North Front Range Metropolitan Planning Organization

Performance Report for the 2023 Congestion Management Process

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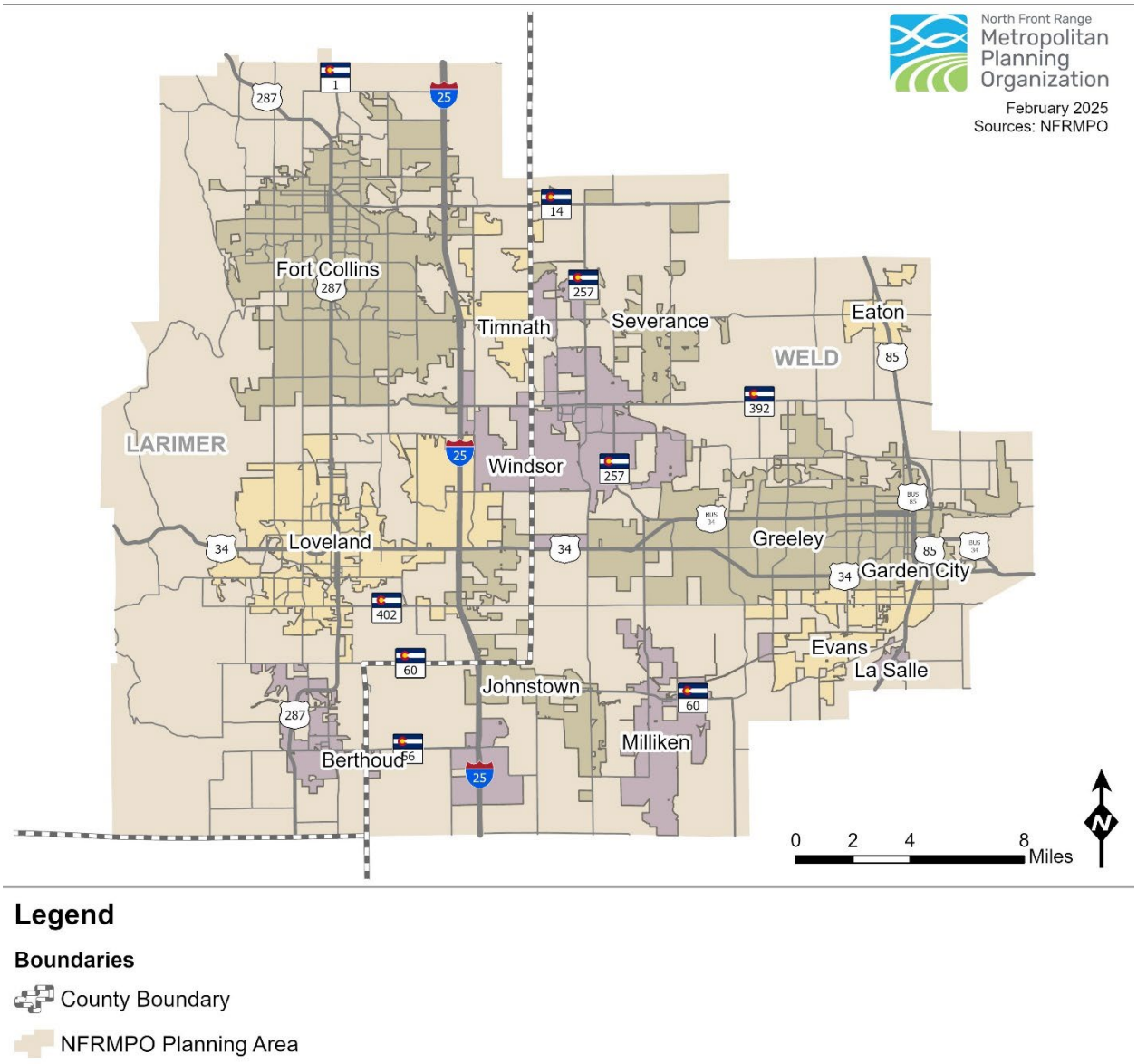
Introduction

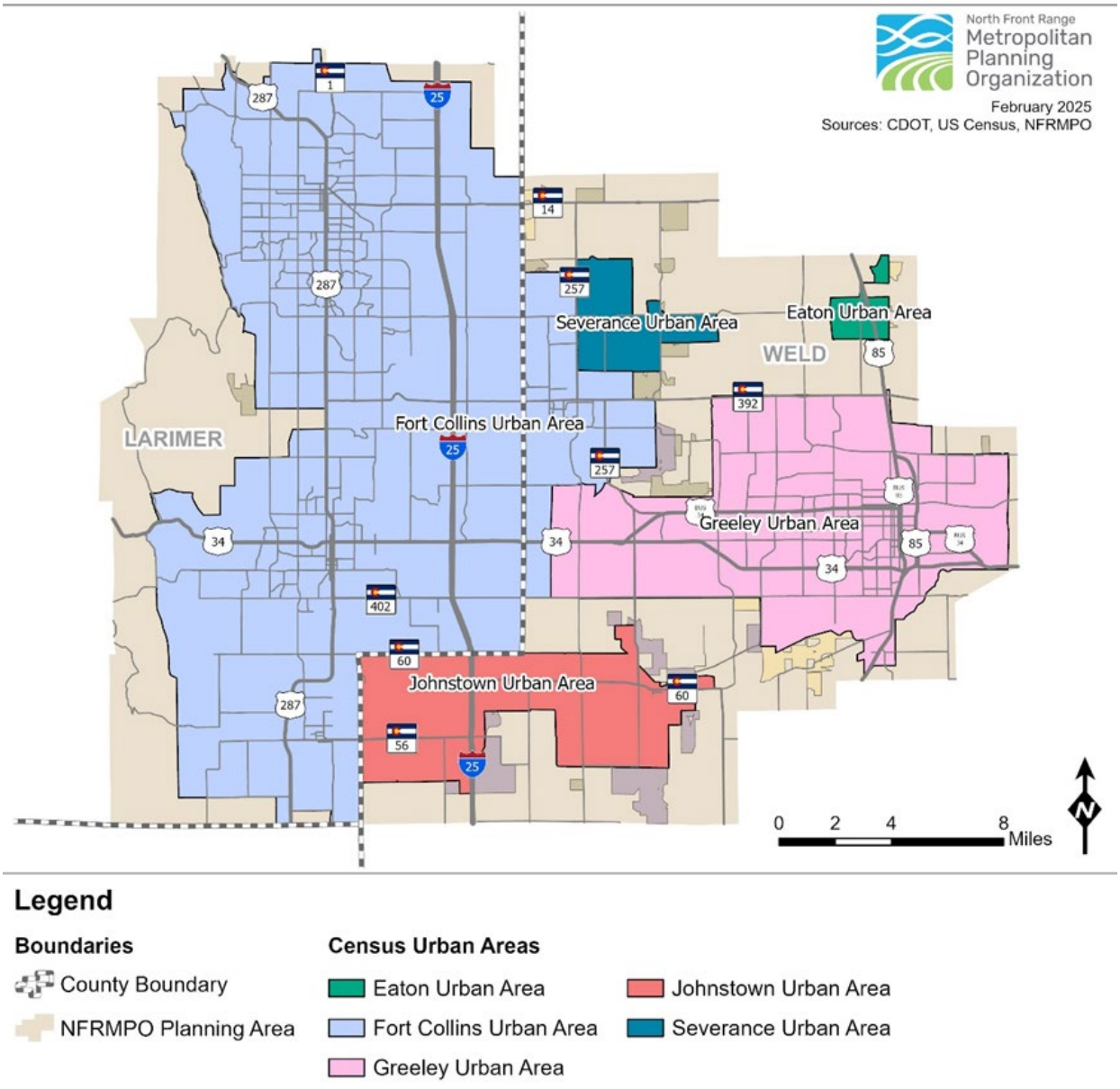
The North Front Range Metropolitan Planning Organization (NFRMPO) was established in 1988 with responsibility for transportation planning within the region. The NFRMPO is comprised of 15 member governments (Berthoud, Eaton, Evans, Fort Collins, Garden City, Greeley, LaSalle, Loveland, Johnstown, Milliken, Severance, Timnath, Windsor, Larimer County, and Weld County) as seen in **Figure 1**. The NFRMPO covers 675 square miles and works on behalf of the region's approximately 540,000 residents as of 2023.

Figure 1: The NFRMPO Region



CMPs are required for Transportation Management Areas (TMA), which have populations of 200,000 or more. The NFRMPO region is comprised of one Transportation Management Area (TMA) as well as four Urban Areas (UA). The Fort Collins TMA includes the majority of Berthoud, Fort Collins, Loveland, and Windsor. The Greeley UA includes the majority of Evans, Garden City, and Greeley. There are three additional small UAs for the areas around Eaton, Johnstown, and Severance. These are shown in **Figure 2**.

Figure 2: TMA and UAs of the NFRMPO Region



Reducing congestion is an objective of the NFRMPO in support of the goal of moving people and goods safely, efficiently, and reliably. Congestion management should be addressed in the

NFRMPO's federally mandated transportation planning process and result in a safe and effective multimodal transportation system. The NFRMPO uses a systematic and performance-based approach to address congestion, as documented in the 2023 Congestion Management Process (CMP). Strategies laid out in the 2023 CMP apply to new and existing transportation corridors eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53. Funding programs include Surface Transportation Block Grants (STBG), Congestion Mitigation and Air Quality (CMAQ), and Transportation Alternatives (TA), as well as transit funding programs.

This performance report supplements the 2023 CMP by monitoring the implemented congestion strategies in terms of the CMP's performance measures. The purpose of the performance report is to identify effective strategies for congestion management to enable the region to strategically improve system performance. This report fulfills the federal requirement for a periodic assessment of the effectiveness of implemented congestion strategies.

The performance analysis in this report shows the region is making progress on five of nine performance measures with available data. The report also identifies the implemented projects and programmed projects that contribute toward congestion management.

Performance Analysis

The 2023 CMP identifies nine congestion-related performance measures as listed in **Table 1**. The performance measure for Peak Hour Excessive Delay on NHS was new for the 2023 CMP.

Table 1: 2023 CMP Performance Measures

CMP Performance Measure	Description
Travel Time Index (TTI)	Ratio of average peak travel time to an off-peak (free-flow) standard. A value of 1.5 indicates that the average peak travel time is 50% longer than off-peak travel times.
Vehicle Miles Traveled (VMT) per Capita	Miles traveled by vehicles in a specified region over a specified time period. Calculated per person for all trips.
Travel Time Reliability (TTR)	Measures non-recurring delay for all vehicles by comparing the 80th percentile travel time to the median (50th percentile) travel time. A value of 1.5 or higher indicates the segment is not reliable. A corridor may be congested, but reliable if the congestion is consistent.
Truck Travel Time Reliability (TTTR)	Measures non-recurring delay for trucks by comparing the 95th percentile travel time to the median (50th percentile) travel time. A value of 1.5 or higher is considered unreliable.
Number of Crashes	The number of collisions involving one or more vehicles.
Transit Ridership per Capita	The number of unlinked trips per resident within each provider's service area. Measuring per capita helps account for population growth.
Percent of Non-Single Occupant Vehicle (SOV) Commuter Trips	Percent of all commute trips completed by any mode other than SOV, including by transit, bicycle, walking, or carpooling.
Percent of Devices Connected by Fiber on RSCs	Percent of devices connected with fiber-optic cables used for transportation management purposes.
Peak Hour Excessive Delay on NHS	Annual hours of excessively delayed travel per capita, with excessive delay defined as travel time at 20 miles per hour or 60% of the posted speed limit travel time, whichever is greater, between 6 a.m. and 10 a.m. and 3 p.m. to 7 p.m. weighted by vehicle volumes and occupancy.

Performance on these measures reflect a range of factors. In addition to effectiveness of deployed strategies, performance is also influenced by work zone impacts and changes in travel behavior due to factors such as the price of fuel and, notably in 2020 and 2021, public health

emergencies. The performance measure analysis that follows uses various timeframes for analysis, with the latest year of data based on data availability for each performance measure.

Overall, five of nine performance measures have been improving since the 2023 CMP, as shown in **Table 2**. The performance measure analysis indicates progress is being made in addressing congestion, but additional strategies are needed to meet the region's congestion reduction goals.

Table 2: Status of the CMP Performance Measures

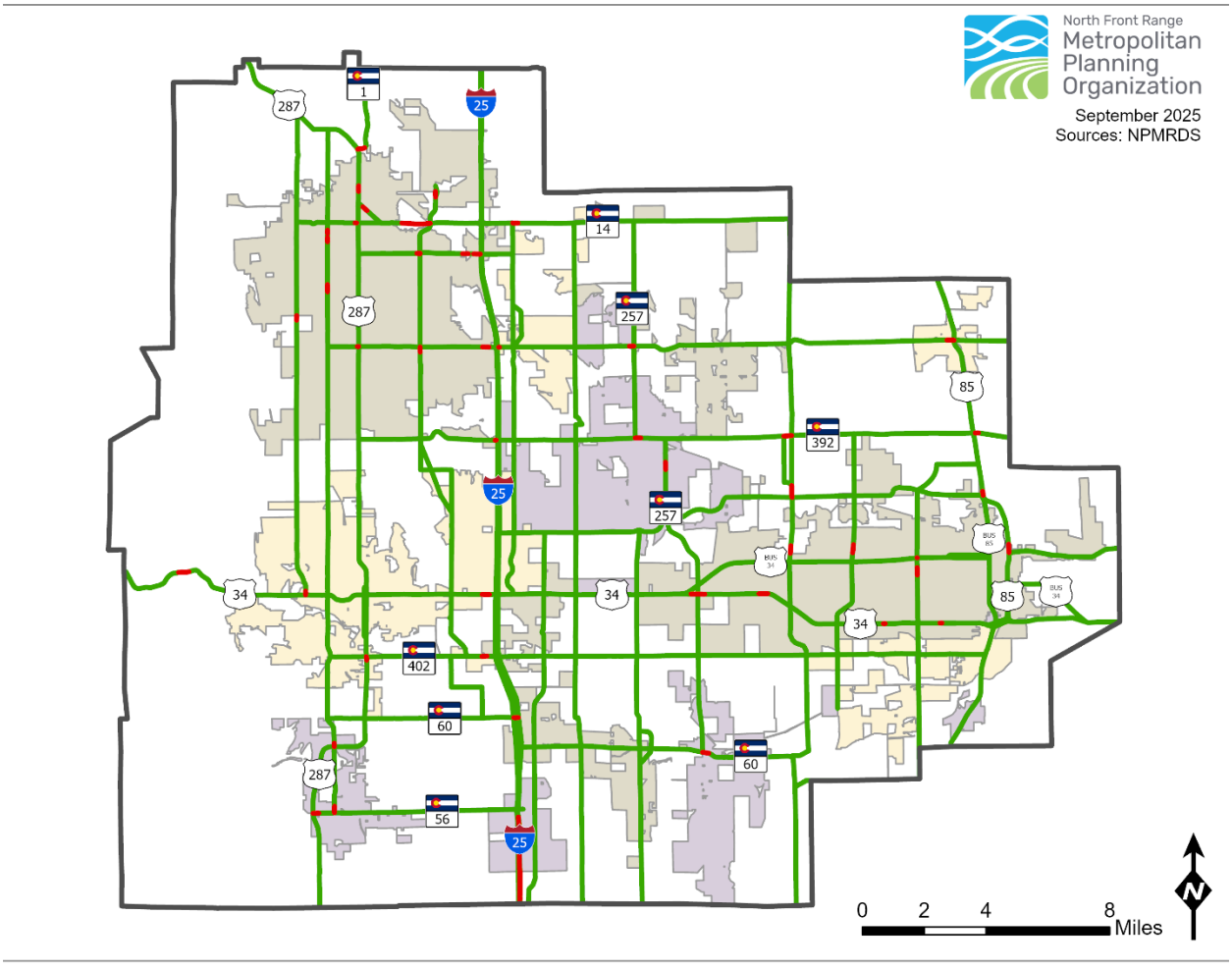
CMP Performance Measure	Baseline Value	Current Value	Status
Travel Time Index (TTI) – Percent Congested	0.6%	1.0%	Worsening
Vehicle Miles Traveled (VMT) per Capita	21.6	20.2	Improving
Travel Time Reliability (TTR) – Percent Unreliable	1.1%	3.7%	Worsening
Truck Travel Time Reliability (TTTR) – Percent Unreliable	52.1%	7.8%	Improving
Total Number of Crashes	7,564	8,888	Worsening
Transit Ridership per Capita	5.3	7.7	Improving
Percent of Non-Single Occupant Vehicle (SOV) Commute Trips	25.0%	29.5%	Improving
Percent of Devices Connected by Fiber on RSCs	87.0%	84.32%	Worsening
Peak Hour Excessive Delay on NHS in Fort Collins Urban Area	3.4	2.9	Improving

Travel Time Index (TTI)

TTI measures recurring congestion and is defined as the ratio of the travel time during the peak period to the time required to make the same trip at free-flow speeds. For example, a value of 1.3 indicates a 20-minute free-flow trip requires 26 minutes during the peak period. Typically, roadways with a TTI greater than or equal to 1.5 are considered congested.

Figure 3 highlights the regional TTI for 2024, which shows much of the RSC network experienced free-flow or near free-flow conditions. TTI in 2024 was primarily accessed from the INRIX dataset. TTI was also analyzed using the NFRMPO 2019 Regional Travel Demand Model (RTDM). Overall, 1.0 percent of the RSC network was congested in 2024, an increase from 2022 when 0.6 percent of the network was considered congested.

Figure 3: Travel Time Index (TTI) of 1.5 or Greater on RSCs, 2024



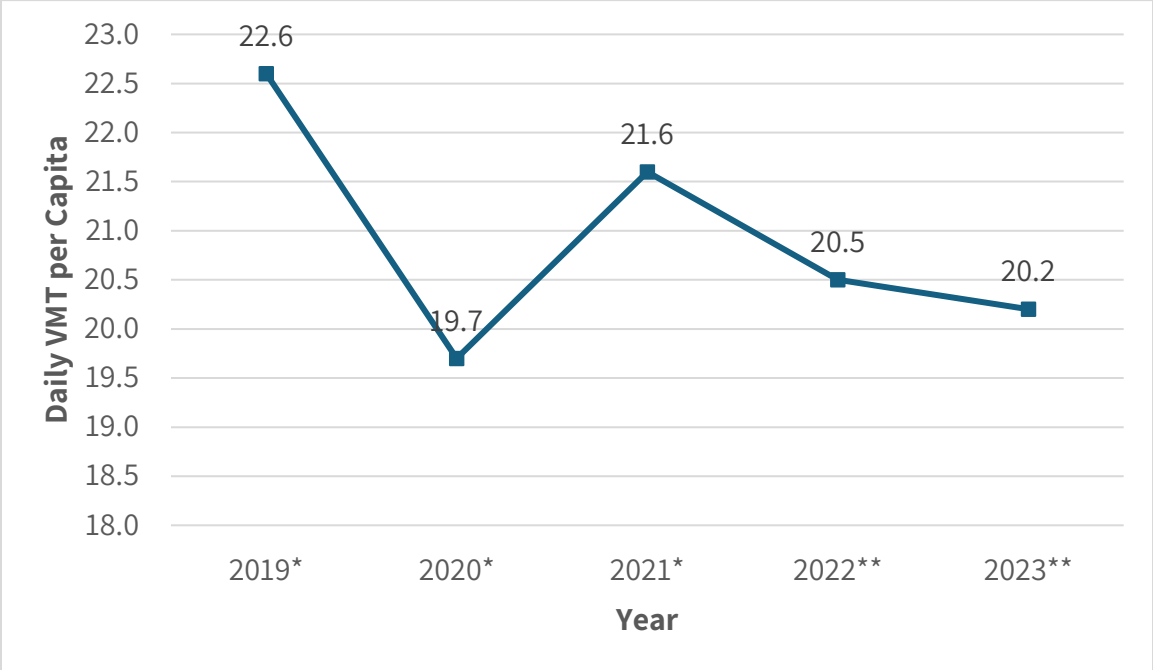
Source: 2024 TTI from NPMRDS

Vehicle Miles Traveled (VMT) per Capita

VMT is the number of miles traveled by vehicles within a specified region, during a specified time period. Modeling VMT requires estimates of trip origin and destination. A reduction in VMT provides environmental benefits through reductions in emissions, fuel usage, roadway wear, and vehicle wear. Land use planning principles, such as infill development or mixed-use development can be used to help reduce VMT per capita.

According to VMT estimates from the 2015 Regional Travel Demand Model (RTDM) and 2019 RTDM, annual VMT estimates on state highways produced by CDOT, and population estimates from the Colorado State Demography Office, daily VMT per capita within the North Front Range decreased from 2019 to 2020, increased from 2020 to 2021, and then decreased every year from 2021 to 2023 as shown in **Figure 4**. With 2021 having a baseline value of 21.6 daily VMT per capita and 2023 having a value of 20.2 daily VMT per capita, this performance measure is improving.

Figure 4: Daily VMT per Capita in the North Front Range, 2019-2023



**2015 BY RTDM VMT used for calculations*
***2019 BY RTDM VMT used for calculations*
Sources: CDOT and NFRMPO

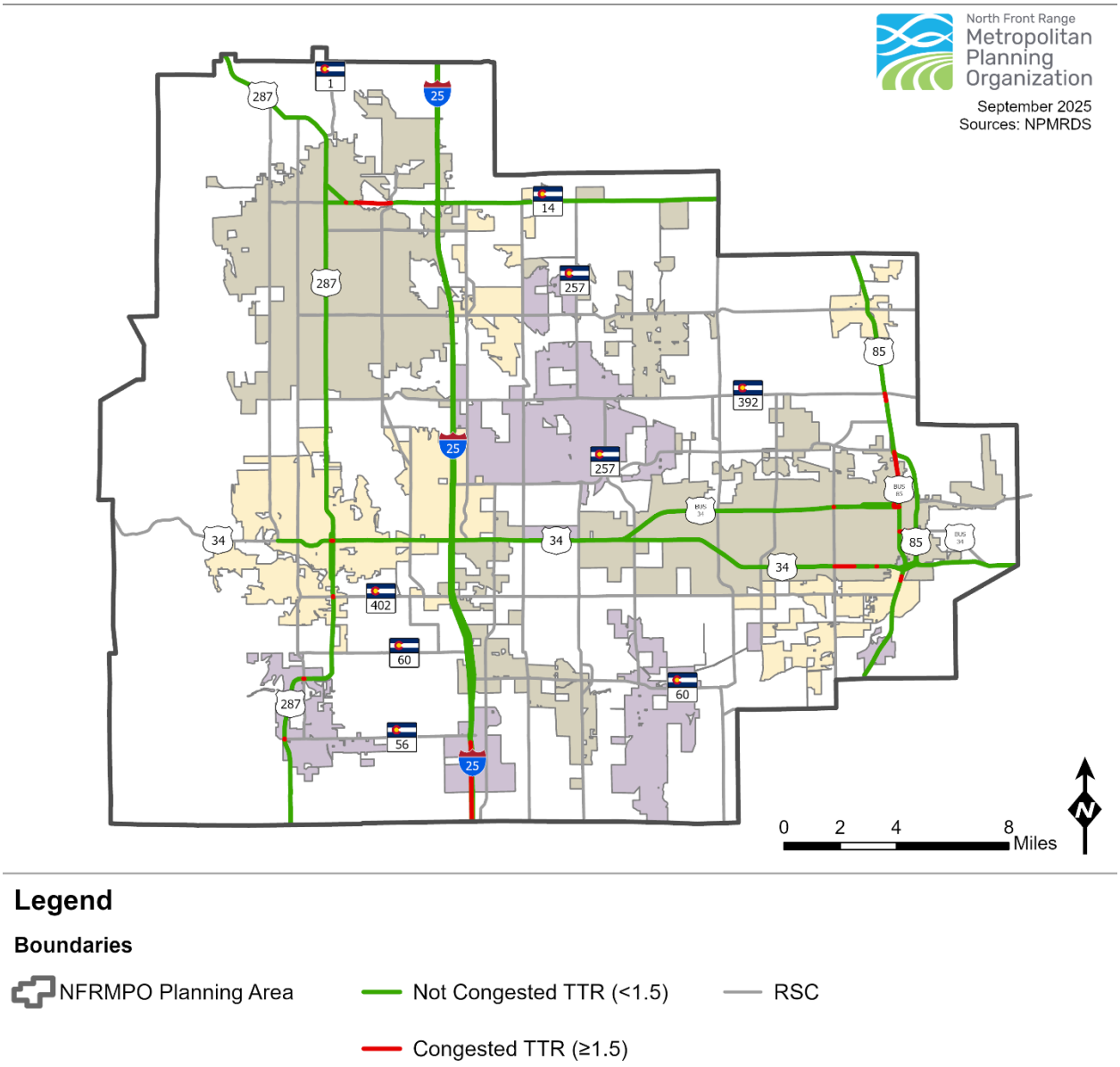
Travel Time Reliability (TTR) Index

Whereas TTI measures the average travel time during peak periods to assess average levels of congestion, TTR measures the variance in travel times to assess the consistency or dependability in travel times. Reliability is important for both personal and business travelers so they can plan their travel to arrive on time. TTR is measured as the 80th percentile travel time divided by the 50th percentile (median) travel time, with ratios of 1.5 or greater considered unreliable. A roadway that typically takes 20 minutes to travel during the evening peak period but sometimes takes over 30 minutes qualifies as unreliable if the longer travel time occurs at least 20 percent of the time. Data for TTR is available from the National Performance Measure

Research Data Set (NPMRDS) for the National Highway System (NHS). Roadway segments with a TTR of 1.5 or greater are shown in **Figure 5**.

In 2024, 3.7 percent of the NHS system in the region was unreliable according to the TTR index, an increase from 2022 when 1.1 percent of the NHS system was unreliable. According to the TTR index, reliability is worsening in the region.

Figure 5: TTR Index of 1.5 or Greater, 2024



2024 TTR from NPMRDS

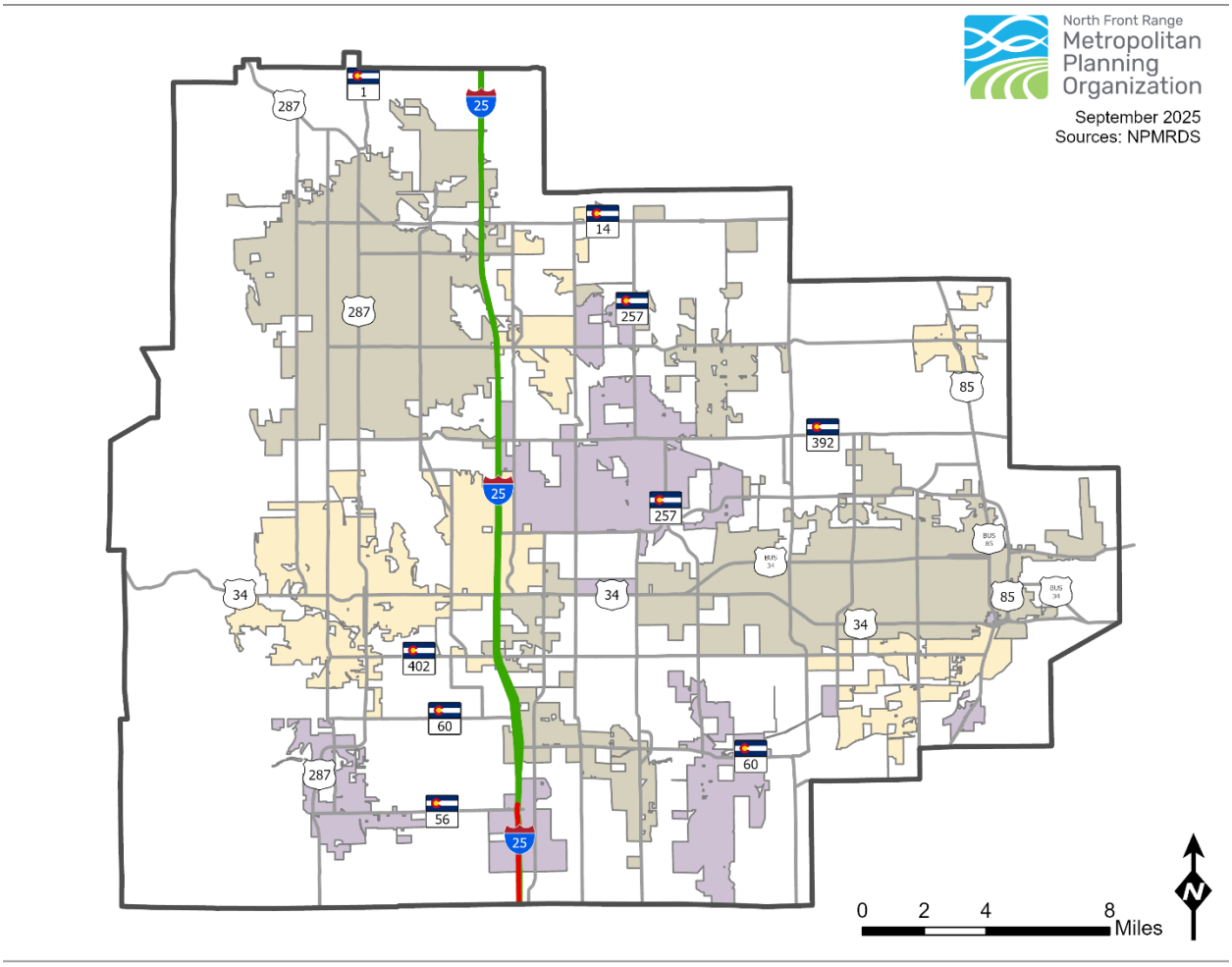
Truck Travel Time Reliability (TTTR) Index

TTTR is a similar measure to TTR but is calculated using only commercial vehicles and uses a more stringent measure of success. TTTR measures the variance in truck travel times to assess consistency or dependability. Specifically, TTR is measured as the 95th percentile travel time divided by the 50th percentile (median) travel time, with ratios larger of 1.5 or greater considered unreliable. A roadway that typically takes 20 minutes to travel during the evening peak period but sometimes takes over 30 minutes qualifies as unreliable if the longer travel time occurs at least 5 percent of the time. By examining the 95th percentile instead of the 80th percentile, TTTR is more stringent than the TTR measure because it requires more of the examined time periods to fall below the 1.5 ratio threshold. TTTR also uses slightly different reporting time periods than TTR, due to the importance of additional time periods for commercial vehicles.

Data for TTTR is available from the National Performance Measure Research Data Set (NPMRDS) for the Interstate portion of the National Highway System (NHS). Roadway segments on I-25 with a TTTR of 1.5 or greater are shown in **Figure 6**.

In 2024, 7.8 percent of I-25 within the NFRMPO region was unreliable for truck traffic, a large decrease from 2022 when 52.1 percent of I-25 was unreliable. The lack of reliability in 2022 may be due to the work zone impacts of the North I-25 Expansion Project. The only portion of the North I-25 Expansion Project not complete as of the end of 2024 is from Berthoud to the southern boundary of the MPO, Weld County Road (WCR) 38. According to the TTTR index, truck traffic reliability is improving in the region.

Figure 6: TTTR Index of 1.5 or Greater, 2024



Legend

Boundaries

NFRMPO Planning Area

Not Congested TTTR (<1.5)

RSC

Congested TTTR (≥1.5)

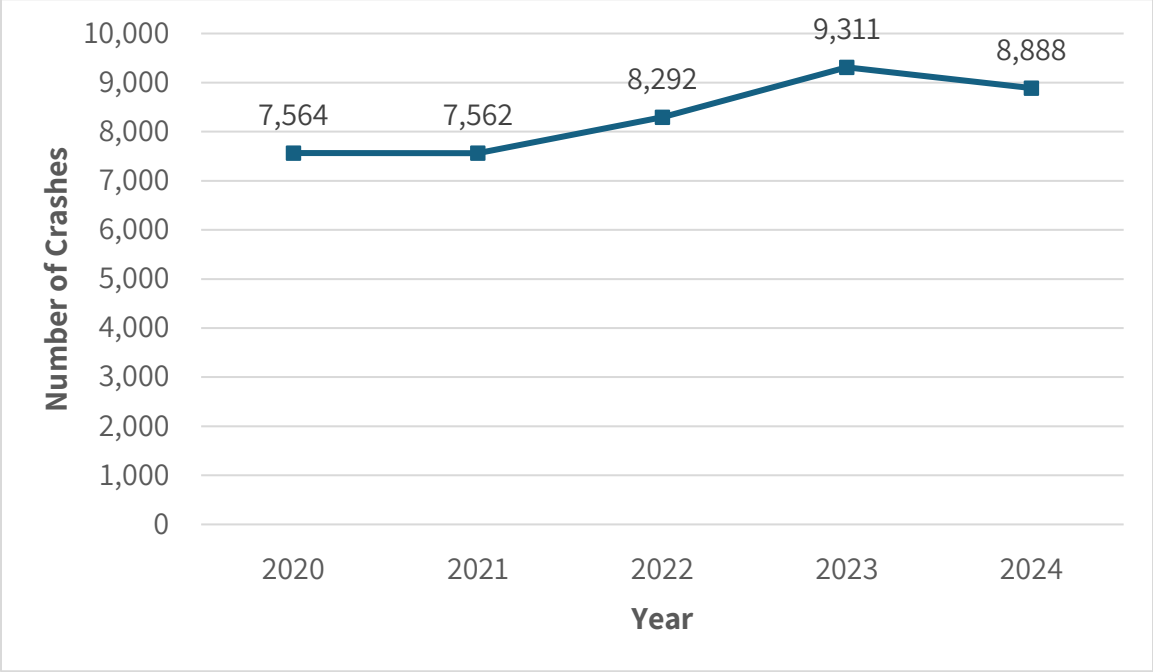
2024 TTTR from NPMRDS

Total Number of Crashes

Crashes can cause non-recurring congestion; however, not all crashes result in congestion, such as crashes occurring at low-volume time periods and/or in low-volume locations. Crash data is available from CDOT and includes crashes on all public roads.

Crashes within the North Front Range region increased every year from 2020 through 2023. In 2024, the number of crashes dropped but they are still higher than the number of crashes per year in 2020 through 2022. This is shown in **Figure 7**.

Figure 7: Total Number of Crashes in the North Front Range Region, 2020-2024



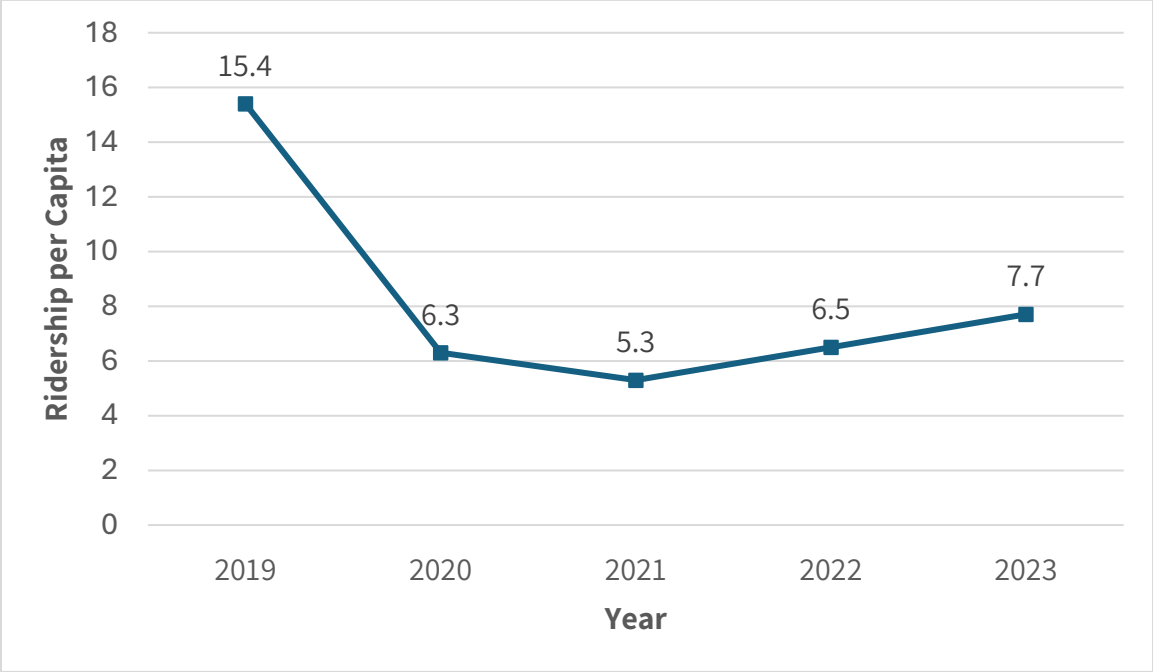
Sources: CDOT and NFRMPO

Transit Ridership per Capita

Transit ridership indicates the use of the transit system relative to the population served by the transit system. Data is available from the National Transit Database (NTD) for three of the providers within the region – City of Loveland Transit (COLT), Greeley-Evans Transit (GET), and Transfort – and data for Bustang, the fixed-route transit service operated by CDOT is available from CDOT.

Transit ridership per capita was at 15.4 riders per capita in 2019 and dropped by more than 50 percent to 6.3 riders per capita in 2020. The COVID-19 pandemic caused the decrease in transit ridership in 2020. For the period of 2019-2023, 2021 had the lowest transit ridership per capita, and transit ridership per capita has slowly increased since then as shown in **Figure 8**. With 2021 having a baseline value of 5.3 transit ridership per capita and 2023 having a value of 7.7 transit ridership per capita, this performance measure is improving.

Figure 8: Fixed-Route Transit Ridership per Capita, 2019-2023



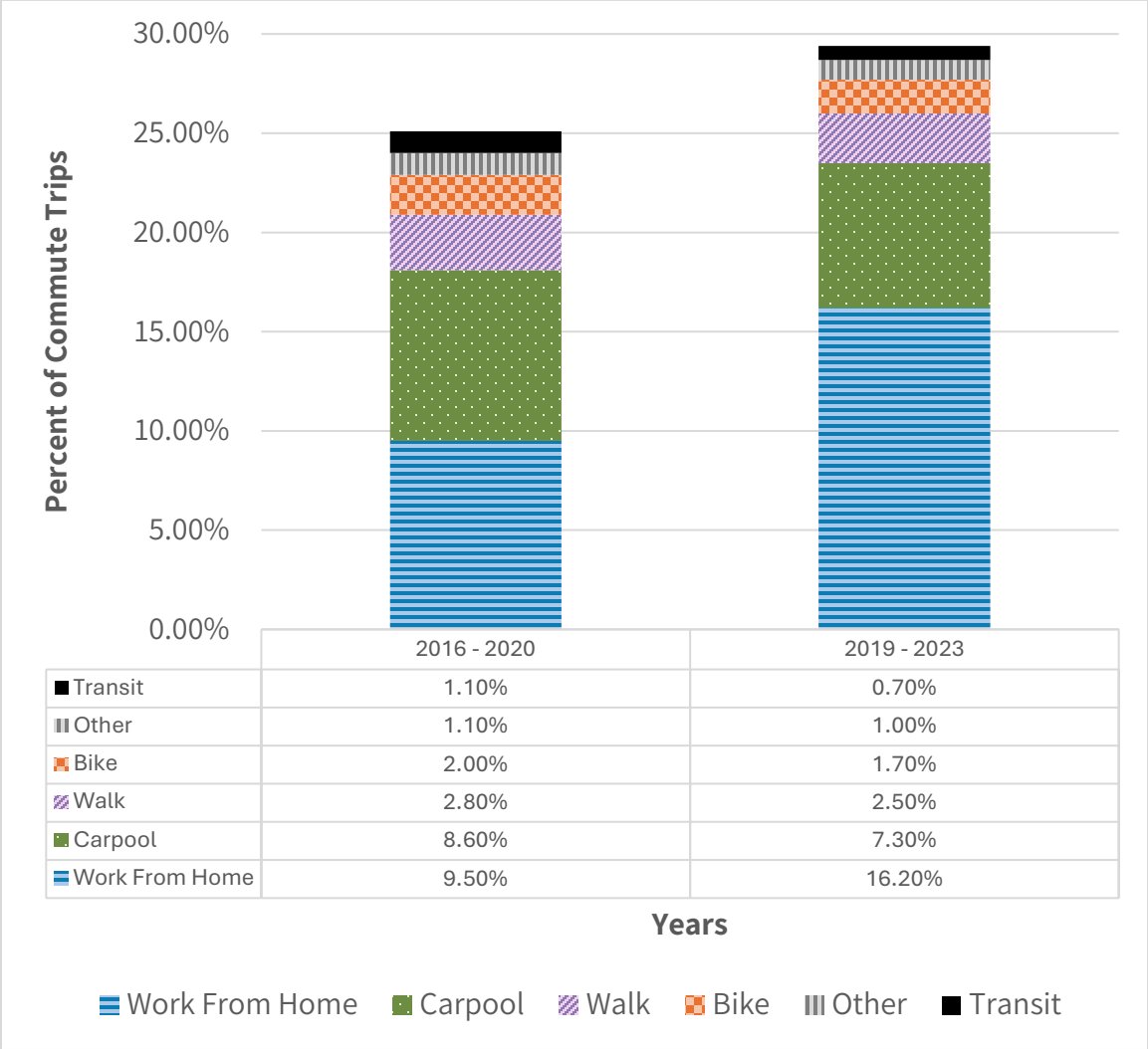
Sources: National Transit Database and CDOT

Percent of Non-Single Occupant Vehicle (SOV) Commute Trips

Travel to work often occurs during peak periods, and the majority of commute trips occur in SOVs, which consume more space on the transportation network than any other mode. This performance measure assesses the percent of commute trips occurring by non-SOV modes such as bicycling, walking, transit, carpooling, and working from home. Survey data on commute modes is available from the U.S. Census American Community Survey (ACS). Data is averaged over a five-year period and reflects the typical commute mode used by the respondent, which means modes used infrequently are likely underrepresented in the dataset.

Within the NFRMPO region, non-SOV commute trips increased from 25.0 percent for 2016-2020 to 29.5 percent for 2019-2023 as shown in **Figure 9**. This reflects the growth in working from home beginning in 2020 due to the COVID-19 pandemic.

Figure 9: Non-SOV Commute Trips, 2016-2020 VS 2019-2023



	2016 - 2020	2019 - 2023
Transit	1.10%	0.70%
Other	1.10%	1.00%
Bike	2.00%	1.70%
Walk	2.80%	2.50%
Carpool	8.60%	7.30%
Work From Home	9.50%	16.20%

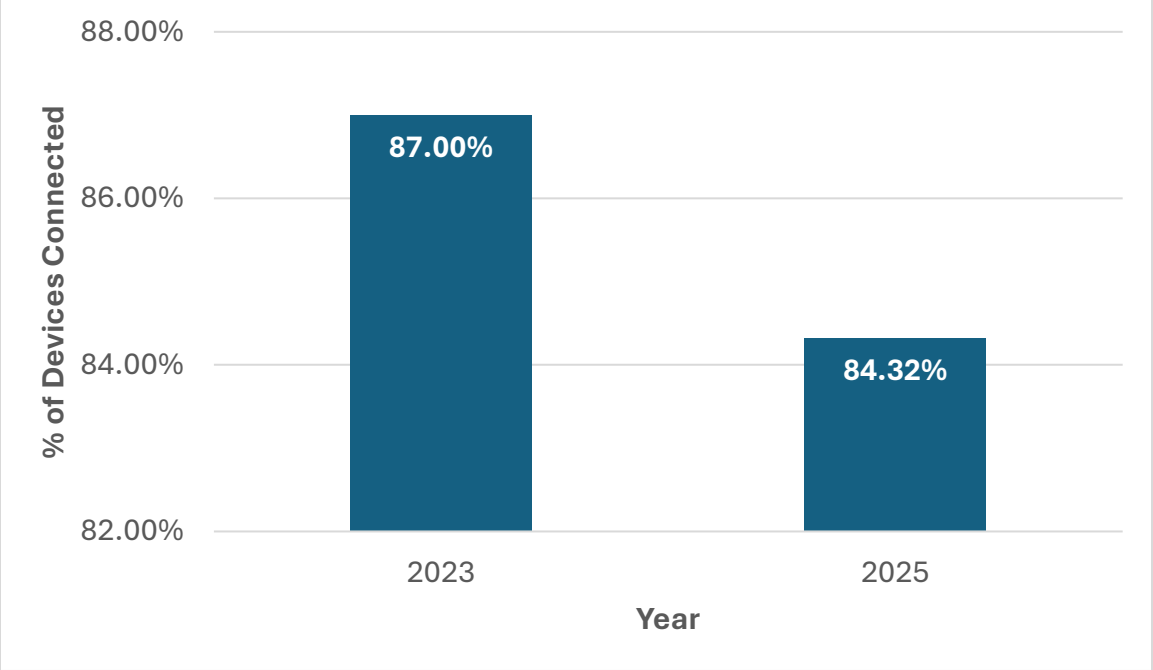
Source: 2023 5-Year ACS Data

Percent of Devices Connected by Fiber on RSCs

Fiber-optic networks are used to maximize operational efficiency and management of the existing roadway infrastructure through the use of Intelligent Transportation Systems (ITS) and devices.

As of 2025, 84.32 percent of devices on RSCs within the NFRMPO are connected by fiber as shown in **Figure 10**. This is a decrease from the baseline value of 87.00 percent in 2023.

Figure 10: Percent of Devices Connected by Fiber on RSCs, 2023 VS 2025



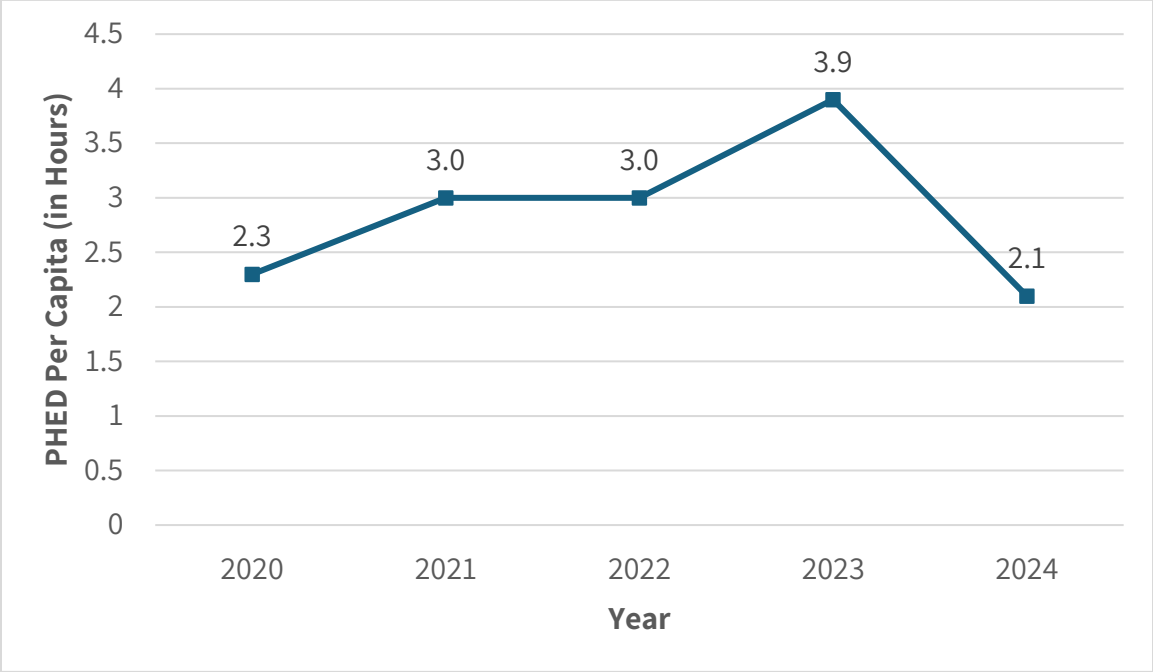
Sources: CDOT and NFRMPO Communities

Peak Hour Excessive Delay on NHS in Fort Collins Urban Area

Peak Hour Excessive Delay (PHED) is a measure of travel time at 20 miles per hour or 60 percent of the posted speed limit travel time during peak travel hours weighted by vehicle volumes and occupancy. Peak hours are defined as between 6AM to 10AM and 3PM to 7PM. Peak Hour Excessive Delay for the National Highway System (NHS) is calculated using data from NPMRDS, the National Performance Management Research Data Set.

Between 2020 to 2024, the Fort Collins UA averaged 2.9 hours of PHED per capita per year. This is lower than between 2017 to 2021 when PHED per capita per year averaged 3.4 hours. The PHED per capita per year from 2017 to 2024 in the Fort Collins UA can be seen in **Figure 11**.

Figure 11: PHED per Capita, 2020-2024



2024 PHED from NPMRDS

Implemented and Programmed Strategies

This performance report identifies the implemented and programmed projects funded through the NFRMPO that include one or more congestion management strategies in their project scope. Projects are included if they were implemented FY2020 to FY2025 or programmed for FY2026. Many other projects occur within the NFRMPO region to address congestion that are not funded through the NFRMPO and are therefore excluded from this report.

Congestion management strategies are categorized in the 2023 CMP in three main categories and six tiers underneath these categories. Strategies associated with each category are provided in **Table 3**. The strategies do not constitute an exhaustive list of congestion management strategies. All reasonable strategies must be evaluated and deemed ineffective or infeasible prior to the consideration of additional system capacity.

Table 3: Congestion Management Strategies by Category and Tier

Category	Tier	Strategy
Demand Management	Tier 1: Shorten Trips and Reduce Need for Trips	Efficient Land Use and Development Practices
		Telecommuting
	Tier 2: Encourage Shift to Transit and Active Modes	Bicycle Infrastructure
		Bicycle and Scooter Share Service
		Bus Rapid Transit (BRT)
		Car Sharing
		Complete Streets Policies
		Mobility Hubs
		Parking Pricing or Parking Restrictions
		Pay-As-You-Drive Insurance
		Pedestrian Infrastructure
		Transit Incentives
		Transit Service Quality Factors
		Transit Service Quantity Factors
	Tier 3: Increase Vehicle Occupancy and Shift Travel to Non-Peak Periods	Alternative/Flexible Work Schedules
		Congestion Pricing
		Guaranteed Ride Home
		High Occupancy Vehicle (HOV) Lanes
		Ridesharing
Supply Management	Tier 4: Improve Roadway Operations Without Expansion, Including ITS	Access Management
		Advanced Traveler Information System
		Automatic Road Enforcement
		Dynamic Parking Management
		Electronic Toll Collection
		Fiber-Optic Communications
		Maintenance Decisions and Support System (MDSS)
		Ramp Metering
		Signage Improvements
		Traffic Operations Center
		Traffic Signal Timing Adjustments
		Transit Signal Priority
		Variable Speed Limits
	Tier 5: Traffic Incident Management (TIM)	Courtesy Patrol
		TIM Plans
Capacity	Tier 6: Roadway Capacity	Auxiliary Lanes
		Climbing Lanes
		Grade-Separated Crossings/Intersections
		New Lanes/Roads
		Roundabouts
		Toll/Express Lanes

The implemented and programmed projects listed in **Table 4** and **Table 5** include all projects funded through the NFRMPO that include one or more congestion management strategies in their project scope between FY2020 and FY2026. The Tables also include which strategy categories each project addresses and the NFRMPO funding sources.

While these Tables are not inclusive of all projects in the region, it demonstrates progress being made on the congested management strategies identified in the 2023 CMP.

Table 4: Implemented Projects with Congestion Management Strategies Funded Through the NFRMPO, FY2020-FY2025

Strategy Category	Project Name	NFRMPO Funding Sources
Demand Management	11th St Multimodal Design – Greeley No. 2 to Sagewood Dr	MMOF, CRP
	7th St Multimodal Study & Early Action	MMOF
	Berthoud Parkway Trail Gap Elimination	MMOF
	COLT Route Expansion	MMOF
	Greeley #3 Canal Trail	MMOF
	Little Thompson River Corridor Trail – Phase 1a	TA
	Phemister Safe Access Bridge and Trail Project	MMOF
	Poudre River Trail Realignment Improvements	TA
	Poudre Trail Wayfinding – I25 to Island Grove Park	TA
	SH287 West Sidewalk Gap	MMOF
	South Boyd Lake Trail	MMOF
	WCR23/Great Western Trail Pedestrian Connection	MMOF
	Willow Bend Trail	TA, MMOF, CRP
	Willow Bend Trail Segment of East Big Thompson River Trail	MMOF
Supply Management	Central System and Controller Replacement	CMAQ
	Greeley Citywide Signal Retiming	CMAQ
	Phase 3 Fiber Greeley	CMAQ
	Traffic Signal Progression Improvements – US34	CMAQ
	US287 Signal Coordination Improvements – Loveland	CMAQ
Capacity	37th St Widening	STBG
	Eastman Park Ultimate Intersection & RR Crossing Improvement	STBG
	Intersection Improvements – SH60 & Carlson Blvd	MMOF
	Intersection Improvements at SH257 & Eastman Park Dr	STBG
	North LCR17 Expansion	STBG, TA, CRP

Strategy Category	Project Name	NFRMPO Funding Sources
	North Taft Ave & US34 Intersection Widening/Improvements	CMAQ
	O St Widening – 11th Ave to WCR37	STBG
	Roundabout at WCR74 & WCR33	STBG
	Timberline Rd Corridor Improvements	STBG
	US34 Eisenhower Blvd Widening – Boise Ave to I25 Intersection Improvements	STBG

Table 5: Programmed Projects with Congestion Management Strategies Funded Through the NFRMPO, FY2026

Strategy Category	Project Name	NFRMPO Funding Sources
Demand Management	Great Western Trail Enhancements	STBG, TA
	MERGE US34 Regional Mobility Hub	MMOF
	Poudre River Regional Trail Windsor to Timnath Connection	MMOF
	Power Trail and Harmony Grade Separated Crossing	CMAQ
	Siphon Overpass – UPRR Power Trail Separated Crossing	MMOF, CRP
Supply Management	35th Ave Adaptive Signal Control Technology	CMAQ
	Mulberry Street Traffic Signal Synchronization	CMAQ
Capacity	37th St Widening Phase 3	STBG
	83rd Ave Roadway Improvements	STBG
	College and Trilby Road Intersection Improvements	CMAQ, STBG
	CR19 (Taft Hill Rd) Improvements – Horsetooth Rd to Harmony Rd	STBG
	E Harmony Road/WCR19 Intersection Improvements	STBG
	O St and 59th Ave Roundabout	STBG
	US34 EB Widening Construction	STBG
	US34 Widening – Boise to Rocky Mountain Ave	STBG
	US287 Intersection Improvements	STBG
	WCR13 Alignment	STBG
	WCR13 & WCR54/LCR1 & LCR18 Roundabout	STBG

Conclusion

As identified in the Implemented and Programmed Strategies section, a variety of strategies are being used to manage congestion within the NFRMPO region. The implemented strategies cover a wide range of corridors and are contributing to the management of congestion.

Across the region, five of nine performance measures are trending in the right direction. The performance measure analysis indicates progress is being made in addressing congestion, but additional strategies are needed to meet the region's congestion reduction goals.