

Transportation Performance Management
State Biennial Performance Report
for Performance Period 2022-2025
(PROGRESS)

2024
MID PERFORMANCE PERIOD (MPP)
PROGRESS REPORT
Tennessee

Report Due: 10/1/2024
Report Status: Accepted

Summary of Performance Measures and Targets

PM2 – Bridge & Pavement Condition of NHS

PM3 – Travel Time Reliability & Emissions

	Performance Measures	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Target	4-Year Adjustment
PM2 – Bridge & Pavement Condition of NHS	Percentage of Pavements of the Interstate System in Good Condition	70.8%	72.9%	58.0%	58.0%	No Change
	Percentage of Pavements of the Interstate System in Poor Condition	0.2%	0.3%	1.0%	1.0%	No Change
	Percentage of Pavements of the Non- Interstate NHS in Good Condition	40.3%	37.7%	36.0%	36.0%	No Change
	Percentage of Pavements of the Non- Interstate NHS in Poor Condition	4.1%	4.7%	6.0%	6.0%	No Change
	Percentage of NHS Bridges Classified as in Good Condition	32.5%	33.6%	32.0%	32.0%	No Change
	Percentage of NHS Bridges Classified as in Poor Condition	5.0%	4.5%	6.0%	6.0%	No Change
PM3 – Reliability	Percent of the Person-Miles Traveled on the Interstate That Are Reliable	92.1%	89.0%	88.2%	88.2%	87.0%
	Percent of the Person-Miles Traveled on the Non- Interstate NHS That Are Reliable	93.4%	92.0%	89.4%	89.4%	87.0%
	Truck Travel Time Reliability (TTTR) Index	1.32	1.37	1.35	1.35	1.55
PM3 – Emissions	Total Emission Reductions (kg/day): PM2.5	10.480	0.006	0.040	0.080	0.009
	Total Emission Reductions (kg/day): NOx	226.196	27.727	32.670	50.671	27.808
	Total Emission Reductions (kg/day): VOC	54.772	30.770	33.968	42.072	30.854

Overview General Comments:

TDOT's Mission is to provide a safe and reliable transportation system to support economic growth and quality of life in Tennessee. In April 2023, the Tennessee General Assembly passed the transportation Modernization Act (TMA) to help TDOT deliver on that Mission. The law allows TDOT to enter into Public-Private Partnerships to deliver Choice Lanes, expands alternative delivery capabilities and creates parity between electric vehicle and combustion engine vehicle owners. Since the passage of the TMA, TDOT has been developing a new project programming prioritization process that provides guidance for the use of an additional \$3.3 billion in General Fund allocation. Guiding the prioritization process are six goals that define the desired long-term outcomes for TMA investment

1. Maximize traveler safety and system reliability.
2. Reduce congestion and manage travel demand to support an efficient system for people, goods and services.
3. Support the state's economy.
4. Preserve and protect the transportation system.
5. Support livable and sustainable communities through multimodal integration.
6. Accelerate project delivery.

TDOT has created a data-driven model considering performance, delivery and cost. To ensure all Tennesseans benefit from this investment, TDOT has applied equity across our four regions and balances urban and rural projects that address differing needs. In December 2023, TDOT published a 10-year fiscally constrained project plan which includes projects ranging from traffic congestion to bridge replacements to multimodal enhancements.

The results of these projects will not be immediately reflected in TDOT's condition data; however, it is anticipated that we should see improved results in the next reporting cycle as a result of these additional investments.

Metropolitan Planning Organization (MPO) Coordination:

No updates were made to targets related to bridges or pavement condition. However, TDOT provided updated condition information related to locally owned bridges and pavements located in each of the MPO areas to assist TDOT's MPO partners in determining whether to update their targets. This information was provided during a monthly coordinator call. Targets related to reliability and emissions reductions were reviewed with a working group consisting of MPO partners, FHWA, and TDOT staff. During these meetings, target updates were made to each of the emissions targets. Reliability targets were also reviewed, but no target adjustments were made at this time. After reviewing additional data for the first four months of the year, it was determined that TDOT will likely not meet our 4-year targets for level of travel time reliability on the interstates or non-interstate NHS, nor for the level of truck travel time reliability. These three targets were updated in June 2024, and TDOT leadership signed off on all targets during an Oversight Committee meeting later that month.

Targets related to specific MPO areas were updated in coordination with the identified MPO. All target changes were reviewed at the MPO conference, which occurred in August 2024.

Investment Strategy Discussion:

Due to the historic level of inflation in the cost of pavement preservation and rehabilitation treatments (47% increase in unit prices for hot mix asphalt between 2018 and 2023), which exceeded TDOT's assumed annual inflation rate of 7% in the 2022 TAMP, TDOT's investment strategies for pavements on the NHS have been unable to achieve a State of Good Repair. Thus, additional funding was necessary to keep pace with the rate of pavement deterioration and to address damage done due to the recent harsh winter weather. TDOT invested an additional \$87M in pavement preservation funding and \$73.2M in pavement rehabilitation in fiscal year 2024. TDOT also invested an additional \$15M in supplemental pavement maintenance (spot paving) to address the acute pavement failures that resulted from severe winter weather in January 2024. This corresponds to a 76.6% increase in spending on pavements in fiscal year 2024. While TDOT was able to meet its Pavement State of Good Repair targets identified in the TAMP, Region 4 in the eastern part of the state, was unable to meet both good and poor targets on both the interstate and noninterstate NHS. Performance in this area of the state continues to trend in the wrong direction. TDOT hopes to secure additional funding for Region 4 to improve the condition of the NHS pavements in West Tennessee. TDOT's investment strategy also demonstrates that implementation of a pavement preservation strategy allows a State DOT to meet State of Good Repair targets for percent of pavement mileage in Good condition but makes it difficult to meet targets for percent of pavements in Poor condition, as the preservation strategy focuses more on keeping good pavements in good condition and allows poor performing pavements to continue to deteriorate until they need to be reconstructed. A worst-first strategy is more suited to ensuring that poor performing pavements are rehabilitated or reconstructed while foregoing more preservation treatments and letting the percent of pavement mileage in Good condition to be reduced.

TDOT's investment strategy for bridges, much like pavements, has proven to be insufficient to keep pace with the inflation of the cost to preserve, rehabilitation, and reconstruct bridges (77% increase in the price of concrete and 55% increase in the price of steel between 2018 and 2023). In fiscal year 2024, TDOT invested a total of \$444.76M on bridge preservation, rehabilitation, and reconstruction. That exceeded TDOT's 2022 TAMP investment projection of \$158M by 181%. TDOT's 2023 Bridge Condition Report shows that 33.5% of TDOT's NHS bridge deck area is in Good Condition, which meets the State of Good Repair target of at least 32% of NHS bridge deck area is in Good condition. 4.6% of TDOT's NHS bridge deck area is in Poor condition, which meets the State of Good Repair target of no more than 6% of NHS bridge deck area in Poor condition. While TDOT's projections for the necessary funding levels to achieve a State of Good Repair proved to be inaccurate, the exercise of using a risk-based lifecycle planning approach to develop an investment strategy which is designed to enable the DOT to meet our State of Good Repair targets has shown to be a useful tool. Hopefully, improved projections for cost inflation will lead to an investment strategy which can lead our agency to identifying the necessary funding levels to achieve State of Good Repair performance targets. Implementation of a sound asset preservation approach instead of a traditional worst-first approach should allow for strained budgets to be maximized.

Pavement

Pavement Performance Overview

General Comments:

The Tennessee Department of Transportation began work in spring 2024 to evaluate the current performance of Pavement Condition targets for the measures identified in 23 CFR 490 Subpart C. Based on the performance measures in 2023, no changes were made to the 4-year performance targets for Interstates and non-Interstate NHS routes. The decision was made based on the following considerations.

1. In 2022, TDOT held special lettings on Interstates to address rapidly deteriorating pavements due to incremental weather.
2. TDOT's Integrated Program Delivery (IPD) initiative aims to improve the efficiency of project delivery. With the improvement in the workflow, it is anticipated that resurfacing projects should be delivered on time. This will result in resurfacing more lane-miles than before. While there is an overall improvement in pavement condition, rapidly deteriorating pavements in west Tennessee, particularly in Region 4, could negatively impact statewide pavement conditions. As revealed by a recently completed research study, the high deterioration rates of pavements in Region 4 are a combination of materials, environment, and structure. TDOT is promoting a preservation oriented approach to address these issues.

Statewide Performance Target for the Percentage of Pavements on the Interstate System in Good Condition

Progress Discussion:

The current percentage of pavements on the Interstate in good condition is 72.9%, exceeding both the baseline of 70.8% and the 2-year target of 58%. This was a result of special lettings in 2022. However, since this was a one-time funding allocation, and given other factors that could negatively impact overall pavement performance, such as high inflation rates and significant increases in construction costs, no changes were made to the Interstate performance targets.

Significant Progress Discussion:

TDOT expects to meet the significant progress determination toward the achievement of the 2- year target for percentage of pavements on the interstate system in good condition. TDOT's current performance identifies pavements in good condition to be 72.9%, which outperforms both the target (58.0%) and the baseline (70.8%). In May 2022, TDOT held special lettings for Interstate projects with a total awarded amount of about \$49.2 million. In September 2022, TDOT let two additional Interstate preservation projects. As a result, an improvement in the condition of the Interstate system was observed in 2023. TDOT's Integrated Program Delivery (IPD) initiative is expected to improve the overall project development process. It is anticipated that more resurfacing projects will be delivered on time, resulting in more resurfacing lane miles than previously.

Statewide Performance Target for the Percentage of Pavements on the Interstate System in Poor Condition

Progress Discussion:

The current percentage of pavements on the Interstate in poor condition is 0.3%, which exceeds the baseline of 0.2% but is better than the target of 1%. TDOT expects to make significant progress on this metric. As mentioned in the Baseline Period Performance report, target projections were expected to maximize good condition ratings before minimizing poor conditions on high priority routes. Thus, an increase in percent poor pavements on interstates was expected, but TDOT has managed to minimize it such that we are currently outperforming the target.

Significant Progress Discussion:

TDOT expects that significant progress was made toward the achievement of the 2-year target for percentage of pavements on the interstate system in poor condition. TDOT's current performance identifies 0.3% of pavements on the interstate system are in poor condition compared to the target of less than 1.0%. In May 2022, TDOT held special lettings for Interstate projects, with a total awarded amount of about \$49.2 million. In September 2022, TDOT let two additional Interstate preservation projects. As a result, an improvement in the condition of the Interstate system was observed in 2023. A total percentage of 0.3% of pavements on Interstate is less than 18 lane miles. These poor segments will be addressed through either in-place paving or resurfacing projects. TDOT will continue to monitor pavement conditions and address poor segments promptly.

Statewide Performance Target for the Percentage of Pavements on the Non-Interstate NHS in Good Condition

Progress Discussion:

The 2-year target of 36.0% was exceeded by 1.7%. The baseline condition was 40.3%, indicating a 2-year decline of 2.6%. Although the target for pavements on Non-Interstate NHS in good condition was met, the overall condition has been declining over the years. TDOT has realized that pavements in the western part of the state have not been performing as expected, which partially contributed to this declining condition. Although funding for the state route resurfacing program was increased to \$199.5 million in FY22 from \$161 million in FY20 (23.9% increase), an increase of 47.8% in average unit costs for the resurfacing program from FY20 to FY22 was observed. Therefore, increasing construction costs was another factor contributing to the decline in overall pavement condition. Additionally, it was assumed that local NHS conditions may affect NHS projections by as much as 1%.

Significant Progress Discussion:

TDOT expects to meet the requirements of a significant progress determination due to the current actual performance, 37.7%, exceeding the target of 36.0%. Since targets were established, TDOT has begun publishing a 3-year pavement plan. This plan lists resurfacing projects that TDOT intends to deliver. Progress toward the delivery of this plan is tracked monthly by TDOT's leadership. Even

with this additional emphasis, local state of good repair metrics indicate a slow decline in the condition of the noninterstate NHS. It is expected that the end-of-cycle 4-year calculation will be very close to the 4-year target value. The funding for the state route pavement program was increased to \$275 million for FY2025 in late 2023. However, an improvement in the overall condition of state routes may not be visible until the 2026 data collection period. To address pavement condition issues in Region 4, a region-specific decision tree will be developed to identify more preservation candidates. This decision tree could improve overall conditions in the region within 4-8 years, depending on current pavement conditions.

Statewide Performance Target for the Percentage of Pavements on the Non-Interstate NHS in Poor Condition

Progress Discussion:

The percentage of poor pavements on the non-Interstate NHS system has been increasing since the 2021 baseline of 4.1%. Current performance is 4.7%, which is lower than the 6.0% target. TDOT noted that pavements in the western part of the state have not been performing as expected and recently completed a research project to determine factors that may be contributing to the performance gap. Based on the findings from that research and paving materials available, TDOT is working to develop a region-specific decision tree focused on addressing the early-time distresses on pavements in the western part of the state (Region 4).

Significant Progress Discussion:

TDOT expects to have met the requirements for a significant progress determination based on the current actual performance (4.7%) being lower than the target (6.0%). Since targets were established, TDOT has begun publishing a 3-year pavement plan which lists resurfacing projects TDOT intends to deliver. Progress toward the delivery of this plan is tracked monthly by TDOT's leadership. The funding for the state route pavement program was increased to \$275 million for FY2025 in late 2023. However, an improvement in the overall condition of state routes may not be visible until the 2026 data collection period. To address pavement condition issues in Region 4, a region specific decision tree will be developed to identify more preservation candidates, which could improve overall conditions in the region within 4-8 years, depending on current pavement conditions.

Bridge

Bridge Performance Overview

General Comments:

The Tennessee Department of Transportation (TDOT) began work in spring 2024 to evaluate current performance of Bridge Condition targets for the measures identified in 23 CFR 490 Subpart D. The targets represent anticipated performance outcomes for all bridges (state, federal, and local) carrying the NHS within the state, and bridges carrying the NHS that cross a State border regardless of ownership. Coordination with stakeholders occurred during the process and MPO-specific data was shared with TDOT's MPO partners via SharePoint. A presentation was provided at the MPO

conference in August 2024 to review expected current performance against 2-year targets and adjustments to 4-year targets where necessary.

Progress Discussion:

The average age of TDOT maintained bridges is approximately 48 years which is a typical age for bridges rated in fair condition. Targets were set using an age-based deterioration model which has been improved since targets were set in the previous reporting period. Investment strategies based on these newer projections are expected to aid in meeting the new targets. Deployment of preservation strategies such as the use of epoxy coated reinforcing steel, increased concrete cover over steel, more continuous spans without deck joints, etc. will continue to extend the service life of the bridges and keep them in a state of good repair longer. Despite the analysis, strategies, and projects identified here, it may still be challenging for TDOT to continue realizing positive results through the next performance cycle given the current economic climate and rising costs the state is experiencing. The current percentage of deck area of bridges on the NHS classified as in good condition is 33.6% and exceeds both the baseline of 32.5% and the twoyear target of 32.0%. At the time targets were established, the nation was facing high inflation rates and increased costs.

Significant Progress Discussion:

TDOT expects to make significant progress in this area, having outperformed both the target and baseline. TDOT has developed a strategic process to accelerate the delivery of our bridge program with the development of a new Program Delivery Network. TDOT has also begun publishing work programs for both off-system bridge and on-system bridge delivery deadlines with identified funding in place. Performance related to delivery of the bridge programs is tracked monthly which allows TDOT to identify and mitigate issues quickly.

Statewide Performance Target for Bridges on the NHS Classified as in Poor Condition

Progress Discussion:

TDOT maintained better results than our submitted goal. With a target goal of 6% and an actual result of 4.5%, TDOT understands that one or two large structures moving into the poor category would be enough to shift the results above our target goal. We elect to hold this target until the next reporting cycle. TDOT has a dedicated bridge preservation program to maintain the condition of our major structures to extend their service life and current condition. TDOT expects to see results from this in 2024 and beyond. The current actual performance of 4.5% of deck area of bridges on the NHS classified as being in poor condition is better than both the baseline (5.0%) and the 2- year target (6.0%). At the time targets were established, the nation was facing high inflation rates and increased costs.

Significant Progress Discussion:

TDOT expects to make significant progress in this area, having outperformed both the target and baseline. TDOT has developed a strategic process to accelerate the delivery of our bridge program with the development of a new Project Delivery Network. TDOT has also begun publishing work

programs for both off-system bridges and on-system bridges. Performance related to delivery of the bridge programs is tracked monthly which allows TDOT to identify and mitigate issues quickly.

Reliability

Travel Time Reliability Performance Overview

General Comments:

23 CFR Part 490.101 defines travel time reliability as "the consistency or dependability of travel times from day to day or across different times of the day." It is important to note that this measure is not indicative of how congested a road segment may be. Furthermore, these targets are based on the totality of Interstate and Non-interstate National Highway System roads for the state of Tennessee, regardless of whether those roadways are in urban or rural areas of the state. Time and attention were given to review of rule requirements regarding data sources and calculation methods by the System Performance Measure Working Group as they worked through the process to set targets. This working group included members from TDOT, FHWA-TN Division, Memphis MPO, Knoxville TPO, and Chattanooga-Hamilton County/North Georgia TPO. Additional coordination efforts were done individually by each of the MPOs by engaging and updating their leadership on the ongoing efforts related to target setting.

Progress Discussion:

TDOT's Interstate Travel Time Reliability decreased by 2.1% between January 1, 2021 and December 31, 2022 and decreased by another 1.0% the next year. Since the baseline data was determined using 2021 data, decreased travel time reliability was expected as traffic volumes returned to normal after the COVID-19 pandemic. The statewide percent of person-miles traveled in Tennessee's interstates that are reliable is 89.0%, which outperforms the target by 0.8%. Construction activities and nonrecurring congestion contribute to travel time reliability. However, Transportation Incident Management (TIM) strategies have helped to reduce the average lane blocking time due to incidents and construction activities by 11 minutes between 2022 (38 minutes) and 2023 (27 minutes). Advancing Transportation System Management and Operation (TSMO) strategies likely contributed to TDOT's ability to meet the current target despite increases in population and total crashes.

Basis for Adjusted 4-year Target:

Working group members reviewed data for the first four months of 2024. With three of the months showing interstate reliability percentages below the 88.2% target and historical data showing reliability decreasing by approximately 1% for the last 2 years, it was concluded that the current 4-year target may be too ambitious. The adjusted target of 87.0% is more consistent with recent travel time reliability trends. TDOT continues to work to provide for the efficient movement of people and freight in alignment with the guiding principles identified in the current Long Range Transportation Policy Plan. Locations that commonly experience bottlenecks, congestion problems, heavy truck traffic or traffic growth due to new developments are all issues that receive priority as part of the TDOT selection process.

Significant Progress Discussion:

TDOT expects to make significant progress due to the actual percent of person-miles traveled on the interstate that are reliable is better than the target.

TDOT continues to expand the Transportation Systems Management and Operations (TSMO) concept which will lead to better operations of our highways. The I-24 Smart Corridor project takes a comprehensive approach to managing the existing infrastructure and improving travel time reliability by integrating freeway and arterial roadway elements to provide drivers with accurate, real-time information to actively manage traffic. At the time of reporting, the 20-mile section of I-24 Smart Corridor showed a reduction in crashes.

In 2023, Tennessee passed the Transportation Modernization Act which allows TDOT to explore optional user fee facilities, or "Choice Lanes," in addition to existing general purpose lanes. TDOT published a fiscally restrained 10-year transportation plan in December 2023 which identifies corridors where Choice Lane facilities may be appropriate. However, these facilities are still several years away from construction and will not be able to provide congestion relief during the current performance period. In addition to Choice Lanes, special emphasis was given to rural interstate widening projects in TDOT's 10-year plan.

Statewide Performance Target for the Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable

Progress Discussion:

TDOT's current Non-Interstate NHS Travel Time Reliability for 2023 is 92.0%, which outperforms the 89.4% target but is a 1.4% decrease from the baseline of 93.4%. Since the baseline data was determined using 2021 data, decreased travel time reliability was expected as traffic volumes returned to normal after the COVID-19 pandemic.

Construction activities and nonrecurring congestion contribute to travel time reliability. However, Transportation Incident Management (TIM) strategies have helped to reduce the average lane blocking time due to incidents and construction activities by 11 minutes between 2022 (38 minutes) and 2023 (27 minutes). Advancing Transportation System Management and Operation (TSMO) strategies likely contributed to TDOT's ability to meet the current target despite increases in population and total crashes.

Basis for Adjusted 4-year Target:

The 4-year targets were set using 2019 performance which was the highest level of travel time reliability prior to the COVID-19 pandemic. Travel time reliability for the last 5 months of 2023 were below the 89.4% target. When data was reviewed for 2024, 3 of the 4 months of data available continued this pattern and showed a decline of 2.5% between the average for 2023 and the first 4 months of 2024. If this trend continues into 2025, TDOT projects reliability on noninterstates will drop to 87.0%. The current 10-year plan published in December 2023 identifies widening projects on 11 states routes to begin construction during 2024 and 2025 as well as enhancements to an additional 7 state routes over that same period which supports our long-range plan goal for the

efficient movement of people and freight but may contribute to decrease travel time reliability while construction is ongoing.

Significant Progress Discussion:

TDOT expects to make significant progress on this measure because the current percent of person-miles traveled on the noninterstate NHS is 92.0% which outperforms the target of 89.4%. The target was initially set conservatively due to the uncertainty of continuing traffic impacts related to the COVID-19 pandemic. During this performance cycle, TDOT has been able to improve safety along non-interstate state routes. The number of crashes decreased by nearly 6% between 2021 and 2023, improving reliability related to non-recurring congestion. Additionally, TDOT launched the Traffic Signal Modernization Program to assist with signal timing and efficiency for Tennessee's smaller communities.

In 2023, Tennessee passed the Transportation Modernization Act which provided an additional \$3.3B in general fund transfers to improve the state's transportation system. In December 2023, TDOT published a fiscally restrained 10- year project plan which identifies over 60 projects to improve state routes.

Freight

Freight Reliability (Movement) Performance Overview

General Comments:

23 CFR Part 490.101 defines travel time reliability as "the consistency or dependability of travel times from day to day or across different times of the day." It is important to note that this measure is not indicative of how congested a road segment may be. Furthermore, these targets are based on the totality of the Interstate Highway System roads for the State of Tennessee, regardless of whether those roadways are in urban or rural areas of the state. Time and attention were given to review of rule requirements regarding data sources and calculation methods by the System Performance Measure Working Group as they worked through the process to set targets. This working group included members from TDOT, FHWA-TN Division, Memphis MPO, Knoxville TPO, and Chattanooga-Hamilton County/North Georgia TPO. Additional coordination efforts were done individually by each of the MPOs by engaging and updating their leadership on the ongoing efforts related to target setting.

Progress on truck freight bottlenecks:

TDOT updated the Tennessee Statewide Multimodal Freight Plan in 2023 and this document is attached. Chapter 5 outlines Conditions and Performance of TDOT's various freight facilities.

Statewide Performance Target for the Truck Travel Time Reliability (TTTR) Index Progress Discussion:

The statewide Truck Travel Time Reliability Index as of Calendar Year 2023 is 1.37. This is an increase over baseline performance (1.32) and is higher than the 2-year target (1.35). Freight performance began to decline in summer 2023 with monthly performance from June -December

averaging 1.51 compared to an average of 1.49 for the same months in 2022. This trend has continued through the first part of 2024 as well. This may be due in part to large construction projects ongoing throughout the state. These include several closures on the I-55 Mississippi River bridge in Memphis, interchange improvements at I-75/I-24 in Chattanooga, and the I-65 widening project near the Kentucky line.

In addition to construction activities, 552M tons of freight moved through Tennessee in 2022. This is expected to increase by 59% from 2022 to 2050. According to the Bureau of Transportation Statistics, Tennessee saw an increase of 0.77% ton-miles of freight from 2021 to 2022. TDOT's 10-year plan prioritizes intermodal access and connectivity to mitigate the effects of additional freight on Tennessee's system.

Basis for Adjusted 4-year Target:

TDOT decided to adjust the target after RITIS data for 2024 pulled in June showed that TDOT had been unable to meet the 1.37 target for any month for which data was available. Working group members adjusted the target at that time. An additional adjustment was made in September after another review of RITIS data showed current performance to be above the new target as well. A review of data from May - August 2024 performance showed a monthly variance of 0.6 (1.49 and 1.55). TDOT elected to use the upper limit of 1.55 as the target. The adjusted target of 1.55 is more consistent with recent travel trends. The working group selected this target to align with the highest value we were currently seeing on the trend line in order to be conservative. However, TDOT continues to work to provide for the efficient movement of people and freight in alignment with the guiding principles identified in the current Long Range Transportation Policy Plan. Locations that commonly experience bottlenecks, congestion problems, heavy truck traffic or traffic growth due to new developments are all issues that receive priority as part of the TDOT selection process.

Significant Progress Discussion:

TDOT does not expect to meet significant progress on this measure due to the actual performance being over that of both the target and baseline. TDOT continues to focus on major projects that improve throughput through major freight corridors where the majority of truck bottlenecks occur, such as I-75 / I-24 interchange and I-65 North. We also continue with pavement maintenance on interstates to improve throughput. In addition to projects, we are measuring bottleneck analysis on a quarterly basis which shows the top 10 truck bottlenecks by region, including the top 10 statewide bottlenecks. We measure the data driven measurements to look for consistencies and opportunities for future projects. TDOT was also awarded a CRISI grant for \$23.75M to update 42 timber bridges which are in need of repair and rehabilitation. With the additional capacity on rail, freight can provide a modal shift to improve interstate reliability and pavement maintenance costs. In TDOT's 10-year Project Plan, Tennessee is investing in improved mobility to support and promote economic development in its rural areas. Widening rural interstates increases capacity for freight movement and improves connectivity between regions. \$665 million of traditional and TMA funds are identified for rural interstate widening in the 10-Year Project Plan.

Emissions

Emissions Reduction Performance Overview

General Comments:

The applicable areas for the On Road Mobile Source Emissions performance measure in Tennessee are the Memphis urban area and the Knoxville urban area. However, identified targets are statewide targets. All data for this measure comes from the CMAQ Public Access System. Time and attention were given to review of rule requirements regarding data sources and calculation methods by the System Performance Measure Working Group as they worked through the process to set targets. This working group included members from TDOT, FHWA- TN Division, Memphis MPO, and the Knoxville TPO. Additional coordination efforts were done individually by each of the MPOs by engaging and updating their leadership on the ongoing efforts related to target setting.

In addition to the CMAQ program, TDOT continues to support the long-range goal of protecting the natural, cultural, and environmental resources through participation in the National Electric Vehicle Infrastructure Formula Program, development of a Carbon Reduction Strategy, and updating the state's Transportation Demand Management Plan.

Statewide Total Emission Reductions PM2.5 Target #1

Progress Discussion:

TDOT PM2.5 emissions reduction totals for only projects in non-attainment and maintenance areas was calculated to be 0.009 kg per day - slightly more than the actual performance identified by FHWA as 0.006 kg per day. TDOT has not met the 0.040 2-year target. At the time the 2-year target was set, no trend was able to be identified for this measure due to values being based on projects selected each year. The System Performance Measures Working Group did not have a way to reliably predict future values and the determination was made to set a conservative target based on the lowest value over the 4-year baseline period.

Basis for Adjusted 4-year Target:

After reviewing the CMAQ funded projects in the applicable areas, the working group anticipates no additional CMAQ projects to be funded during the performance period in the affected areas. Therefore, the working group selected the cumulative value estimated to equal the expected PM2.5 reductions currently funded. It is unclear if any further projects will be funded prior to the cut-off date for the performance period. The System Performance Measures Working Group decided not to update the target to reflect current actuals identified on the PMF due to the hardship it would put on the Memphis MPO, who is responsible for developing and submitting a CMAQ performance plan.

Statewide Total Emission Reductions NOx Target #2

Progress Discussion:

TDOT NOx emissions reduction totals for only projects in nonattainment and maintenance areas was calculated to be 27.808 kg per day - slightly more than the actual performance identified by FHWA as 27.727 kg per day. TDOT has not met the 32.670 2-year target. At the time the 2-year target

was set, no trend was able to be identified for this measure due to values being based on projects selected each year. The System Performance Measures Working Group did not have a way to reliably predict future values and the determination was made to set a conservative target based on the lowest value over the 4-year baseline period.

Basis for Adjusted 4-year Target:

After reviewing the CMAQ funded projects in the applicable areas, the working group anticipates no additional CMAQ projects to be funded during the performance period in the affected areas. Therefore, the working group selected the cumulative value estimated to equal the expected Nox reductions currently funded. It is unclear if any further projects will be funded prior to the cut-off date for the performance period. The System Performance Measures Working Group decided not to update the target to reflect current actuals identified on the PMF due to the hardship it would put on the Memphis MPO, who is responsible for developing and submitting a CMAQ performance plan.

Statewide Total Emission Reductions VOC Target #3

Progress Discussion:

TDOT VOC emissions reduction totals for only projects in nonattainment and maintenance areas was estimated to be 30.854 kg per day - slightly more than the actual performance identified by FHWA as 30.770 kg per day. TDOT has not met the 33.968 2-year target. At the time the 2-year target was set, no trend was able to be identified for this measure due to values being based on projects selected each year. The System Performance Measures Working Group did not have a way to reliably predict future values and the determination was made to set a conservative target based on the lowest value over the 4-year baseline period.

Basis for Adjusted 4-year Target:

After reviewing the CMAQ funded projects in the applicable areas, the working group anticipates no additional CMAQ projects to be funded during the performance period in the affected areas. Therefore, the working group selected the cumulative value estimated to equal the expected VOC reductions currently funded. It is unclear if any further projects will be funded prior to the cut-off date for the performance period. The System Performance Measures Working Group decided not to update the target to reflect current actuals identified on the PMF due to the hardship it would put on the Memphis MPO who is responsible for developing and submitting a CMAQ performance plan.

**A RESOLUTION BY THE EXECUTIVE BOARD
OF THE KNOXVILLE REGIONAL TRANSPORTATION PLANNING ORGANIZATION
ADOPTING THE ADJUSTED 4-YEAR TARGETS FOR THE FHWA PM2 (PAVEMENT & BRIDGE
CONDITIONS OF THE NHS) AND PM-3 (SYSTEM PERFORMANCE, FREIGHT AND CMAQ)
PERFORMANCE MEASURE AREAS FOR THE KNOXVILLE URBANIZED AREA AS ESTABLISHED IN
CONJUNCTION WITH THE TENNESSEE DEPARTMENT OF TRANSPORTATION**

WHEREAS, the Knoxville Regional Transportation Planning Organization (TPO) is the designated Metropolitan Planning Organization (MPO) for the Knoxville urbanized area; and

WHEREAS, in 2012 Congress passed the Moving Ahead for Progress in the 21st Century (MAP-21) that mandated the establishment of a performance and outcome based program for transportation decisions which was carried forward in the Infrastructure Investment and Jobs Act (IIJA); and

WHEREAS, national goals have been established for Safety, Infrastructure Condition, Congestion Reduction, System Reliability, Freight Movement and Economic Vitality and Environmental Sustainability for which specific Performance Measure areas have been designated; and

WHEREAS, the Pavement and Bridge Condition Performance Management (PM2) regulations (23 CFR 490 Subparts C & D) require State DOTs and MPOs to set 2-and 4-year Pavement and Bridge Condition Performance Measure Targets, which apply to roads and bridges on the National Highway System (NHS), for six performance areas; and

WHEREAS, the Systems Performance (PM3) regulations (23 CFR 490 Subparts E, F, G & H) require State DOTs and MPOs to set 2-and 4-year targets for six total measures for assessing performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program; and

WHEREAS, the Federal regulations allow State DOTs and MPOs to adjust the initial 4-year targets under PM-2 and PM-3 at the mid-point of the performance period as part of the Mid-Performance Period Progress Report (MPP); and

WHEREAS, TDOT completed the 2024 MPP that was due to FHWA by 10/1/2024 for the 2nd 4-year Performance Period covering 2022-2025 and has chosen to adjust various 4-year targets as shown in Attachment 1; and

WHEREAS, TDOT coordinated with its MPO partners is establishing the target adjustments and the MPOs must either support the State's targets or commit to a quantifiable target for its own metropolitan planning area via resolution within 180 days;

NOW, THEREFORE, BE IT RESOLVED BY THE KNOXVILLE REGIONAL TRANSPORTATION PLANNING ORGANIZATION EXECUTIVE BOARD:

That the Knoxville Regional TPO hereby adopts all adjusted 4-Year Targets for the subject Performance Areas in PM2 and PM3 as shown in Attachment 1.

March 26, 2025

Date

Mayor Glenn Jacobs
Knox County
TPO Executive Board Vice Chair

Doug Burton
Coordinator
Knoxville Regional TPO

ATTACHMENT 1: Midpoint Adjustments to the 4-Year (2022-2025) Targets for PM2 and PM3

Summary of Performance Measures and Targets					
Performance Measures	Baseline	2-Year Condition/ Performance	2-Year Target	4-Year Target	4-Year Adjustment
Percentage of Pavements of the Interstate System in Good Condition	70.8%	72.9%	58.0%	58.0%	None
Percentage of Pavements of the Interstate System in Poor Condition	0.2%	0.3%	1.0%	1.0%	None
Percentage of Pavements of the Non- Interstate NHS in Good Condition	40.3%	37.7%	36.0%	36.0%	None
Percentage of Pavements of the Non- Interstate NHS in Poor Condition	4.1%	4.7%	6.0%	6.0%	None
Percentage of NHS Bridges Classified as in Good Condition	32.5%	33.6%	32.0%	32.0%	None
Percentage of NHS Bridges Classified as in Poor Condition	5.0%	4.5%	6.0%	6.0%	None
Percent of the Person-Miles Traveled on the Interstate That Are Reliable	92.1%	89.0%	88.2%	88.2%	87.0%
Percent of the Person-Miles Traveled on the Non- Interstate NHS That Are Reliable	93.4%	92.0%	89.4%	89.4%	87.0%
Truck Travel Time Reliability (TTTR) Index	1.32	1.37	1.35	1.35	1.55
Annual Hours of Peak Hour Excessive Delay Per Capita: Knoxville, TN	10.1	10.8	10.8	10.8	12.0*
Percent of Non-Single Occupancy Vehicle Travel: Knoxville, TN	17.8%	19.1%	16.7%	16.7%	21.0%*
Total Emission Reductions (kg/day): PM2.5	10.480	0.006	0.040	0.080	0.009
Total Emission Reductions (kg/day): NOx	226.196	27.727	32.670	50.671	27.808
Total Emission Reductions (kg/day): VOC	54.772	30.770	33.968	42.072	30.854

*Note: These two 4-year Target Adjustments are specific to the TPO Urbanized Area and were previously adopted at the September 25, 2024 Executive Board meeting.