

2050 Statewide Transportation Plan – Appendix B: Performance Measures

CDOT Performance Framework	2
Policy Directive 14	2
Advancing Transportation Safety	2
Fix Our Roads	2
Sustainably Increase Transportation Choice	3
National Performance Measure Targets	3
Safety	4
Infrastructure Condition	5
System Performance	7
Metropolitan Planning Organization Performance Measure Targets.....	11
National Performance Measure Reporting	11
Other Performance-Based Initiatives	12
CDOT Performance Plan.....	12
Transportation Asset Management Plan (TAMP).....	12
Strategic Transportation Safety Plan (STSP).....	12
Statewide Transit Plan	12
State Freight and Passenger Rail Plan	12

CDOT Performance Framework

CDOT measures various performance measures to ensure the goals and objectives of the Statewide Transportation Plan are achieved. CDOT's Office of Performance and Asset Management within the Division of Transportation Development oversees the development, and tracking of these performance measures through a performance framework that is designed to maintain strong alignment between statewide and federal priorities. The framework is built on a series of performance measures that include high-level goals, such as those set by the Governor, and a robust system of foundational goals, strategic plans, and specific performance measures that translate the broader transportation vision into actions and tangible results.

Policy Directive 14

Policy Directive 14 (PD 14) establishes the overarching policy and objectives for the development and implementation of Colorado's 2050 Statewide Transportation Plan. PD 14 helps guide the department's strategic 10-Year Transportation Plan via a collaborative public process and provide performance measures and targets to measure the success of the Department's efforts to improve in the key goal areas of Advancing Transportation Safety, Fix Our Roads, and Sustainably Increase Transportation Choice.

PD 14 performance measures help facilitate the implementation of the Statewide Transportation Plan by directing transportation investments in the 10-Year Transportation Plan, Four-Year Prioritized Plan, Statewide Transportation Improvement Program, and the annual budget.

The performance measures are organized under their respective goal areas:

Advancing Transportation Safety

- Reduce the number of traffic-related fatalities and serious injuries by 50% from the 2023 baseline before 2037.
- Reduce the number of traffic-related fatalities and serious injuries involving Vulnerable Road Users by 50% from the 2023 baseline before 2037.

Fix Our Roads

Bridge:

- Achieve or maintain the percent of National Highway System total bridge-deck area in poor condition below 5%.
- Achieve or maintain the percent of State Highway System total bridge-deck area in poor condition below 5%.

Pavement:

- Achieve or maintain the percent of Interstate System pavements in poor condition below 1%.
- Achieve or maintain 80% high or moderate Drivability Life for the state highway system based on condition standards and treatments set for traffic volume categories.

Sustainably Increase Transportation Choice**Clean Transportation:**

- Reduce surface transportation sector greenhouse gas emissions (CO₂e) by 60% on or before 2037, compared to the 2005 baseline.

Statewide Transit:

- Collaborate with stakeholders, including local partners and rail operators, to expand statewide transit services by increasing statewide revenue service miles by 66.7 million by 2037, from the 2022 baseline.
- Achieve a 1% annual reduction in Vehicle Miles Traveled (VMT) per capita from the 2023 baseline.

National Performance Measure Targets

The shift toward a performance-based national transportation program began with the Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2012 and was continued by subsequent legislation like the Fixing America's Surface Transportation Act (FAST, 2015) and the Infrastructure Investment and Jobs Act (IIJA, 2021).

Federal legislation established Transportation Performance Management (TPM), a strategic, data-driven approach that increases the accountability of the Federal-aid highway program. Under TPM, state Departments of Transportation (DOTs) are required to align planning and investment decisions with a set of national goals. As defined in 23 United States Code (USC) §150(b).

In accordance with federal law, CDOT establishes data-driven, two- and four-year targets for national performance measures across three key areas: Safety, Infrastructure Condition, and System Performance. In setting these goals, CDOT coordinates with the state's Metropolitan Planning Organizations (MPOs) to ensure statewide alignment.

The performance management process is structured into four-year cycles. The inaugural performance period ran from 2018-2021, establishing the foundation for this data-driven approach. Now in the second performance period (2022-2025), CDOT reports its progress to the Federal Highway Administration (FHWA) biennially, as required by statute, and provides annual updates to its MPO partners.

The upcoming third performance period will cover 2026 through 2029, and CDOT is scheduled to establish new targets for this period by October 1, 2026.

The recurring process of setting targets, measuring progress, and reporting results allows CDOT to continually refine its strategies and adapt to changing conditions, ensuring a sustained focus on achieving national transportation goals. The following sections provide an overview of the three goal areas and their associated performance measures and targets.

Safety

The primary goal of the safety performance area is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, a top priority for both federal and state transportation agencies.

Required Performance Measures

Under federal regulations, State DOTs must establish annual targets for five specific safety performance measures. These targets are calculated using five-year rolling averages to account for year-to-year fluctuations and identify longer-term trends. The five required measures are:

1. **Number of Fatalities:** The total count of individuals killed in motor vehicle crashes.
2. **Rate of Fatalities:** The number of fatalities per 100 million vehicle miles traveled (VMT), which helps normalize the data against traffic volume.
3. **Number of Serious Injuries:** The total count of individuals who sustain a serious injury in a motor vehicle crash.
4. **Rate of Serious Injuries:** The number of serious injuries per 100 million VMT.
5. **Number of Non-Motorized Fatalities and Serious Injuries:** A combined count of fatalities and serious injuries involving pedestrians and bicyclists. The measure ensures a specific focus on the safety of the most vulnerable road users.

Target Setting and Evaluation

CDOT establishes statewide safety targets annually in coordination with its transportation partners, including the state's MPOs. The MPOs can either adopt the state's targets or establish their own for their respective planning areas.

The federal highway administration (FHWA) evaluates CDOT's progress each year. To determine if "significant progress" has been made, the FHWA assesses whether CDOT has met or made sufficient progress on at least four of the five performance targets. If a state does not meet this threshold, it is required to develop a Highway Safety Improvement Program (HSIP) Implementation Plan that outlines specific strategies and projects aimed at improving performance.

Current Safety Performance Targets

The following table outlines CDOT's federally-required safety targets for the current performance year.

Table 2: Safety Performance Targets

Safety Performance Measures	2024 Target
Number of Fatalities	716
Number of Serious Injuries	3,507
Fatality Rate (per 100 million vehicle miles traveled)	1.358
Serious Injury Rate (per 100 million vehicle miles traveled)	6.528
Non-Motorized Fatalities and Serious Injuries	572

For the most up-to-date information, and to view performance dashboards, please visit the [TPM dashboard](#).

Infrastructure Condition

The national goal for infrastructure condition is to maintain the highway asset system in a State of Good Repair. The performance area ensures that pavements and bridges on the National Highway System (NHS) are safe, reliable, and well-maintained to support the movement of people and goods.

Required Performance Measures

Unlike the annual safety targets, infrastructure condition targets are set for a four-year performance period, with states establishing both two- and four-year targets. The measures are broken into two categories:

1. Pavement Condition

These measures assess the health of the pavement on the NHS, broken into the Interstate and non-Interstate systems.

1. Percentage of Interstate pavements in 'Good' condition
2. Percentage of Interstate pavements in 'Poor' condition
3. Percentage of non-Interstate NHS pavements in 'Good' condition
4. Percentage of non-Interstate NHS pavements in 'Poor' condition

2. Bridge Condition

These measures assess the health of bridges on the NHS, measured by the total deck area of the bridges.

1. Percentage of NHS bridges in 'Good' condition
2. Percentage of NHS bridges in 'Poor' condition

Target Setting and Evaluation

CDOT establishes two- and four-year targets for these six infrastructure measures. These targets are developed through a data-driven process using the state's asset management plan and are coordinated with the state's MPOs.

The FHWA evaluates progress based on whether CDOT is maintaining a state of good repair. A state is considered to have made significant progress if the condition of its assets has not worsened compared to the baseline established at the beginning of the performance period or when the actual condition is equal to or better than the established target.

Furthermore, there are federally established minimum condition thresholds. If more than 5% of Interstate pavements fall into the 'Poor' category, or more than 10% of NHS bridge deck area is rated as 'Poor,' the state is required to dedicate a specific portion of its federal funding to improve that asset class.

Current Infrastructure Condition Targets

The following table outlines CDOT's targets for the current performance period.

Table 3: Pavement Condition Performance Targets

Pavement Condition	2023	2025
	Target	Target

Percentage of pavements of the Interstate System in Good condition	45.0%	47.0%
Percentage of pavements of the Interstate System in Poor condition	4.0%	3.5%
Percentage of pavements of the non-Interstate NHS in Good condition	42.0%	43.0%
Percentage of pavements of the non-Interstate NHS in Poor condition	3.5%	3.5%

Table 4: Bridge Condition Performance Targets

Bridge Condition	2023 Target	2025 Target
Percentage of NHS Bridges, by Deck Area, Classified in Good Condition	36.0%	38.5%
Percentage of NHS Bridges, by Deck Area, Classified in Poor Condition	4.0%	4.0%

For the most up-to-date information, and to view performance dashboards, please visit the [TPM dashboard](#).

System Performance

The national goals for this performance area are multifaceted, focusing on improving the efficiency and reliability of the transportation system, reducing traffic congestion, and improving air quality. The performance measures track the predictability of travel times, the level of delay during peak hours, the use of multimodal travel options, and emissions reductions from targeted projects.

Required Performance Measures

Targets for this goal area are set for a four-year period, with both two- and four-year targets established. The measures are grouped into three categories.

1. System Reliability

These measures assess the consistency of travel times for both people and goods on the NHS.

- **Level of Travel Time Reliability (LOTTR):** The percentage of person-miles traveled on the Interstate and non-Interstate NHS that are "reliable" (i.e., completed within 1.5 times the normal travel time).
- **Truck Travel Time Reliability (TTTR) Index:** A ratio of the 95th percentile truck travel time to the 50th percentile time on the Interstate system. A lower index signifies more reliable freight movement.

2. Traffic Congestion

These measures are specifically applicable to federally designated Urbanized Areas (UZAs), as these are the primary centers of traffic congestion where strategies to manage delay and encourage multimodal travel are most critical. In recognition of this shared responsibility, CDOT and the respective MPO for each UZA collaborate to establish a single, joint target for each of these measures.

- **Annual Hours of Peak Hour Excessive Delay (PHED):** The total person-hours of delay experienced when traffic is moving at less than 60% of the posted speed limit during peak travel hours on the NHS. PHED is reported on a per-capita basis.
- **Percent of Non-Single Occupancy Vehicle (Non-SOV) Travel:** The percentage of commuters who use alternatives to driving alone, such as carpooling, public transit, biking, walking, or teleworking.

3. Congestion Mitigation and Air Quality (CMAQ)

The CMAQ Improvement Program is a critical tool used to improve air quality within Colorado's federally designated nonattainment and maintenance areas, particularly for ozone in the Denver Metro and North Front Range region. In partnership with the MPOs in these areas, CDOT is required to track the expected emission reduction benefits from CMAQ-funded projects. Two- and four-year targets are established for the cumulative reduction of specific pollutants, measured in kilograms per day (kg/day).

Target Setting and Evaluation

CDOT establishes two- and four-year targets for all system performance and air quality measures in close coordination with its MPO partners. The collaborative process ensures state and regional priorities are aligned. For the UZA-specific measures—Peak Hour Excessive Delay

(PHED) and Non-SOV Travel—CDOT and the corresponding MPO establish a single, unified target for the region.

The FHWA evaluates progress at the mid-point and end of each four-year performance period, using distinct criteria for the different types of measures.

For the System Reliability and Traffic Congestion measures, a state is determined to have made "significant progress" if it achieves its targets or has not worsened compared to the baseline established at the beginning of the performance period.

For the CMAQ program, progress is demonstrated by reporting on the total estimated emissions reduced by funded projects. To ensure a standardized approach, State DOTs use resources like the FHWA's CMAQ Emissions Calculator Toolkit, which uses data from the EPA's official MOVES (Motor Vehicle Emission Simulator) model to quantify these reductions. Using quantitative reporting tools validates the program's effectiveness and ensures that investments are directly contributing to improved air quality in Colorado's nonattainment and maintenance areas.

Current System Performance Targets

The following tables outline CDOT's targets for the current performance period.

Table 5: System Reliability Performance Targets

System Reliability	2023 Target	2025 Target
Percent of person-miles traveled on the Interstate that are reliable	81.0%	79.0%
Percent of person-miles traveled on the non-Interstate National Highway NHS that are reliable	93.0%	94.0%
Truck Travel Time Reliability (TTTR) Index	1.46	1.46

Table 6: Traffic Congestion Performance Targets

Traffic Congestion	2023 Target	2025 Target
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Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita (Denver-Aurora Urbanized Area)	15.8	17.4
Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita (Fort Collins Urbanized Area)	3.8	3.9
Percent of Non-Single Occupancy Vehicle (SOV) Travel (Denver-Aurora Urbanized Area)	26.7%	27.7%
Percent of Non-Single Occupancy Vehicle (SOV) Travel (Fort Collins Urbanized Area)	25.3%	31.1%

Table 7: CMAQ Emission Reduction Performance Targets

Congestion Mitigation and Air Quality (CMAQ)	2023 Target	2025 Target
Emissions reduction from CMAQ-funded projects Particulate Matter-10 microns or less (PM10) - (kg/day)	35	71
Emissions reduction from CMAQ-funded projects Carbon Monoxide (CO) - (kg/day)	2,672	5,393
Emissions reduction from CMAQ-funded projects Volatile Organic Compounds (VOC) - (kg/day)	239	482
Emissions reduction from CMAQ-funded projects Nitrogen Oxides (NOx) - (kg/day)	538	1,086

For the most up-to-date information, and to view performance dashboards, please visit the [TPM dashboard](#).

Metropolitan Planning Organization Performance Measure Targets

MPOs are essential partners in developing and implementing performance-based planning and programming within the state's major Urbanized Areas. Federal regulations require MPOs to play an active role in the national performance management framework by establishing targets for the same federal performance measures as the state.

The target-setting process for MPOs is directly linked to the state's timeline. Within 180 days of CDOT establishing or updating its statewide targets, each MPO must make a formal decision. They have two options:

1. Formally agree to support CDOT's statewide targets.
2. Establish their own specific, quantifiable targets for their metropolitan planning area.

The performance management process necessitates a strong, collaborative partnership between CDOT and each MPO. CDOT provides technical assistance and shares data to help inform regional target setting, and the MPOs provide critical local insights. Ongoing coordination ensures that regional and statewide transportation priorities are aligned and that all partners are working in concert to achieve the national performance goals.

The targets established by each MPO are then integrated into their foundational planning documents, such as the Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP), to guide regional investment decisions.

National Performance Measure Reporting

Reporting and tracking performance data are fundamental components of the national performance management framework. The process ensures transparency and accountability by communicating progress to the public, stakeholders, and federal partners. Consistent reporting provides the critical feedback loop necessary for data-driven decision-making, allowing CDOT and its partners to understand the effectiveness of transportation investments and adjust strategies to better achieve performance goals.

CDOT formally reports its progress toward achieving national performance targets to the FHWA. The reporting requirements and frequencies are established in federal law and vary depending on the goal area.

Due to the critical importance of roadway safety, performance for the five Safety measures is reported to the FHWA on an annual basis. Frequent reporting allows for timely analysis of trends and supports ongoing safety improvement efforts. For the Infrastructure Condition and System Performance measures, which reflect longer-term trends, CDOT submits a formal report to the FHWA biennially, including a Mid-Performance Period Report halfway through the four-year cycle and a final report at the end of the period assessing overall performance.

To promote transparency and provide public access to the latest data, FHWA maintains an online [TPM dashboard](#). The public website features updated targets, tracks progress over time, and offers interactive visualizations for national performance measures for all state DOTs.

Other Performance-Based Initiatives

In addition to the federally required national performance measures, CDOT uses several other key performance-based plans to guide its operations, investments, and strategic direction. These initiatives ensure accountability at the state level and provide a comprehensive framework for managing the transportation system. Among the most significant are:

CDOT Performance Plan

In accordance with the State Measurement for Accountable, Responsive, and Transparent (SMART) Act, CDOT develops an annual Performance Plan at the start of each fiscal year. The plan serves as a strategic roadmap, outlining the department's "Wildly Important Goals" (WIGs) for the year. These ambitious, short-term goals are designed to align the department's strategic priorities with the Governor's key priorities, focusing effort on critical outcomes.

Transportation Asset Management Plan (TAMP)

As required by the IIJA, CDOT develops and maintains a risk-based TAMP. The TAMP is a critical long-term planning document that guides decisions to improve or preserve the condition of key transportation assets, ensuring the system remains in a state of good repair. While federally required to cover only pavement and bridges, CDOT's TAMP takes a more comprehensive approach by including ten additional asset classes.

Strategic Transportation Safety Plan (STSP)

The STSP is a comprehensive, multi-agency plan that establishes a shared vision and data-driven strategies to achieve zero fatalities and serious injuries on Colorado's roadways. It identifies key safety emphasis areas and guides investment decisions toward programs and countermeasures with the highest potential to save lives. The STSP is the foundational document for all of the state's collaborative safety efforts.

Statewide Transit Plan

The Statewide Transit Plan establishes the framework for creating a safe, efficient, and integrated transit system for Colorado. It provides a 20-year vision for transit and identifies the policies, projects, and funding priorities needed to enhance mobility, connect communities, and provide travel options for residents and visitors across the state.

State Freight and Passenger Rail Plan

The Freight and Passenger Rail Plan provides a comprehensive vision for a safe, reliable, and efficient freight and passenger rail system in Colorado. It serves as a roadmap for short- and long-term strategies to support economic vitality by improving the supply chain, while also advancing efforts to expand the state's passenger rail network, including the Front Range and mountain rail corridors.