



MEMORANDUM

To: CMAP Transportation Committee
From: CMAP Staff
Date: November 17, 2017
Re: ON TO 2050 Transportation Indicator Refinement

Following an approach established in GO TO 2040, ON TO 2050 will include various topic-specific indicators, which are a set of performance measures to benchmark the region’s progress on plan implementation. The final set of indicators should highlight and complement all of the major recommendations made in ON TO 2050. All indicators will have targets for both 2025 and 2050 to evaluate near- and long-term progress.

In identifying the set of indicators for ON TO 2050, staff first began by reviewing the existing GO TO 2040 indicators, as revised via the Plan Update process in 2014. Informed by several ON TO 2050 Strategy Papers and Snapshot Reports, staff considered whether the current set adequately addresses the core ON TO 2050 topics from both a technical (e.g. available data sources, methodologies) and policy (e.g. regulations, plan priority, accessibility, and level of effort) standpoint. Finally, staff outlines recommendations for revisions or entirely new indicators in order to successfully benchmark the region’s progress on implementing the plan.

Current GO TO 2040 Transportation Indicators

As updated in 2014, GO TO 2040 currently includes eight transportation-related indicators. The table below lists these indicators, noting how they differ from the original GO TO 2040 indicators approved in 2010. It also includes three “kindred” indicators that do not have identified targets, which are indicated in italics in the table below.

Table with 5 columns: GO TO 2040 Indicator, Description, Targets (2020/2040), Notes, including any changes between 2010-2014. Row 1: 1, Percent of National Highway System (NHS) with acceptable ride quality, Measured by International Roughness Index (IRI) scores for entire “enhanced” NHS, 77 percent/ 90 percent, Original GO TO 2040 indicator included principal arterials only

	GO TO 2040 Indicator	Description	Targets (2020/2040)	Notes, including any changes between 2010-2014
1.5	<i>Condition Rating Survey (CRS)</i>	<i>CRS is a measure of overall pavement quality, rather than IRI which focuses on ride quality</i>	N/A	<i>CRS data, available from IDOT only by special request in 2010, is now widely distributed.</i>
2	Percentage of bridges in structurally deficient condition	Percent of bridges rated “structurally deficient” in the FHWA National Bridge Inventory	7.25 percent/ 4 percent	Original GO TO 2040 indicator measured “not deficient” bridges, which includes both structurally deficient and functionally obsolete. “Functionally obsolete” was a misnomer for many situations.
3	Percentage of transit assets in state of good repair (SOGR)	RTA measurements of SOGR for guideway elements, facilities, systems, stations, and vehicles	None defined in GO TO 2040	GO TO 2040 commits to ongoing collaboration with RTA and service boards to monitor asset condition.
4	Average congested hours of weekday travel for limited access highways	Duration of speeds below 45 mph based on roadway sensor data	12 hours/ 10 hours	GO TO 2040 indicator originally measured delay based on outputs from the travel demand model. CMAP is now using vehicle probes to calculate congested hours.
4.5	<i>Planning Time Index (PTI) for limited access highways</i>	<i>PTI is a measure of reliability, calculated as the ratio of travel time needed to ensure a 95 percent arrival to free-flow time</i>	N/A	<i>PTI data come from the same roadway sensors as congestion data. CMAP is now using vehicle probes to calculate the Planning Time Index.</i>
5	Average weekday unlinked transit trips	Data collected from the National Transit Database	2.6 million/ 4 million	Unchanged from original GO TO 2040 indicator
5.5	<i>Average weekday unlinked passenger trips per capita</i>	<i>Data collected from the National Transit Database and US Census</i>	N/A	<i>Transit ridership per capita can be used to illustrate whether transit mode share is increasing.</i>
6	Population and jobs with at least moderate access to transit	Based on CMAP’s Access to Transit Index, which considers frequency of service, proximity to stations, destinations reachable, and pedestrian environment	73 percent/ 78 percent	GO TO 2040 indicator originally used a simpler, proximity-based approach to measure accessibility to transit.
7	CREATE program completion	Number of completed projects	30 projects/ 71 projects*	The CREATE program now includes just 70 projects, not 71.

	GO TO 2040 Indicator	Description	Targets (2020/2040)	Notes, including any changes between 2010-2014
8	At-grade highway-rail delay	Aggregate hours of weekday delay experienced on average of grade crossings	7,500 hours/ 5,500 hours	Unchanged from original GO TO 2040 indicator

Discussion of Current GO TO 2040 Indicators

Since GO TO 2040 was updated in 2014, several developments have taken place that significantly affect the existing set of transportation indicators. Principally, the federal government now requires state DOTs and MPOs to complete a formal performance monitoring and target-setting process, as enacted by MAP-21 and affirmed in the FAST Act. U.S. DOT finalized the rulemakings in 2016 to establish performance measures, methodological processes, and reporting timelines. The new federally-required performance measures cover the topics of safety, asset condition, congestion, and reliability for the highway system, as well as asset condition for the transit system. As such, they overlap substantially with the current GO TO 2040 indicators for NHS ride quality, bridge condition, transit asset condition, highway congestion, and highway reliability. Detailed descriptions of the MAP-21 performance measures are provided in Appendix 2.

New, more detailed datasets have also become available to better measure the performance of the highway system, and to some extent the region’s freight rail network. Staff have made use of the new probe-based National Performance Management Research Dataset (NPMRDS) to better understand observed speeds – and thus congestion and travel time reliability – on the NHS, for both trucks and passenger vehicles. Staff has used a probe-based dataset for large trucks, provided by the American Transportation Research Institute, to understand truck speeds, origins, destinations, and time of travel throughout the region. New rail industry data has become available through direct reporting from the Association of American Railroads and the federal Surface Transportation Board, providing various metrics of rail volumes and delays throughout the Chicago region each week.

Finally, the policy context has evolved in recent years. On the highway side, there is a growing focus on the importance of operational strategies to reduce congestion, and the need to safely accommodate bicycle and pedestrian users. There is growing interest in understanding the performance of the region’s freight system across modes, including impacts on neighboring communities.

Given the considerations described above, and circumstances unique to each indicator, the following table lists the recommended changes to the current GO TO 2040 indicators.

GO TO 2040 Indicator	Recommendation	Rationale
Percent of NHS with acceptable ride quality	Modify	Superseded by MAP-21 performance measures under the “pavement and bridge condition” rulemaking.
<i>Condition Rating Survey</i>	Eliminate	Superseded by MAP-21 performance measures under the “pavement and bridge condition” rulemaking.

GO TO 2040 Indicator	Recommendation	Rationale
Percentage of bridges in structurally deficient condition	Modify	Superseded by MAP-21 performance measures under the “pavement and bridge condition” rulemaking.
Percentage of transit assets in state of good repair	Modify	Superseded by MAP-21 performance measures under the “transit asset condition” rulemaking.
Average congested hours of weekday travel for limited access highways	Modify	High stakeholder interest. Improve the methodology for this indicator.
<i>Planning Time Index for limited access highways</i>	Modify	Superseded by MAP-21 performance measures under the “system performance measures” rulemaking.
Average weekday unlinked transit trips	Modify	High stakeholder interest. May need to broaden to “annual” instead of “weekday” trips to better capture non-work trips and weekend travel.
<i>Average weekday unlinked passenger trips per capita</i>	Modify	High stakeholder interest. May also need to broaden to “annual” instead of “weekday” trips to better capture non-work trips and weekend travel.
Population and jobs with at least moderate access to transit	Modify	High stakeholder interest and close correspondence to core CMAP issue areas. Change focus from “moderate” to “moderately high” transit availability.
CREATE program completion	Eliminate	Some key CREATE program corridors are nearing completion; remaining projects are largely highway-rail grade separations, impacts of which are measured separately. CMAP continues to support the entire CREATE program.
At-grade highway-rail delay	Keep	High stakeholder interest in this measure, which highlights the interactions between freight and communities.

Recommended ON TO 2050 Indicators

Staff proposes to both continue CMAP’s longstanding efforts to monitor the transportation system and balance the need for a manageable number of indicators with the need to measure diverse aspects of the transportation system. The following list indicates the 13 proposed ON TO 2050 transportation indicators (up from 11 in GO TO 2040).

1. Number of fatalities (five-year rolling average)
2. Transit asset state of good repair
 - a) Percent of fixed-route buses that have met or exceeded their useful life
 - b) Percent of rail vehicles that have met or exceeded their useful life
 - c) Percent of directional route miles with track performance restrictions
3. Number of highway traffic signals with transit priority and/or queue jumping
4. Miles of roadway with transit preference
5. Total annual unlinked transit trips
6. Population and jobs with at least moderately high transit availability

7. Condition of pavement on NHS (percent in Poor condition), Interstate and non-Interstate
8. Condition of bridges on NHS (percent in Poor condition)
9. Travel time reliability of Interstate system (percent of person-miles traveled that are reliable)
10. Average congested hours of weekday travel for limited access highways
11. Motorist delay at highway-rail grade crossings
12. Carload time through region (freight rail transit time, measured in hours)
13. Percent non-single occupancy vehicle (non-SOV) travel

Appendix 1 contains more detail about the proposed indicators, such as their relation to GO TO 2040 indicators, relevant datasets, and links to relevant ON TO 2050 strategy papers and snapshot reports. For new (non-GO TO 2040) indicators, additional narrative is provided to explain the importance of the topics they measure.

Staff proposes to look to the new federally-required performance measures, including their required methodologies, as ON TO 2050 indicators wherever possible, rather than maintain GO TO 2040 indicators. Doing so will reduce the burden on CMAP staff, as well as reduce the potential for confusion with stakeholders. However, not all of the federal performance measures will be used as ON TO 2050 indicators; indicators were chosen specifically to track implementation progress of ON TO 2050's major recommendations, and not all of the performance measures are suitable in this regard. The federal rulemaking considers neither the interactions between transit and land use nor alternative modes of transportation, nor rail freight. Indicators for those topics were developed based on past CMAP experience and emerging data sources.

Next Steps

Following committee review and discussion of the above list of proposed indicators, staff will adjust the list as needed to incorporate feedback – by modifying or eliminating indicators, or by adding new ones if necessary. Once the list of ON TO 2050 indicators has been finalized, staff will begin setting near-term (2025) and long-term (2050) targets for each one. These targets will go through a subsequent round of committee review before being compiled into a final list of indicators and targets covering the full range of topics in ON TO 2050. These targets will be in addition to any federal performance measure targets already required by federal regulation.

Appendix 1. Detailed Information about Proposed Regional Transportation Indicators

1. Number of fatalities (five-year rolling average)

- Indicator status: New (MAP-21 performance measure)
 - Ensuring the safety of transportation system users, motorized and non-motorized, is a top priority for transportation agencies in the region. After declining sharply in the late 2000s, traffic-related serious injuries and fatalities have begun to rise again. In addition to causing personal tragedy, serious crashes have other impacts on the region's transportation system. A road can be shut down for hours when a fatal or serious injury crash occurs, potentially resulting in additional crashes and significant congestion. As a result, it is important for ON TO 2050 to track data related to the safety of the transportation network.
- Data source: Fatality data are reported in the National Highway Transportation Safety Administration (NHTSA)'s [Fatality Analysis Reporting System \(FARS\)](#) or the FARS Annual Reporting File, consistent with federal regulations.
- Comments: FARS data has been available more quickly than the IDOT crash data, though the IDOT data allows a broader measure of overall highway safety, to include serious injuries. This indicator selects the total number of fatalities, since we seek to continuously reduce the number of fatalities regardless of the change in vehicle miles traveled. CMAP will continue to monitor and evaluate broader safety data, including modal analysis.
- Relevant ON TO 2050 products:
 - [Traffic Safety](#) strategy paper
 - [Travel Trends](#) snapshot report

2. Transit asset state of good repair: (a) percent of fixed-route buses that have met or exceeded their useful life; (b) percent of rail vehicles that have met or exceeded their useful life; (c) percent of directional route-miles with track performance restrictions.

- Indicator status: Revised from GO TO 2040 (MAP-21 performance measures, replacing “percentage of transit assets in state of good repair”)
- Data source: Service Boards will report data to the [National Transit Database](#).
- Comments: Although MAP-21 does not require MPOs to report directly to FTA on transit SOGR, the Service Boards will be required to do so, and CMAP must show baseline conditions and targets in the long-range plan (CMAP was already [required to establish performance](#) targets earlier this year). The federal rulemaking specifies different performance measures for each transit system component. The ON TO 2050 indicator will largely adopt the MAP-21 performance measures for transit asset state of good repair. However, the following asset classes are proposed not to be included: paratransit and community transit vehicles; vanpool vehicles; bus garages, “other facilities,” rail shops, substations, admin/maintenance, parking, non-revenue vehicles, equipment, and rail stations.
- Relevant ON TO 2050 products:

- [Transit Modernization](#) strategy paper
- [Asset Management](#) strategy paper

3. Number of highway traffic signals with transit priority and/or queue jumping

- Indicator status: New
 - Some of the factors affecting the speed, frequency, and reliability of transit ridership lie outside the control of the transit agencies themselves. Closer partnerships between transit and highway agencies hold promise to create integrated, multimodal corridors. These approaches support transit ridership at relatively modest cost. As a result, it is important for ON TO 2050 to track the implementation of highway projects that give priority to transit service.
- Data source: Inventory data is available from CMAP (through the traffic signal inventory under development)
- Comments: This indicator is the first of two proposed measures of advanced bus infrastructure.
- Relevant ON TO 2050 products:
 - [Transit Modernization](#) strategy paper
 - [Highway Operations](#) strategy paper

4. Miles of roadway with transit preference

- Indicator status: New
 - The indicator status discussion for proposed indicator (3), above, apply to this indicator too.
- Data source: RTA and the Service Boards.
- Comments: “Transit preference” includes dedicated bus rights-of-way and expressway managed lanes with bus service. This indicator is the second of two proposed measures of advanced bus infrastructure.
- Relevant ON TO 2050 products:
 - [Transit Modernization](#) strategy paper
 - [Highway Operations](#) strategy paper

5. Total annual unlinked transit trips

- Indicator status: Revised from GO TO 2040 (replacing “average weekday unlinked transit trips”)
- Data source: National Transit Database
- Comments: Transit ridership is a key performance metric. There are several ways to measure ridership, but the NTD only reports “unlinked trips.” Total ridership is often cited by stakeholders. Including Saturday and Sunday trips, as proposed, presents a broader understanding of overall ridership than weekday trips only, as reported in GO TO 2040. GO TO 2040 uses a straight-line projection to arrive at the target for 2020.
- Relevant ON TO 2050 products:
 - [Transit Modernization](#) strategy paper
 - [Travel Trends](#) snapshot report

6. Population and jobs with at least moderately high transit availability

- Indicator status: Revised from GO TO 2040 (replacing “population and jobs with at least moderate access to transit”)
- Data source: GIS analysis of CMAP’s [Transit Availability Index](#), which incorporates frequency of service, activities that can be reached via a single direct route, proximity to transit stops, and pedestrian friendliness
- Comments: “At least moderately high” access is defined as a score of 4 or 5 (out of 5) in the Transit Availability Index. The GO TO 2040 indicator also included “moderate” access (score of 3 out of 5). Population and jobs are tracked separately and will have distinct targets, as in GO TO 2040. This measure ties transportation services to land use goals, which is a key tenet of CMAP’s work.
- Relevant ON TO 2050 products:
 - [Transit Modernization](#) strategy paper
 - [Travel Trends](#) snapshot report
 - [Reinvestment and Infill](#) strategy paper
 - [Infill and Transit Oriented Development](#) snapshot report

7. Condition of pavement on the NHS (percent in Poor condition), Interstate and non-Interstate.

- Indicator status: Revised from GO TO 2040 (MAP-21 performance measure, replacing “percent of NHS with acceptable ride quality”)
- Data source: FHWA requires the use of the [Highway Performance Monitoring System](#) (HPMS) for the calculation of this measurement.
- Comments: This indicator will reflect the “overall” measure of pavement condition, reflecting pavement roughness, cracking, rutting, and faulting. The federal rulemaking requires separate measurements and targets for Interstates and non-Interstate NHS. The federal rulemaking also requires separate measurement of the percentage of pavements in Good condition and the percentage in Poor condition. For the ON TO 2050 indicators, only the percentage in Poor condition is recommended; this approach is consistent with CMAP’s use of the Highway Economic Requirements System State Version (HERS-ST) model. IDOT does not collect the pavement information in a way that is fully compliant with the new federal regulations. However, CMAP is working with IDOT to identify needed improvements.
- Relevant ON TO 2050 products:
 - [Asset Management](#) strategy paper

8. Condition of bridges on the NHS (percent in Poor condition)

- Indicator status: Revised from GO TO 2040 (MAP-21 performance measure, replacing “percentage of bridges in structurally deficient condition”)
- Data source: FHWA requires the use of the [National Bridge Inventory](#) (NBI) for the calculation of this measurement.
- Comments: The measure reflects the lowest rating among ratings of each bridge’s deck, superstructure, and substructure, as well as culvert ratings. The federal rulemaking requires separate measurement of the percentage of NHS bridge deck area in Good condition and the percentage in Poor condition. For the ON

TO 2050 indicators, only the percentage in Poor condition is recommended; this approach is consistent with CMAP's internal use of a bridge model.

- Relevant ON TO 2050 products:
 - [Asset Management](#) strategy paper

9. Travel time reliability of the Interstate System (percent of person-miles traveled that are reliable)

- Indicator status: Revised from GO TO 2040 (MAP-21 performance measure, replacing "planning time index for limited access highways")
- Data source: [NPMRDS](#), or equivalent, measured every 5 minutes. Reliability is measured by the Level of Travel Time Reliability, which is the ratio of the 80th percentile travel time to the 50th percentile travel time. The CMAP travel demand model will be needed to estimate person-miles of travel for autos (from auto occupancy data). Boardings and alightings from the transit agencies would be used for transit occupancy.
- Comments: The federal rulemaking requires separate measurements and targets for Interstates and non-Interstate NHS. This memo proposes using the Interstate targets for the ON TO 2050 indicator, for easier communication to stakeholders.
- Relevant ON TO 2050 products:
 - [Highway Operations](#) strategy paper
 - [Travel Trends](#) snapshot report

10. Average congested hours of weekday travel for limited access highways

- Indicator status: Revised from GO TO 2040 (improved methodology for calculating congested hours)
- Data source: [NPMRDS](#), or equivalent. Congested hours are the number of hours each weekday that travelers could travel at least 10 percent faster in free-flow conditions.
- Comments: "Congested hours" is a measure used in the [CMAP Quarterly Congestion Report](#). Indeed, CMAP has used "congested hours" as a performance measure for many years. However, the previous "congested hours" indicator methodology was based on speeds below a 45 mph threshold, a method that did not work well region-wide. While FHWA has developed a new congestion measure of peak hour excessive delay (PHED) as part of the new suite of federal transportation performance measures, the PHED measure is not intuitive. In addition, staff has identified substantial problems with the data sources, so the first few years of measurement will be measuring changes in data quality rather than ground conditions; CMAP may review adopting PHED as an indicator in an ON TO 2050 plan update after improvements and more experience with the measure.
- Relevant ON TO 2050 products:
 - [Highway Operations](#) strategy paper
 - [Travel Trends](#) snapshot report

11. Motorist delay at highway-rail grade crossings

- Indicator status: Unchanged from GO TO 2040

- Data source: Illinois Commerce Commission (ICC). The 2011 data is available on CMAP [Data Hub](#)
- Comments: The ICC's average motorist delay reports are produced episodically. Uncertainty existed regarding some of the data used in this calculation in the past. However, the Federal Railroad Administration recently moved from voluntary to mandatory data collection for grade crossings. Data quality improved, beginning in 2016. Discussions are underway regarding updates of this data.
- Relevant ON TO 2050 products:
 - [Freight System](#) snapshot report
 - [Highway Operations](#) strategy paper

12. Carload time through region (freight rail transit time, measured in total hours)

- Indicator status: New
 - An unmatched combination of freight transportation modes and infrastructure has contributed to the region's position as a hub for both domestic and international freight. A quarter of all freight in the nation originates, terminates, or passes through metropolitan Chicago. The region's concentration in freight provides substantial direct employment, with our freight cluster accounting for 200,000 jobs and over \$13 billion in personal income for the residents of northeastern Illinois. As a result, it is important for ON TO 2050 to track indicators of the health of the regional freight rail network.
- Data source: Chicago Transportation Coordination Office (CTCO) through the Association of American Railroads (AAR), now reported on Surface Transportation Board (STB) website. Staff has [tracked](#) the weekly data reports from May 2016 to the present.
- Comments: This measure is one of the best barometers of systemwide freight rail performance in the region. It also points to the importance of completing the CREATE program, which has been dropped as a separate indicator.
- Relevant ON TO 2050 products:
 - [Freight System](#) snapshot report

13. Percent non-SOV travel

- Indicator status: New (MAP-21 performance measure)
 - Given the importance of reducing congestion, improving environmental outcomes, and providing a range of mobility options accessible to all residents of the region, it is important for ON TO 2050 to track the share of travel captured by non-single occupancy vehicles.
- Data source: Travel survey data
- Comments: Travel survey data is not updated frequently, but could be revised over time based on the latest observed data.
- Relevant ON TO 2050 products:
 - [Travel Trends](#) snapshot report
 - [Highway Operations](#) strategy paper

- [Transit Modernization](#) strategy paper

Appendix 2: MAP-21 performance measures

Highway safety (effective date April 14, 2016)¹

- Measures: (1) number of fatalities; (2) number of serious injuries; (3) rate of fatalities per 100 million VMT; (4) rate of serious injuries per 100 million VMT; and, (5) number of non-motorized serious injuries -- all based on a 5-year rolling average.
- Reporting: Annual targets. DOTs set targets in August 2017, MPOs in February 2018. MPOs report targets to the state DOT, and the state DOTs report their targets as part of their annual Highway Safety Improvement Program (HSIP) report.
- Geography: MPO targets are for “public roadways within the metropolitan planning boundary,” state DOT targets are for public roadways throughout the state, but the state DOT can voluntarily establish additional targets for “any number and combination of urbanized area boundaries”.
- Significant progress: Agency has met or made significant progress toward meeting its targets when at least four of the five performance targets are met or the measure has improved from its baseline. In addition to being required to submit documentation on how the state will achieve the targets if significant progress is not made, the state must use more of its HSIP funds for safety projects if it is not already doing so.

Transit asset condition (effective date October 1, 2016)²

- Measures: (1) rolling stock -- percent of vehicles by category that have met or exceeded their useful lives; (2) non-revenue service vehicles such as maintenance equipment -- percent of vehicles by category that have met or exceeded their useful lives; (3) infrastructure -- percentage of track segments, signals, and systems with performance restrictions, such as slow zones; and, (4) facilities -- percent of facilities within an asset class rated “marginal” or “poor” on FTA’s Transit Economic Requirements Model.
- Reporting: Annual targets. Transit agencies set first targets by January 1, 2017, and MPOs by the end of June 2017. Transit agencies must report targets and asset condition data to the National Transit Database, although not immediately. There are no reporting requirements for MPOs.
- Significant progress: Not assessed. Target allows for declining conditions.

Pavement and bridge condition (effective date May 20, 2017)³

- Measures: (1) condition of pavement on the Interstate system; (2) condition of pavement on the non-Interstate National Highway System (NHS); and, (3) the condition of bridges on the NHS.
- Reporting: State DOT targets are for a performance period of 4 years, with a 2-year midpoint target as well. State DOTs will establish their first targets by March 21, 2018, submit the first baseline performance report by October 1, 2018, and submit the first mid-performance period progress report by October 1, 2020. MPOs must set their targets

¹ Posted at <https://www.federalregister.gov/documents/2016/03/15/2016-05202/national-performance-management-measures-highway-safety-improvement-program>.

² Posted at <https://www.gpo.gov/fdsys/pkg/FR-2016-07-26/pdf/2016-16883.pdf>.

³ Posted at <https://www.federalregister.gov/documents/2017/01/18/2017-00550/national-performance-management-measures-assessing-pavement-condition-for-the-national-highway>.

180 days later (no later than September 17, 2018), but are only required to set 4-year targets. Further, MPOs must communicate their targets to the respective state DOTs but are not required to provide separate reporting to FHWA. MPOs must report baseline conditions and progress made toward achieving targets as part of their metropolitan transportation plans.

- Geography: State DOT targets are for NHS segments throughout the state, but the state DOT can voluntarily establish additional targets for “any number and combination of urbanized area boundaries.” MPOs may choose to affirm a state DOT’s statewide targets and agree to plan and program toward meeting them, or instead set a unique target for their metropolitan planning areas.
- Significant progress: Agency has either met its target, or the measure has improved from its baseline. No penalty for failure to meet targets, although state DOTs would be required to describe to FHWA the actions they will take to achieve better performance outcomes. However, if more than 10 percent of the bridge deck area on the NHS is structurally deficient, then certain funds must be obligated and set aside from the National Highway Performance Program (NHPP) for NHS bridge projects, regardless of targets established by the state DOT. Similarly, if more than 5 percent of the Interstate system pavements are in poor condition, then additional NHPP funding must be obligated to improve Interstate pavement and a portion of the state’s Surface Transportation Program funding transferred to NHPP.

System performance measures (effective date May 20, 2017)⁴

- Measures: (1) performance of the Interstate system (travel time reliability); (2) performance of the non-Interstate NHS (travel time reliability); (3) percent change in CO₂ emissions on the NHS compared to 2017 levels; (4) freight movement on the Interstate system (truck travel time reliability); (5) annual excessive peak hour delay per capita on the NHS; (6) percent non-SOV travel; and, (7) total on-road mobile source emissions reduction (2- and 4-year cumulative emissions reduction from CMAQ projects).
- Reporting: State DOT targets are for a performance period of 4 years, with a 2-year midpoint target as well. State DOTs will establish their first statewide targets by February 20, 2018, and MPOs must set their targets within 180 days of the state doing so (no later than August 19, 2018). State DOTs submit their first baseline performance report by October 1, 2018, and submit their first mid-performance period progress report by October 1, 2020. The rule does not specify the format of the initial target, but MPOs will report baseline conditions and progress toward achieving performance targets in a system performance report as part of their metropolitan transportation plans. In addition, MPOs must complete a CMAQ performance plan including 2- and 4-year targets for the annual excessive peak hour delay per capita measure, percent of non-SOV travel, and total emission reductions. MPOs must submit their CMAQ performance plans to the respective state DOT to be incorporated as an attachment as part of the statewide reporting process.

⁴ Posted at <https://www.federalregister.gov/documents/2017/01/18/2017-00681/national-performance-management-measures-assessing-performance-of-the-national-highway-system>.

- Geography: The travel time reliability, truck travel time reliability, and percent change in CO₂ measures are all applied to mainline miles of NHS within a state or each metropolitan planning area. The state DOT may voluntarily establish additional targets for “any number and combination of urbanized area boundaries.” The annual hours or excessive delay and percent of non-SOV travel measures are initially applied to urban areas of more than 1 million residents or in nonattainment or maintenance for criteria pollutants, and all states and MPOs that are part of the urbanized area must agree on a single target for the entire urbanized area. The total emissions reduction measure applies all nonattainment or maintenance areas for criteria pollutants.
- Significant progress: Agency has either met its target, or the measure has improved from its baseline. No penalty for failure to meet targets, although state DOTs would be required to describe to FHWA the actions they will take to achieve better performance outcomes.
- Note: In May 2017, the effective date for the CO₂ measure was postponed indefinitely by the Federal Highway Administration. CMAP will be calculating this measure regardless.