected to adopt targets that are different than MnDOT for the truck travel time reliability index measure. This is due to the fact that the reliability of truck travel is lower in the metro area than in Greater Minnesota as a whole. The adopted MnDOT target of less than 1.5 would be very difficult to attain given the traffic levels in the metro area as compared to Greater Minnesota.

All of the adopted reliability targets aim for improvement over the existing conditions, and as such may be considered aspirational given recent trends. There is, however, no consequence to the region for not meeting these targets, and the State of Minnesota as a whole is likely to meet the statewide adopted targets. The Council has chosen these targets as a mechanism to work towards improvement in both the near- and long- term future.

### **Congestion Mitigation and Air Quality (CMAQ) Performance Measures**

CMAQ measures are unique in that they only apply to areas which are not in full air quality attainment and the targets must be jointly agreed to by both the Council and MnDOT. As such, the Council worked closely with MnDOT staff to set the 2020 and 2022 CMAQ measures shown in Table 13-1.

On-road mobile source emissions reductions can vary considerably from year to year, as they reflect the result of projects programmed in the Transportation Improvement Plan. Given this, MnDOT and the Council set a target that is similar to the most current year's performance.

The percent of regional travel by non-single occupancy vehicles has been gradually increasing over the past several years, with more residents choosing to carpool, walk, bike, or take transit to and from work. A 2020 and 2022 target of greater than 25 percent will be difficult for the region to attain, but reflects the TPP’s vision of travel via multiple modes and decreased single-occupancy vehicle use.

Peak-hour excessive delay measures “excessive delay,” or delay in which vehicles are travelling at either less than 20 miles per hour or less than 60% of the posted speed limit. Excessive delay is a significant mobility concern within the metro area and affects the Access to Destinations goal of the TPP, among others. The most recent metro area performance showed that there was an average of 8.65 annual hours of excessive delay for each resident of the metro area. The adopted target was set to improve upon this number, with no more than 8.5 hours of peak hour excessive delay per capita in both 2020 and 2022.

### **Transit Asset Management Performance Measures**

Transit asset management (TAM), a best practice and a requirement under federal law, is a business model that prioritizes funding decisions based on the condition of transit assets. Transit providers are required to assess, track, and report on their assets to FTA, and develop annual targets for asset management to ensure a state of good repair. Transit providers also develop transit asset management plans that document implementation actions for asset management within their transit systems. TAM must be coordinated with the Council, which is the region’s MPO. The four FTA-required performance measures for transit asset management are:

- Rolling stock (buses and train used for serving customers): The percentage of revenue vehicles (by type) that exceed the useful life benchmark.
- Equipment (vehicles used in a support role): The percentage of non-revenue service vehicles (by type) that exceed the useful life benchmark.
- Facilities: The percentage of facilities (by group) that are rated less than 3.0 on the *Transit Economic Requirements Model (TERM) Scale*.
- Infrastructure: The percentage of rail track segments (by mode) that have performance restrictions. Track segments are measured to the nearest one-hundredth of a mile.

The region’s transit operators officially established 2018 performance targets on April 1 of 2018, which are shown in Table 13-1. These targets were consequently adopted by the Council in October of 2018.

The TPP outlines the goals, objectives, and strategies that are used to set transit investment priorities for the region. These factors, in turn, directly guide the investment plan and transit projects programmed and ultimately built. The TPP guides transit investments through the following objectives and strategies:

- Efficiently preserve and maintain the regional transit system in a state of good repair;



- Manage the regional transit network and respond to demand as deemed appropriate based on the Transit Market Area;
- Provide transit police services and coordinate with other public safety agencies to ensure the safety and security of the transit system;
- Promote alternatives to single occupant vehicles and ensure transit services reach major job and commercial activity centers;
- Expand and modernize transit service, facilities, systems, and technology to meet demand, improve customer experience, and increase transit access to destinations.