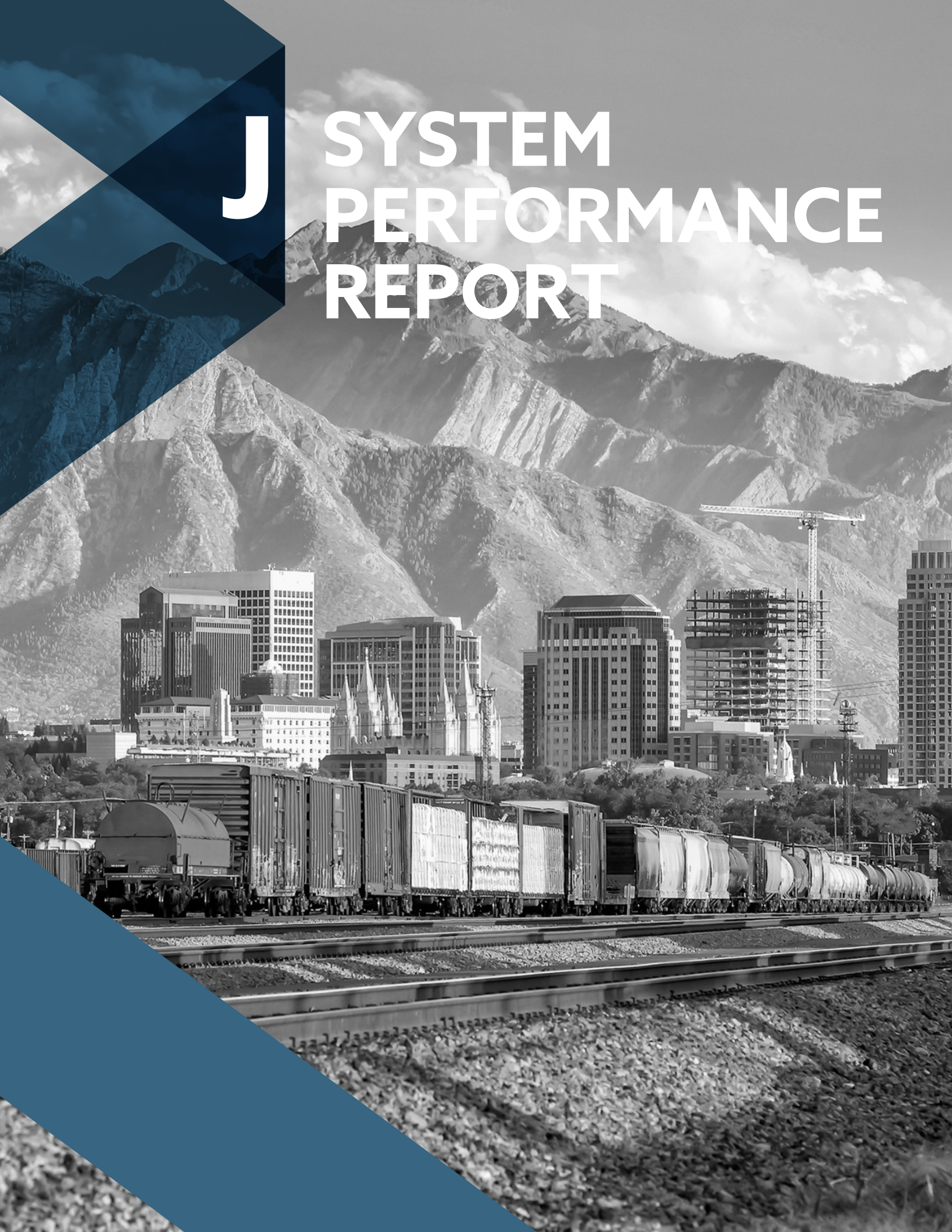
J SYSTEM PERFORMANCE REPORT



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LIST OF ABBREVIATIONS

APTA	American Public Transportation Association
CMAQ	Congestion Mitigation and Air Quality
CMAQPP	Congestion Management Air Quality Performance Plan
CMP	Congestion Management Plan
DOT	Department of Transportation
EFA	Equity Focus Areas
FAST	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HOV	High-Occupancy Vehicle
HSIP	Highway Safety Improvement Program
IIJA	Infrastructure Investment and Jobs Act
LOTTR	Level of Travel Time Reliability
MAP-21	Moving Ahead for Progress in the 21st Century
MPO	Metropolitan Planning Organizations
NHPP	National Highway Performance Program
NHS	National Highway System
NPMRDS	National Performance Management Research Data Set
NTPSP	National Transit Public Safety Plan
PAS	Public Access System
PHED	Peak Hour Excessive Delay
PTASP	Public Transportation Agency Safety Plan
PTC	Positive Train Control
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
REMM	Real Estate Market Model
RTP	Regional Transportation Plan
SHSP	Strategic Highway Safety Plan
SOV	Single Occupant Vehicle
SS4A	Safe Streets and Routes for All
TAM	Transit Asset Management
TAMP	Transit Asset Management Plan
TDM	Travel Demand Model
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TTTR	Truck Travel Time Reliability
UDOT	Utah Department of Transportation
UTA	Utah Transit Authority
VMT	Vehicle Miles Traveled
WFRC	Wasatch Front Regional Council

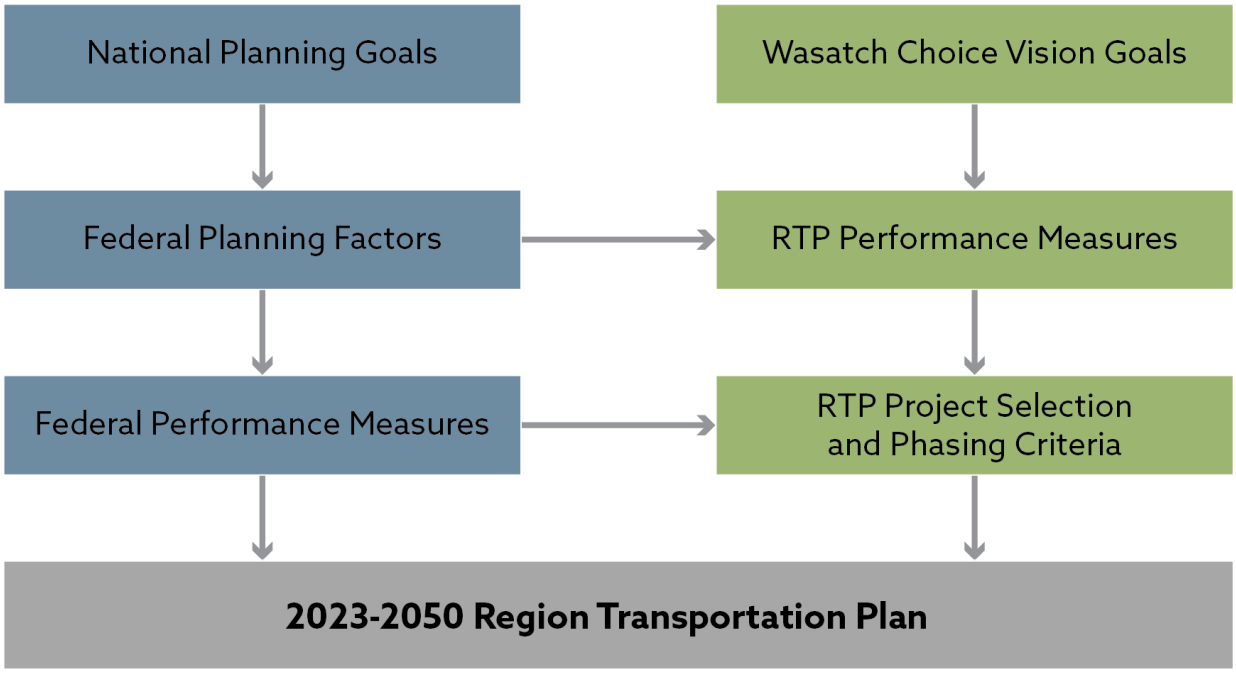
SYSTEM PERFORMANCE REPORT

This Appendix J serves as the System Performance Report for the 2023-2050 Regional Transportation Plan (RTP). This report includes an evaluation of system performance with respect to the Federal performance targets and how the 2023-2050 RTP preferred scenario improves the performance of the transportation system. The progress descriptions include the performance data and associated performance target information that is available at the time of plan adoption.

Federal and Regional Framework

Wasatch Front Regional Council (WFRC) uses a performance-based planning and programming framework that incorporates federal and regional priorities and objectives. WFRC staff incorporated the seven national planning goals and ten federal planning factors within the Wasatch Choice Vision strategies and goals and the 2023-2050 RTP performance measures. The federal and regional performance measures were used in the evaluation of candidate projects. Figure 1 shows the structure of performance-based planning in the 2023-2050 RTP.

Figure 1. Integration of Federal and Regional Performance-Based Planning into the 2023-2050 RTP



National Planning Goals

The Moving Ahead for Progress in the 21st Century (MAP-21) Act established seven national goals, as shown in Table 1. These seven national goals were carried forward into the subsequent surface transportation legislation, the Fixing America's Surface Transportation (FAST) Act. The FAST Act continues MAP-21's overall performance approach and ensures investment in projects that collectively make progress toward the national goals.

Table 1. National Planning Goals

NATIONAL GOAL	DESCRIPTION
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
Infrastructure Condition	To maintain the highway infrastructure asset system in a state of good repair.
Congestion Reduction	To achieve a significant reduction in congestion on the National Highway System.
System Reliability	To improve the efficiency of the surface transportation system.
Freight Movement and Economic Vitality	To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
Environmental Sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment.
Reduced Project Delivery Delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Federal Planning Factors

The United States Congress, through the Infrastructure Investment and Jobs Act (IIJA), MAP-21, and FAST Act, identified ten planning factors for consideration in the development of long-range transportation plans, as noted in 23 CRF 450. These factors are designed to assist planners in developing comprehensive solutions to area transportation needs. The FAST Act planning factors for improving transportation system management, operation, efficiency, and safety are consistent with the goals and objectives of the 2023–2050 RTP. The ten planning factors are:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.

4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements, and state and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
10. Enhance travel and tourism.

More information about how the 2023-2050 RTP considers and integrates these planning factors can be found in Chapter 10: Present Impacts and Benefits of the 2023-2050 RTP document.

Wasatch Choice Vision Goals

The 2023-2050 RTP seeks to advance ten regional quality of life goals.

On October 27, 2016, WFRC adopted the Wasatch Choice Vision goals. This milestone represented the culmination of a year and a half of work to gather input from cities, counties, transportation partners, businesses, and community organizations regarding local and regional priorities for the Wasatch Choice Vision.

WFRC established these goals to set the direction for our shared regional Vision, and to inform how future transportation investments will be evaluated, selected, prioritized, and coordinated with local community priorities regarding growth, land use, and the pursuit of housing and economic development opportunities.

These goals were utilized in the development of the 2023-2050 RTP in each step: Explore, Choose, Prioritize, and Implement. The ten goals are:

- Livable and healthy communities;
- Access to economic and educational opportunities;
- Manageable and reliable traffic conditions;
- Quality transportation choices;
- Safe, user friendly streets;
- Clean air;
- Housing choices and affordable living expenses;
- Fiscally responsible communities and infrastructure;
- Sustainable environment; and
- Ample parks, open spaces, and recreational opportunities.

The RTP aims to achieve the ten goals for the Region as a whole and for all of the communities within the Region. WFRC has developed the Equity Focus Areas (EFA) framework to promote inclusive engagement in transportation planning processes and equitable access to affordable and reliable transportation options. WFRC defines EFA communities as Census tracts with greater than 25 percent low-income and/or greater than 40 percent minority populations.

FEDERAL PERFORMANCE MEASURES

In addition to identifying national goals and planning factors to guide metropolitan planning organizations (MPOs), MAP-21 and the FAST Act also provided a performance management framework for state Departments of Transportation (DOTs), transit agencies, and MPOs to assess and monitor the performance of the transportation system. Table 2 outlines the federal performance areas and measures.

Table 2. Federal Performance Areas and Measures

PERFORMANCE AREA	MEASURE	
Safety Performance	Safety	Number of fatalities
		Rate of fatalities per 100 million vehicle miles traveled
		Number of serious injuries
		Rate of serious injuries per 100 million vehicle miles traveled
		Number of non-motorized fatalities and serious injuries
Infrastructure Condition	Pavement Condition	Percent of pavement on the interstate system in good condition
		Percent of pavement on the interstate system in poor condition
		Percent of pavement on the non-interstate national highway system in good condition
		Percent of pavement on the non-interstate national highway system in poor condition
	Bridge Condition	Percent of bridges in good condition
		Percent of bridges in poor condition
System Performance, Freight, and Congestion Mitigation and Air Quality	Traffic Congestion	Annual hours of peak-hour excessive delay per capita
		Percent of non-single-occupant vehicle travel
	Travel Time Reliability	Percent of the person miles traveled on the Interstate that are reliable
		Percent of the person miles traveled on the non-Interstate National Highway System that are reliable
	Freight Reliability	Truck travel time reliability index

PERFORMANCE AREA	MEASURE	
Transit Asset Management	Rolling Stock	Percent of revenue vehicles by type exceeding the useful life benchmark
	Equipment	Percent of non-revenue vehicles by type exceeding the useful life benchmark
	Facilities	Percent of facilities by group rated under 3.0 on the Transit Economic Requirements Model scale
	Infrastructure	Percent of track segments by mode under performance restrictions
Public Transportation Agency Safety Plan	Fatalities	Total number of reportable fatalities and rate per vehicle revenue miles by mode
	Injuries	Total number of reportable injuries and rate per vehicle revenue miles by mode
	Events	Total number of reportable events and rate per vehicle revenue miles by mode
	Reliability	Mean distance between major mechanical failures by mode

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) established a set of rulemakings for the implementation of federal performance-based planning and programming requirements. Each rulemaking pertains to a particular area of transportation, and lays out the goals, measures, and data to be used in setting targets. The Utah Department of Transportation (UDOT), the Utah Transit Authority (UTA), and WFRC must link investment priorities to the achievement of performance targets. WFRC has the option of supporting UDOT's or UTA's targets, respectively, or setting targets specific to the WFRC planning area. WFRC works closely with UDOT and UTA to set targets for the performance measures, and therefore supports the targets set by UDOT and UTA, respectively.

The 2023-2250 RTP should help UDOT and UTA make progress toward achieving performance targets. Each DOT, transit agency, and MPO is required to coordinate together to set performance targets and report on progress toward meeting national goals and agency targets.

Performance Measure Rule 1: Safety Performance Targets

The safety performance targets support the Highway Safety Improvement Program to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads. FHWA requires the DOTs and MPOs to establish safety targets on an annual basis for:

- **Number of Fatalities:** The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year.
- **Rate of Fatalities:** The ratio of total number of fatalities to the number of vehicle miles traveled (VMT, in 100 Million VMT) in a calendar year.

- **Number of Suspected Serious Injuries:** The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year.
- **Rate of Suspected Serious Injuries:** The ratio of total number of serious injuries to the number of VMT (in 100 Million VMT) in a calendar year.
- **Number of Non-motorized Fatalities and Non-motorized Suspected Serious Injuries:** The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year.

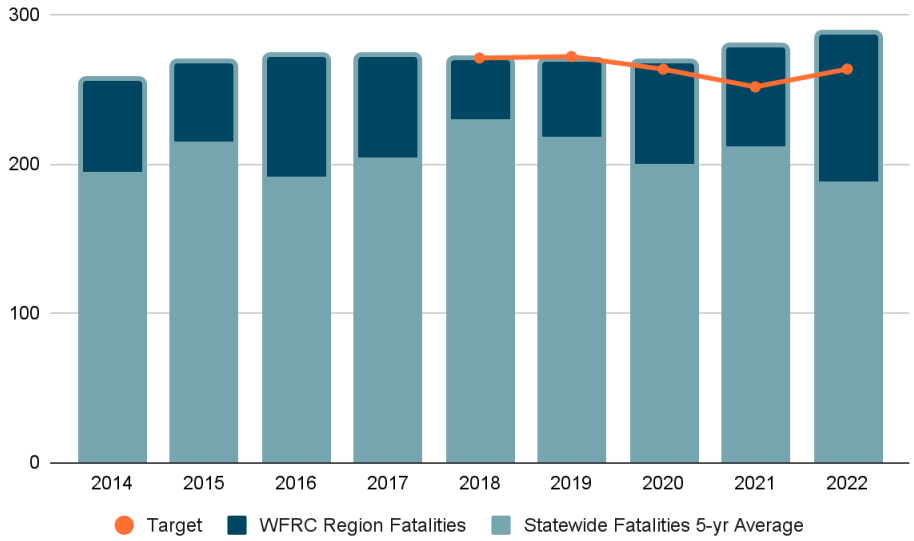
Measures are for all public roads regardless of functional classification or ownership and each target is based on a five-year rolling average, which is the average of five individual, consecutive points of data.

Current Conditions

WFRC staff receives safety data from UDOT statewide and within the metropolitan planning organization area. Based on a five-year average, the number of fatalities statewide had been increasing from 2014 to 2017. In 2018, the five-year average for fatalities began to decrease and this trend continued to 2020. The five-year average has since increased in both 2021 and 2022. The rate of fatalities per 100 million vehicle miles traveled was decreasing or remaining stable from 2015 (0.937 fatalities per 100 million vehicle miles), with a recent increase in the rate in 2021 (0.865) and 2022 (0.878). This recent increase is also reflected in national trends.

Both the five-year average and the fatality rate within the WFRC metropolitan planning area fluctuate from year to year. For fatalities, a low five-year average of 39.6 occurred in 2018 and a high five-year average of 98.2 occurred in 2022. For fatalities per 100 million vehicle miles, a low five-year average of 0.637 occurred in 2019 and a high five-year average of 1.068 occurred in 2017.

Figure 2. Statewide and WFRC Region Fatalities (Five-Year Average) and Performance Targets, 2014-2022

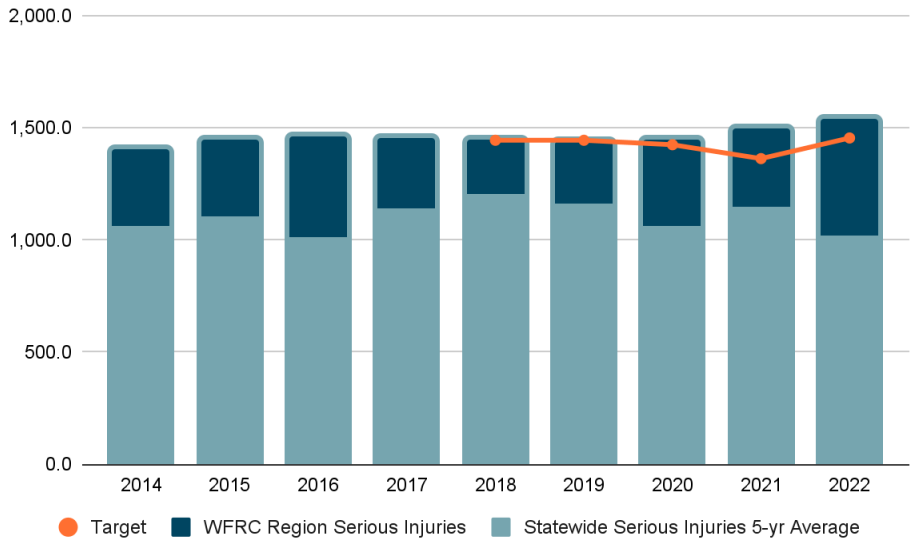


Despite an increase in population, employment, and vehicle miles traveled, the statewide number of serious injuries (five-year average) has remained stable since 2015, with the exception of 2021 and 2022, which reflects both the statewide trend for fatalities and national trends. The five-year average for serious injuries

was 1,451 in Utah in 2015 and 1,446 in 2020. However, since 2020, the five-year average for serious injuries has increased each year to 1,540 in 2022. The five-year serious injuries average within the WFRC area has fluctuated throughout this period as well, but has remained under 500 until 2022 (519).

At the same time, the five-year average serious injury rate declined from 2015 (5.094) to 2019 (4.594), with a slight increase in the pandemic/post-pandemic years to 4.716 - still an overall decline from 2015. However, in the WFRC area, the five-year average serious injury rate has increased relatively significantly from 3.950 in 2019 to 5.455 in 2021. The rate decreased again in 2022 to 5.202. As noted in the Highway Safety Improvement Program (HSIP)'s 2021 Report: *"We are hopeful that our efforts to prioritize safety projects with the greatest potential to reduce fatalities and serious injuries will lead to a resumption of the downward trends in those crash types as more normal traffic patterns emerge following the pandemic."*

Figure 3. Statewide and WFRC Region Serious Injuries (Five-Year Average) and Performance Targets, 2014-2022



Across the nation, non-motorized fatalities and serious injuries continue to increase and prove a challenge to local governments and transportation providers to reduce. This trend has also been visible in Utah and the WFRC Region. Utah has seen a slight increase in the five-year average non-motorized fatalities and serious injuries from 2014 (207.0) to the present (238.4), with a large increase in the five-year average of 15 additional deaths and injuries in 2022.

The five-year average of the number of fatalities and serious injuries in the WFRC Region generally fluctuates from year to year, but experienced a significant increase with the highest five-year average since 2014. In 2022, the five-year average jumped from 49.4 to 92.0. This unacceptable increase is caused by both a doubling in the five-year average of fatalities (10.2 to 20.6) and an almost doubling of the five-year average for serious injuries (39.2 to 71.4).

Figure 4. Statewide Non-Motorized Fatalities and Serious Injuries (Five-Year Average) and Performance Targets, 2014-2022

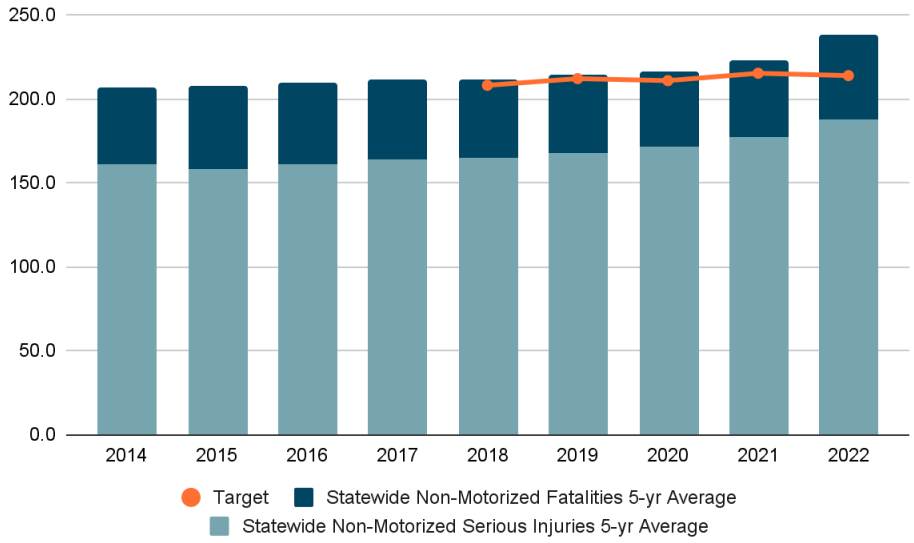
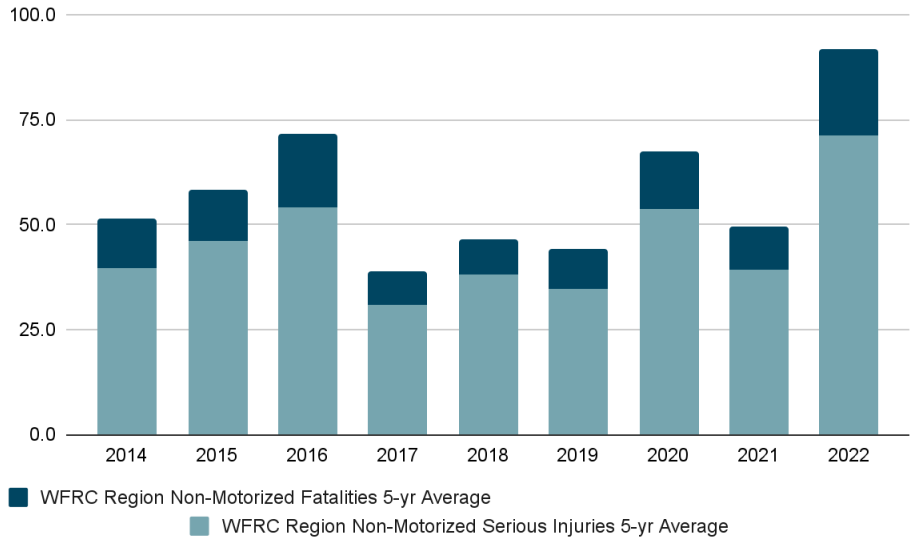


Figure 5. WFRC Region Non-Motorized Fatalities and Serious Injuries (Five-Year Average), 2014-2022



Progress in Achieving Targets

Safe, user-friendly streets is a goal of the Wasatch Choice Vision and is incorporated into the project selection and project prioritization of the 2023-2050 RTP. It is assumed that any improvement to our streets will improve the safety of the roadway. More than half of the road projects within the 2023-2050 RTP will improve infrastructure with a usRAP rating of less than four (out of five) and have been prioritized with respect to safety. The use of usRAP is consistent with Utah's HSIP process. The 2023-2050 RTP also includes 25 grade-separated vehicle crossings that will reduce freight conflict with ground transportation, including bicyclists and pedestrians.

Increased use of bicycle and pedestrian facilities is a result of safe, user-friendly streets as well. The 2023-2050 RTP includes 169 miles of protected and buffered bike lanes and 562 miles of separated, non-motorized shared use paths, side paths, and trails. These facilities provide physical protection in one form or another between bicyclists and vehicles, increasing safety and comfort of the user. In addition, there are 104 enhanced bicycle/pedestrian crossings that will reduce conflict with freight and vehicular transportation and/or will improve safety where potential conflicts between bicycles, pedestrians, and vehicles can occur.

Safety is also a top priority for WFRC's Transportation Improvement Program (TIP), which seeks to improve regional roadway safety by improving roadways, intersections, and bicycle and pedestrian facilities. In the 2023-2028 TIP, 75 projects totaling $93 million are identified to help achieve progress in the Region's safety. These projects include grade-separated pedestrian crossings, filling in gaps in the sidewalk network, safe routes to school, intersection signalization, removing obstacles, and realigning intersections.

WFRC is leading a region-wide safety action plan as part of a recently awarded Safe Streets and Roads for All (SS4A) grant. Two principal objectives of the action plan will be 1) to identify strategies and project types to reduce fatalities and serious injuries on roadways in the Region, and 2) to enable communities in the Region to be eligible to apply to the SS4A program in the 2024, 2025, and 2026 cycles. The development of the action plan will be a collaborative effort among WFRC, local governments, UDOT, and UTA, with a focus on applying the Safe Systems Approach, which is a comprehensive look at safety within all aspects of the transportation system. The Action Plan will kick-off in late spring or early summer 2023.

The progress in achieving the safety targets is shown in tables 3 through 7. A target has been met If the actual outcome for a performance measure is equal to or less than the target. Unfortunately, Utah stopped meeting its safety targets in 2020. If a state has not met a target, FHWA will determine if the actual outcome for the target is better than the baseline performance for that target. The baseline performance is the five-year rolling average for the target ending the year prior to the establishment of the state's target. If a state has not met or made significant progress toward meeting its targets, the state must comply with the provisions set forth in 23 USC 148(i) for the subsequent fiscal year. The state shall:

1. Use obligation authority equal to the Highway Safety Improvement Program (HSIP) apportionment for the year prior to the target year, only for HSIP projects.
2. Submit an HSIP Implementation Plan that describes actions the state will take to meet or make significant progress toward meeting its targets. The HSIP Implementation Plan should guide the state's project decisions so that the combined 148(i) provisions lead to the state meeting or making significant progress toward meeting its safety performance targets in subsequent years.

In addition to this directed HSIP funding, UDOT is currently undertaking a Vulnerable Road User Safety Assessment. This federally-mandated, statewide assessment looks at the safety of non-motorists, i.e., pedestrians, cyclists, those using mobility devices, etc. The assessment will identify high-risk areas for non-motorists and a program of projects and/or strategies to be implemented to increase the safety for vulnerable road users. This effort is scheduled to be completed by the fall of 2023.

UDOT's Zero Fatalities Program has been in place for a number of years and focuses on roadway user education. Messaging around driving alert, driving focused, driving calm, driving sober, and buckling up are promoted as safe driving behaviors. These messages are reinforced at the three-day Zero Fatalities Safety Summit. It is held annually with panel discussions, presentations, and workshops, all focused on reducing fatalities and serious injuries on Utah roadways. The Summit includes the one-day Pedestrian Safety Conference, which explicitly brings together diverse individuals focused on the safety of people walking, as pedestrian fatalities and serious injuries make up a disproportionate number of all fatalities and serious injuries that occur on Utah roadways.

Table 3. 2018 Safety Performance Targets

	FIVE-YEAR ROLLING AVERAGE			
2018 PERFORMANCE MEASURES	BASELINE (2012-2016)	TARGETS (2014-2018)	ACTUALS (2014-2018)	ACHIEVED
Number of Fatalities	271.7	271.0	269.6	✓
Rate of Fatalities per 100 Million Vehicle Miles Traveled	0.929	0.910	0.892	✓
Number of Serious Injuries	1,459.7	1,445.0	1,446.2	✗
Rate of Serious Injuries per 100 Million Vehicle Miles Traveled	4.995	4.870	4.787	✓
Number of Non-motorized Fatalities and Serious Injuries	209.3	208.0	211.8	✗

Table 4. 2019 Safety Performance Targets

2019 PERFORMANCE MEASURES	FIVE-YEAR ROLLING AVERAGE			ACHIEVED
	BASELINE (2013-2017)	TARGETS (2015-2019)	ACTUALS (2015-2019)	
Number of Fatalities	272.0	271.0	268.0	✓
Rate of Fatalities per 100 Million Vehicle Miles Traveled	0.913	0.890	0.857	✓
Number of Serious Injuries	1,458.0	1,445.0	1,437.2	✓
Rate of Serious Injuries per 100 Million Vehicle Miles Traveled	4.899	4.750	4.594	✓
Number of Non-motorized Fatalities and Serious Injuries	211.8	212.0	214.6	✗

Table 5. 2020 Safety Performance Targets

2020 PERFORMANCE MEASURES	FIVE-YEAR ROLLING AVERAGE			ACHIEVED
	BASELINE (2014-2018)	TARGETS (2016-2020)	ACTUALS (2016-2020)	
Number of Fatalities	269.9	263.5	267.6	✗
Rate of Fatalities per 100 Million Vehicle Miles Traveled	0.892	0.820	0.851	✗
Number of Serious Injuries	1,446.2	1,425.1	1,446.0	✗
Rate of Serious Injuries per 100 Million Vehicle Miles Traveled	4.787	4.400	4.596	✗
Number of Non-motorized Fatalities and Serious Injuries	211.8	210.8	216.2	✗

Table 6. 2021 Safety Performance Targets

2021 PERFORMANCE MEASURES	FIVE-YEAR ROLLING AVERAGE			ACHIEVED
	BASELINE (2015-2019)	TARGETS (2017-2021)	ACTUALS (2017-2021)	
Number of Fatalities	268.0	251.7	277.8	✗
Rate of Fatalities per 100 Million Vehicle Miles Traveled	0.857	0.780	0.865	✗
Number of Serious Injuries	1,437.2	1,363.2	1,498.2	✗
Rate of Serious Injuries per 100 Million Vehicle Miles Traveled	4.594	4.210	4.666	✗
Number of Non-motorized Fatalities and Serious Injuries	214.6	215.2	223.2	✗

Table 7. 2022 Safety Performance Targets

2022 PERFORMANCE MEASURES	FIVE-YEAR ROLLING AVERAGE			ACHIEVED
	BASELINE (2016-2020)	TARGETS (2018-2022)	ACTUALS (2018-2022)	
Number of Fatalities	267.6	263.6	287.0	✗
Rate of Fatalities per 100 Million Vehicle Miles Traveled	0.851	0.823	0.878	✗
Number of Serious Injuries	1,446.0	1,455.2	1,540.0	✗
Rate of Serious Injuries per 100 Million Vehicle Miles Traveled	4.596	4.547	4.715	✗
Number of Non-motorized Fatalities and Serious Injuries	216.2	213.8	238.2	✗

Performance Measure Rule 2: Infrastructure Condition Targets

The National Highway Performance Program provides support for the condition and performance of the National Highway System (NHS), for construction of new facilities and to ensure that investments of federal-aid funds are directed to support progress toward achieving performance targets established in a state's asset management plan. UDOT collects pavement and bridge condition information on the NHS and classifies all assets into good, fair, and poor conditions. However, federal performance measures are only set for good and poor conditions. WFRC has elected to support UDOT's pavement and bridge condition targets - still, the following charts illustrate the performance of pavement and bridge in the WFRC Region as well as statewide.

Current Conditions

UDOT, and the state of Utah, prides itself on good asset management. In 2021, Utah received the highest ranking in the nation for infrastructure condition by the White House[1]. Utah has maintained high standards for asset conditions for many years.

Pavement in good condition suggests no major investment is needed. Pavement in poor condition suggests that major reconstruction investment is needed. In 2014, 72.0 percent of interstate NHS pavement and 51.5 percent of non-interstate NHS were rated in good condition. Although this has varied over the last eight years, in 2021, 68.2 percent of interstate NHS pavement and 48.5 percent of non-interstate NHS pavement were rated in good condition. Over that same period, the highest year of poor interstate NHS pavement was in 2017 at 2.5 percent and of non-interstate NHS pavement in 2018 at 6 percent. In 2021, 0.2 percent of interstate NHS pavement and 0.8 percent of non-interstate NHS were rated in good condition. In the WFRC Region, 55.2 percent of interstate NHS pavement and 46.3 percent of non-interstate NHS pavement were in good condition in 2021. Only 0.5 percent of interstate NHS pavement and 1.7 percent of non-interstate NHS were rated in poor condition.

[1] "American Jobs Plan: the Need for Action in Utah."
https://www.whitehouse.gov/wp-content/uploads/2021/04/AJP-State-Fact-Sheet-UT.pdf

Figure 6. Statewide Interstate Pavement Condition, 2014-2021

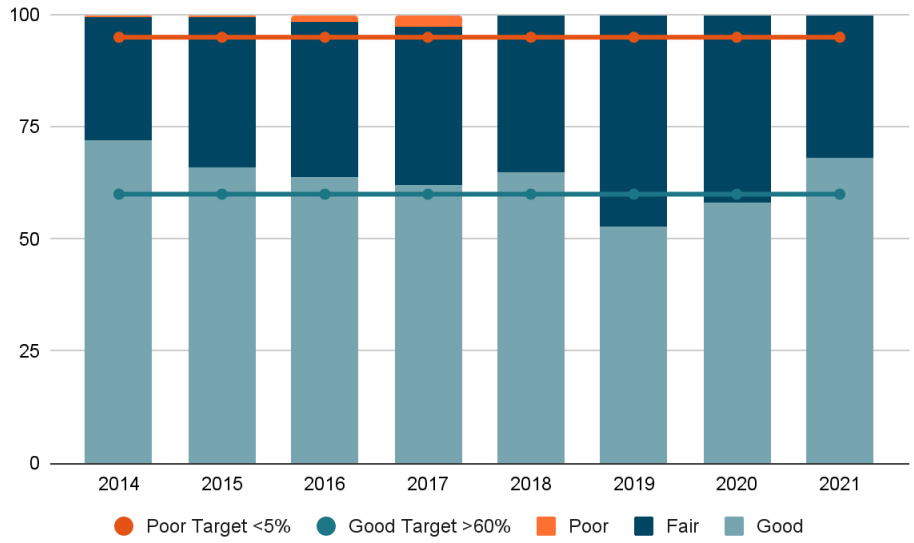


Figure 7. WFRC Region Interstate Pavement Condition, 2019-2021

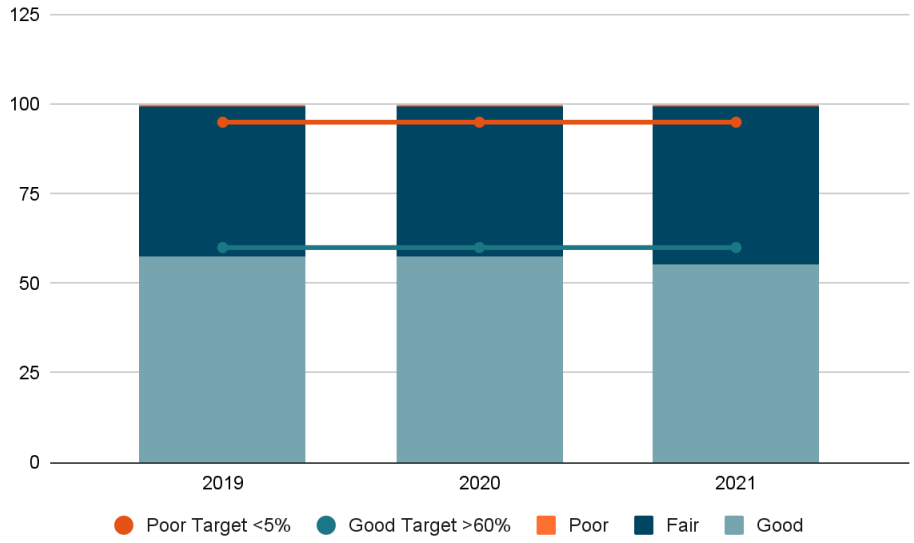


Figure 8. Statewide Non-Interstate Pavement Condition, 2014-2021

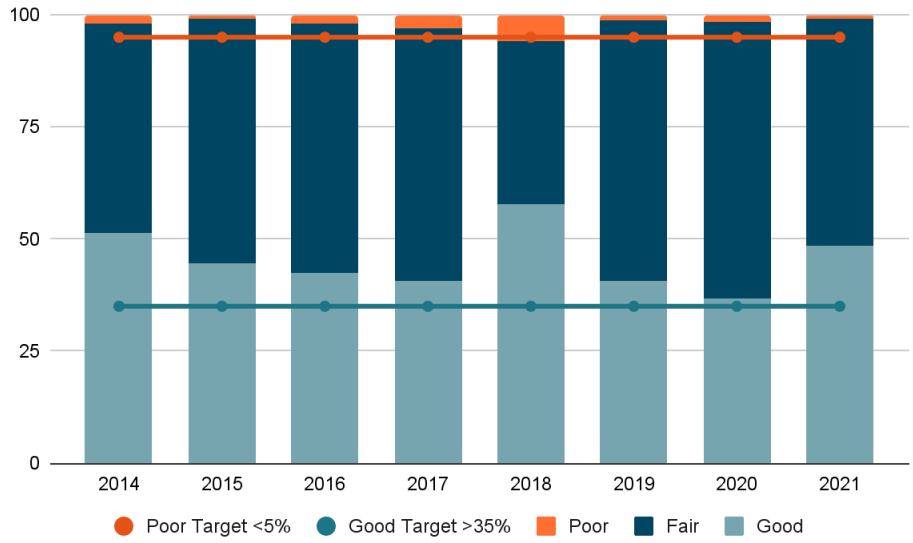
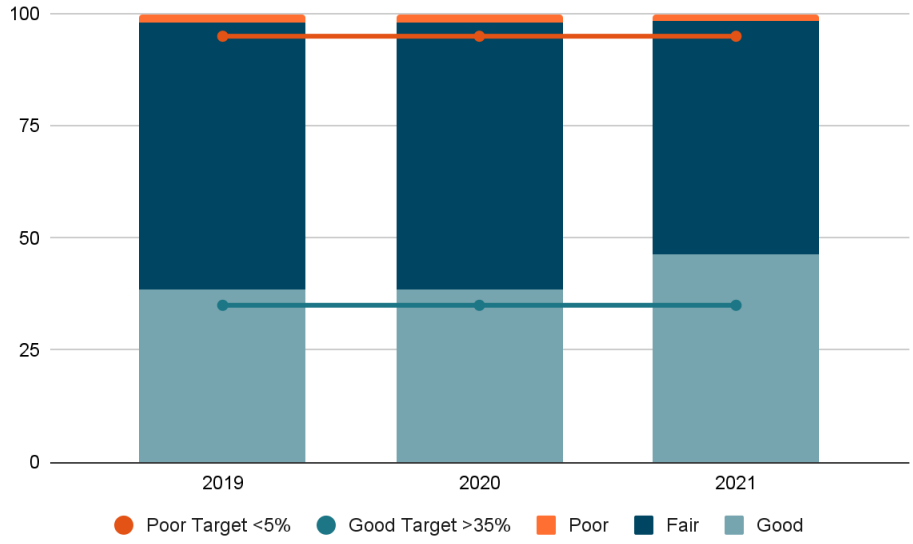


Figure 9. WFRC Region Non-Interstate Pavement Condition, 2019-2021



Each bridge is inspected biennially and assigned an overall condition rating based on its lowest component - deck, superstructure, substructure, and culvert - rating. The NHS bridge condition and off-NHS bridge condition percentages are based on deck area. Since 2017, both NHS and off-NHS good condition has been declining, while the poor condition has generally been stable. In 2017, 57.6 percent of NHS and 53.4 percent of off-NHS were in good condition and 0.6 percent of NHS and 1.1 percent of off-NHS were in poor condition. Five years later in 2021, 31.3 percent of NHS and 25.5 percent of off-NHS were in good condition and 0.3 percent of NHS and 1.9 percent of off-NHS were in poor condition.

This is also the trend in the WFRC Region. In 2017, 55.0 percent of NHS and 47.9 percent of off-NHS were in good condition and 0.7 percent of NHS and 1.3 percent of off-NHS were in poor condition. Five years later in 2021, 26.8 percent of NHS and 23.5 percent of off-NHS were in good condition and 0.3 percent of NHS and 3.2 percent of off-NHS were in poor condition.

Figure 10. Statewide NHS Bridge Condition, 2017-2021

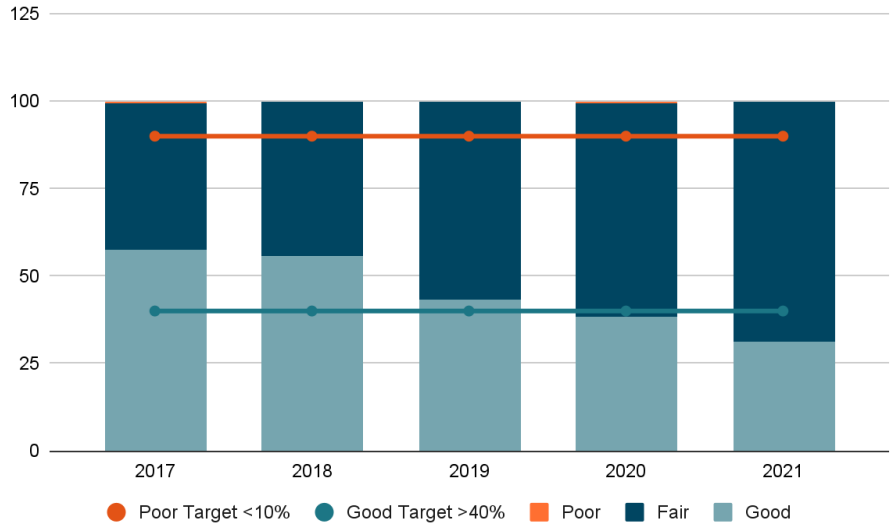


Figure 11. WFRC Region NHS Bridge Condition, 2017-2021

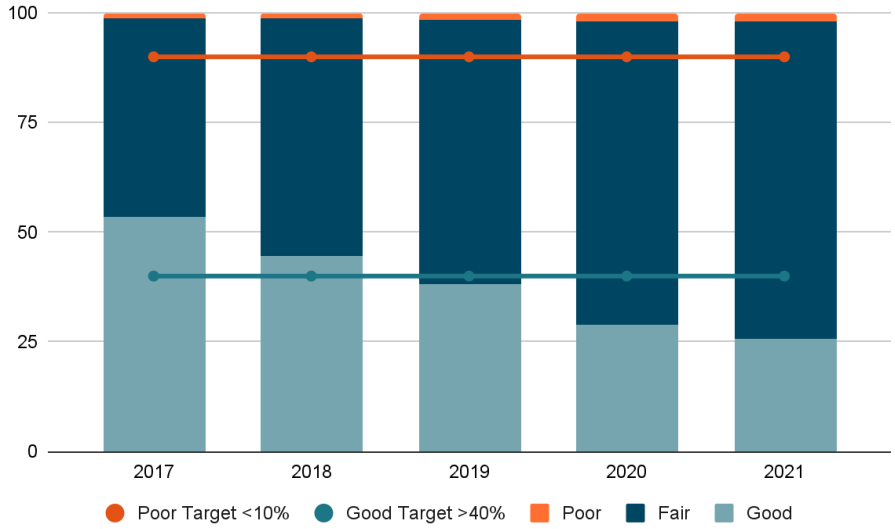


Figure 12. Statewide Off-NHS Bridge Condition, 2017-2021

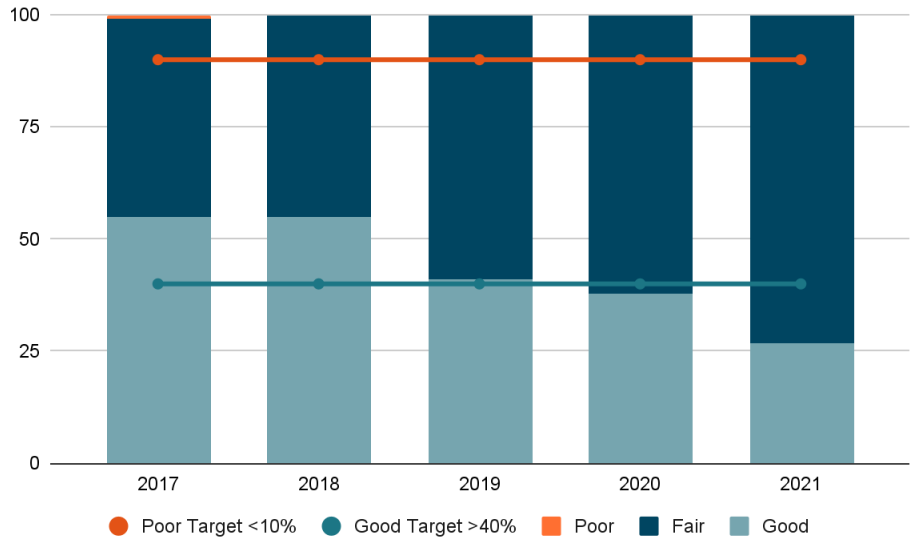
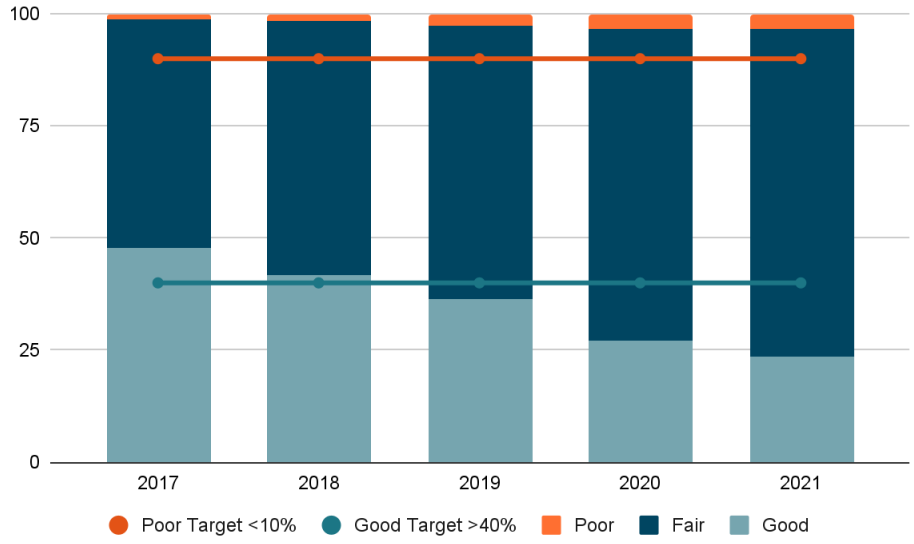


Figure 13. WFRC Region Off-NHS Bridge Condition, 2017-2021



Progress in Achieving Targets

Fiscally responsible communities and infrastructure is a goal of the Wasatch Choice Vision, and pavement and bridge conditions have been incorporated into the project selection and project prioritization of the 2023-2050 RTP. Our fiscal analysis has assumed that $9.565 billion will be spent on preservation between 2023-2050 in the two Wasatch Front Urbanized Areas. This is in addition to 2023-2050 RTP roadway capacity projects that will improve pavement and bridge conditions. The WFRC assumes that any roadway widening project will reconstruct the entire roadway.

Also, communities need to build into their maintenance budgets preservation for active transportation facilities such as sidewalks and shared use paths. Many on-street facilities, such as buffered bike lanes, will be considered as part of roadway pavement width maintenance. However, even in those cases, upkeep of painted markings and signage must also be factored into the cost of maintaining good infrastructure.

Asset management is also a top priority for WFRC's TIP, which implements the short range needs and the maintenance of our existing system and requires jurisdictions to schedule and perform regular maintenance procedures. In the 2023-2028 TIP, 28 projects totaling $94 million are identified to help achieve progress in the Region's system maintenance. These projects include roadway reconstructions, improving drainage, replacing bridge decks, and other bridge life extension projects.

The IIJA will rebuild roads and includes the single-largest dedicated bridge investment since the construction of the interstate highway system. Based on formula funding alone, Utah is expected to receive approximately $2.4 billion over five years in federal funding for highways and bridges[2].

WFRC supports UDOT's pavement and bridge condition targets instead of setting targets specific to the Region. Progress in achieving the four-year infrastructure condition targets is shown in tables 8 and 9. FHWA determines significant progress for the National Highway Performance Program (NHPP) measures after the mid-point and end of each performance period. FHWA has determined that Utah did not make significant progress for bridges in good condition. Because of that, UDOT is subject to additional reporting requirements.

Table 8. Pavement Condition Targets

PAVEMENT CONDITION PERFORMANCE MEASURES	BASELINE (2017)	FOUR-YEAR TARGETS (2021)	FOUR-YEAR ACTUALS (2021)	FULL PERIOD PERFORMANCE PROGRESS
Percent of Pavement in Good Condition (Interstate)	61.9%	> 60%	68.2%	✓
Percent of Pavement in Poor Condition (Interstate)	2.5%	< 5%	0.2%	✓
Percent of Pavement in Good Condition (Non-Interstate NHS)	40.6%	> 35%	48.6%	✓
Percent of Pavement in Poor Condition (Non-Interstate NHS)	6.0%	< 5%	0.8%	✓

[2] "Building a Better America." https://www.whitehouse.gov/wp-content/uploads/2022/11/Utah-BIL-State-Fact-Sheet-Nov-22.pdf

Table 9. Bridge Condition Targets

BRIDGE CONDITION PERFORMANCE MEASURES	BASELINE (2017)	FOUR-YEAR TARGETS (2021)	FOUR-YEAR ACTUALS (2021)	FULL PERIOD PERFORMANCE PROGRESS
Percent of Bridges in Good Condition (NHS)	55.0%	> 40%	26.8%	✗
Percent of Bridges in Poor Condition (NHS)	0.7%	< 10%	0.3%	✓
Percent of Pavement in Good Condition (Non-NHS)	47.9%	> 40%	23.5%	✗
Percent of Pavement in Poor Condition (Non-NHS)	1.3%	< 10%	3.2%	✓

Performance Measure Rule 3: System Performance Targets

The system performance targets assess:

- Performance of the Interstate and non-interstate National Highway System for the purpose of carrying out the National Highway Performance Program.
- Freight movement on the Interstate System.
- Traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement Program.

Travel Time Reliability

Travel time reliability measures are the percent of person-miles traveled on the NHS that are reliable, expressed as the level of travel time reliability. Person-miles take into account the users of the NHS. Data include bus, auto, and truck occupant levels to reflect the various users of the NHS. UDOT must establish statewide targets for the performance of the Interstate and non-Interstate NHS during four peak travel time periods which include peak daytime periods and weekend periods. UDOT sets its performance targets for the Level of Travel Time Reliability (LOTTR) Index which indicates the reliability of travel on the Interstate and non-Interstate NHS.

While WFRC is supporting UDOT's travel time reliability targets, the following charts illustrate the system's performance in the WFRC Region as well as statewide.

Both interstate and non-interstate travel time reliability have been increasing statewide and in the WFRC Region over the past five years. In 2017, 90.3 percent of interstate travel and 83.9 percent of non-interstate travel was considered reliable statewide. In 2021, these measures had increased to 98.8 percent of interstate travel and 88.6 percent of non-interstate travel statewide. In the WFRC Region, interstate travel reliability increased from 82.1 percent to 97.6 percent and non-interstate travel reliability increased from 75.1 percent to 84.9 percent between 2017 and 2021.

Figure 14. Interstate Level of Travel Time Reliability, 2017-2021

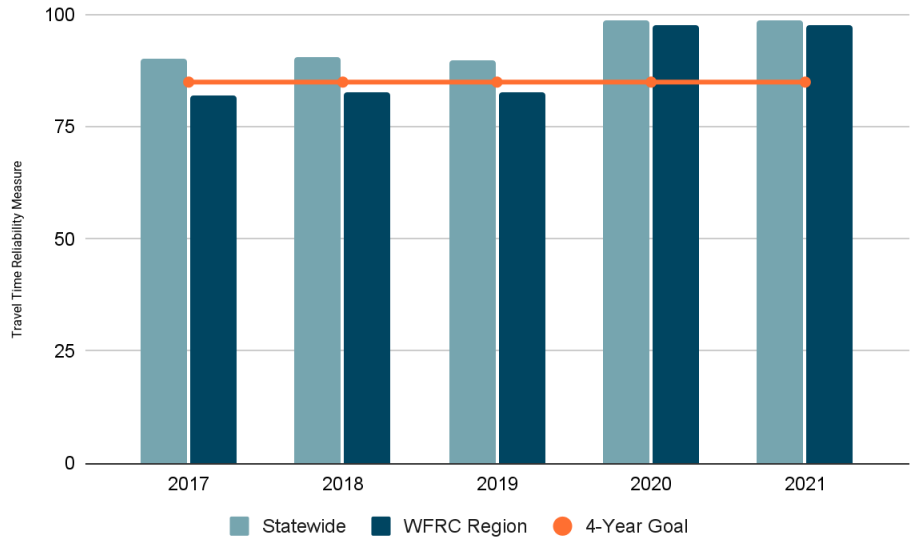
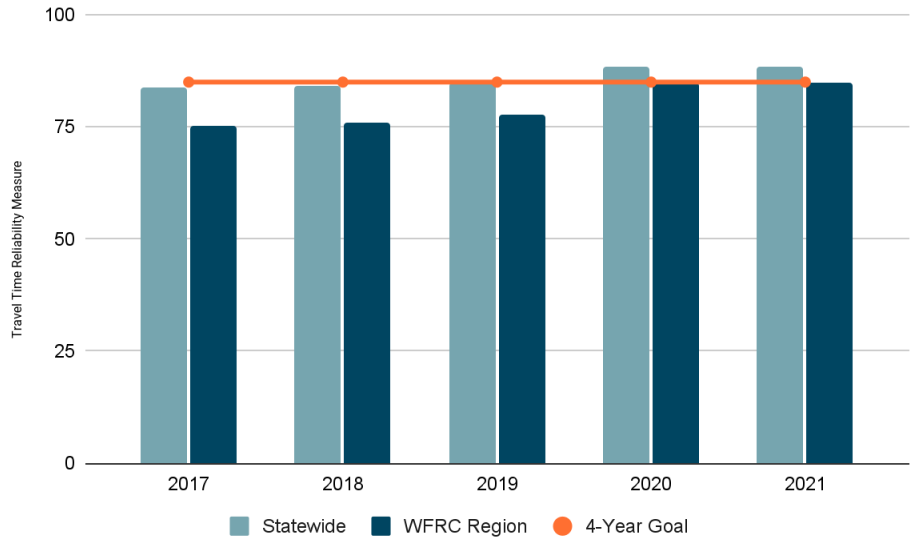


Figure 15. Non-Interstate NHS Level of Travel Time Reliability, 2017-2021



Manageable and reliable traffic conditions is a Wasatch Choice Vision goal. Reliability is directly tied to the congestion of the system, and as such, congestion-related measures are integrated into the performance-based planning of the 2023-2050 RTP. This includes roadway volumes, volume-to-capacity ratios, connectivity, and vehicle hours of delay. The 2023-2050 RTP contains almost 66 miles of managed motorways, including ramp metering and system-to-system metering, on I-15 through Salt Lake, Davis, and Weber Counties to improve reliability of the most-traveled road in the state. The 2023-2050 RTP also contains over 470 miles of operational projects on interstates, freeways, arterials, and collectors to make travel times around the Region more predictable.

Reliability of the transportation system is a core goal of WFRC's TIP, which adds roadway capacity, intersection improvements, and active transportation facilities across the Region. In the 2023-2028 TIP, 239 projects totaling $441 million are identified to help achieve progress in the Region's reliability. These projects include intersection improvements, including turning lanes and conversions to roundabouts; installing communication devices, building access management improvements, traffic signal preemption, and grade-separated intersections.

WFRC supports UDOT's performance targets related to travel time reliability. Progress toward achieving the four-year travel time reliability targets is shown in Table 10.

Table 10. Travel Time Reliability Targets

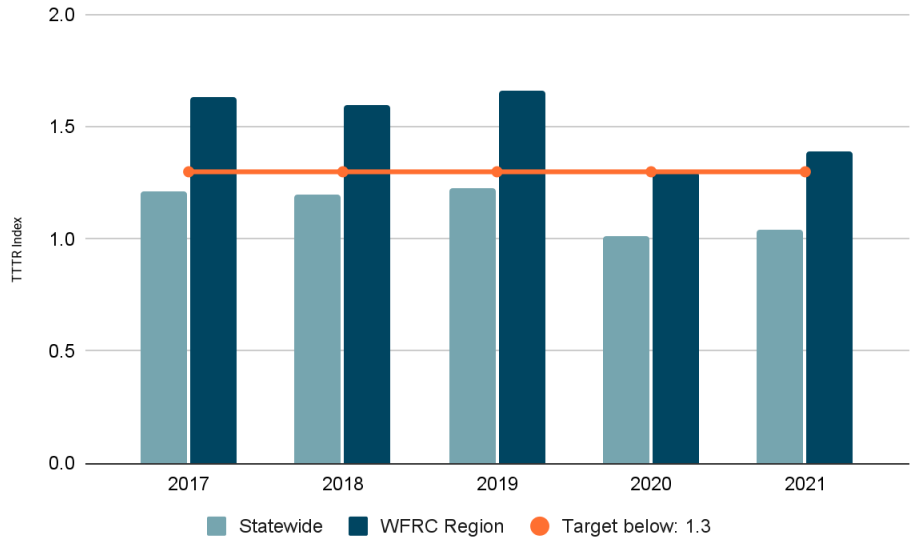
PERFORMANCE MEASURES	BASELINE (2017)	FOUR-YEAR TARGETS (2021)	FOUR-YEAR ACTUALS (2021)	FULL PERIOD PERFORMANCE PROGRESS
Percent of the Person-Miles Traveled on the Interstate System that are Reliable	90.3%	> 85%	98.8%	✓
Percent of the Person-Miles Traveled on the Non-Interstate NHS that are Reliable	83.9%	> 85%	88.6%	✓

Freight Reliability

Truck travel time reliability (TTTR) is measured separately for freight on the Interstate System. State DOTs must establish a single index for the Interstate system in the state for five peak hour travel time periods which include weekday morning, midday, and afternoon periods; weekend periods; and overnight periods. The TTTR Index is measured by the ratio of the congested peak period travel time (95th percentile) to the normal peak period travel time (50th percentile) on each road segment on the Interstate system for the time periods. Lower values for the TTTR Index indicate greater freight reliability. While WFRC supports UDOT's freight reliability targets, the following charts illustrate the system's performance both statewide and in the WFRC Region.

From 2017 to 2019, the TTTR Index remained relatively constant between 1.20 and 1.23. In 2020, the TTTR Index improved to 1.01. The Index stabilized around that point and in 2022 was slightly higher at 1.04. The TTTR Index in the WFRC Region is slightly higher, ranging from 1.60 to 1.66 before 2020 before decreasing. In 2021, the TTTR Index in the WFRC Region was 1.39.

Figure 15. Truck Travel Time Reliability Index, 2017-2021



Access to economic and educational opportunities is a goal of the Wasatch Choice Vision and freight considerations have been incorporated into the project selection and project prioritization of the 2023-2050 RTP, including whether a project is included on the Utah Freight Plan. Projects were evaluated on their ability to enhance freight mobility by considering locations with high truck volume percentages. These projects have allowed freight speeds on critical freight corridors to remain relatively stable, decreasing from 41 miles per hour (mph) today to only 39 mph in 2050. In addition, the 2023-2050 RTP was developed with considerations for freight-oriented developments such as the Inland Port in northwest Salt Lake County, the Business Depot - Ogden, and the Freeport Center in Davis County. Extra freight-planning related outreach to a newly-formed WFRC Freight Advisory Committee and a standalone WFRC Urban Freight Study enhanced freight planning in the 2023-2050 RTP.

The 2023-2028 Transportation Improvement Program includes many projects to help achieve the freight reliability targets, including signal preemption for freight vehicles on three state-owned corridors, improved connectivity in industrial areas, new signals near freight signals, and roadway reconstruction on freight-heavy roads, as well as capacity improvements on major freight corridors.

WFRC supports UDOT's performance targets related to freight reliability. Progress in achieving the four-year freight reliability target is shown in Table 11.

Table 11. Freight Reliability Targets

PERFORMANCE MEASURES	BASELINE (2017)	FOUR-YEAR TARGETS (2021)	FOUR-YEAR ACTUALS (2021)	FULL PERIOD PERFORMANCE PROGRESS
Truck Travel Time Reliability Index	1.21	1.30	1.04	✓

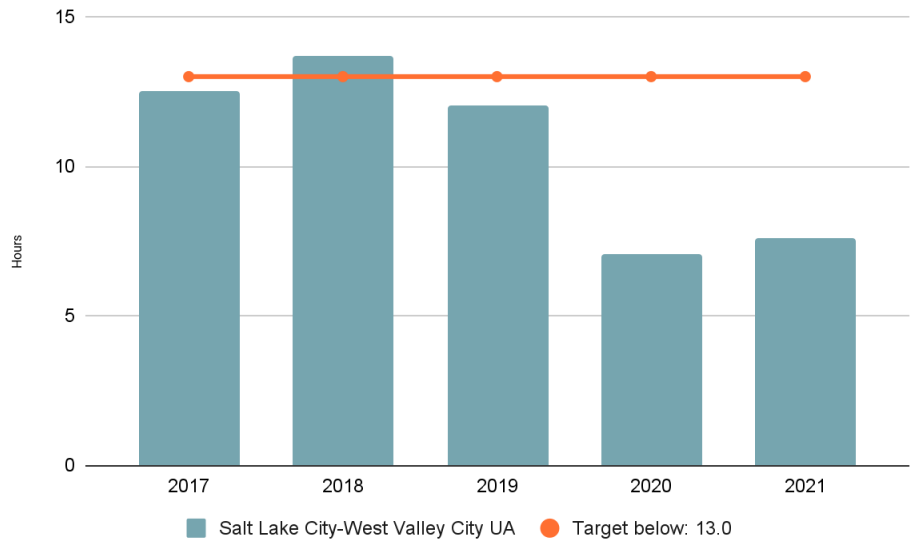
Traffic Congestion Reduction

The traffic congestion performance measures are applicable to all urbanized areas that include National Highway System mileage, have a population over one million, and are designated as nonattainment or maintenance areas per National Ambient Air Quality Standards. The Salt Lake City-West Valley City Urbanized Area meets the threshold. The following charts illustrate the system's performance in the Salt Lake City-West Valley City Urbanized Area.

There are two traffic congestion measures - annual hours of peak hour excessive delay per person and percentage of travel by non-single-occupant-vehicles (SOV). Peak Hour Excessive Delay (PHED) per capita on the NHS is the threshold for excessive delay and is based on the travel time at 20 miles per hour or 60 percent of the posted speed limit travel time, whichever is greater, and is measured in 15-minute intervals. The measure indicates the traffic delay experienced by travelers throughout an entire year on roadways, specifically during the peak hours.

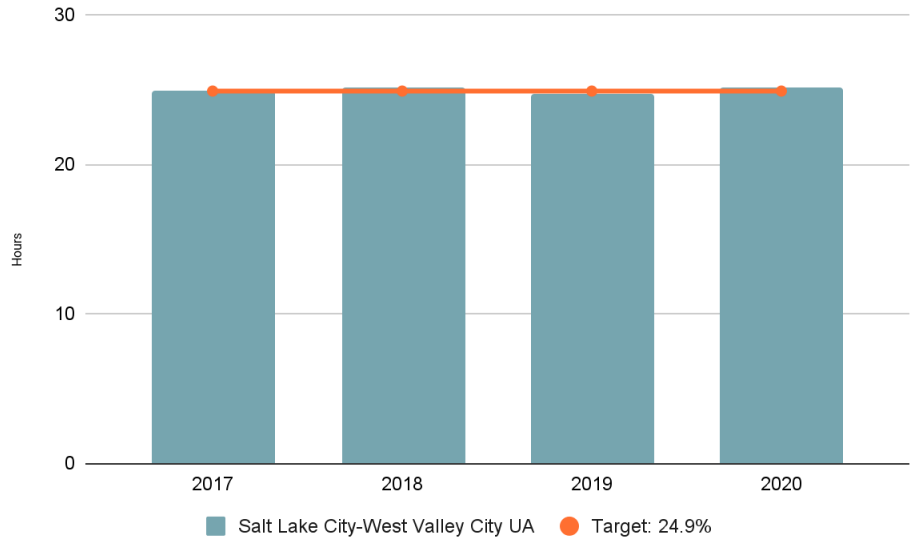
Total PHED per capita has generally been declining from 2017 to 2021, with slight increases in 2018 and 2021. From 2017 to 2021, PHED per capita decreased from 12.5 hours to 7.6 hours.

Figure 13. Annual Hours of Peak Hour Excessive Delay per Capita, 2017-2021



Non-single-occupant vehicle travel includes any travel mode other than driving alone in a motorized vehicle, including travel via carpool, van, public transportation, commuter rail, walking, bicycling or telecommuting. Since 2017, the share of non-single occupant vehicle travel in the Salt Lake City-West Valley City Urbanized Area has remained stable at around 25 percent.

Figure 14. Percentage of Non-Single-Occupant Vehicle Travel, 2017-2020



Congestion reduction performance measures include peak hour excess delay and percent non-SOV. Both manageable and reliable traffic conditions and quality transportation choices are goals of the Wasatch Choice Vision and have been integrated throughout the process to select and phase projects for the 2023-2050 RTP. The 2023-2050 RTP includes a variety of roadway project types, but widening existing roads, constructing new roads to provide greater access and alleviate existing facilities, improving interstate and freeway interchanges, and grade-separating railroad crossings all contribute to reducing congestion in our Region. The 2023-2050 RTP includes 273 miles of roadway widening, 224 miles of new roadway construction, 40 interchange improvements, 19 new interchanges, and 25 grade-separated crossings.

Reducing single-occupancy travel can not only help improve congestion, but can also help improve our Region's air quality. High-occupancy vehicle (HOV) lanes are mandated by FHWA to have travel speeds greater than general purpose lanes on the interstate during the peak hour, providing an incentive to carpool. The 2023-2050 RTP includes 88 miles of additional HOV lanes. In addition, the roadway project prioritization includes whether projects accommodate transit and active transportation. The 2023-2050 RTP includes over 470 miles of additional transit, and over 1,200 miles of additional active transportation facilities. With the high rate of single-occupancy vehicle travel in the Region, it is safe to conclude anyone traveling by transit, biking, or walking is taking one more car off the road thus improving congestion conditions for those who drive.

Both congestion reduction and providing transportation choices are key elements of WFRC's TIP, which implements the short range needs and the maintenance of our existing system and requires jurisdictions to schedule and perform regular maintenance procedures. In the 2023-2028 TIP, 239 projects totaling $442 million are identified to help achieve progress in the Region's congestion reduction. These projects include traffic flow and access management, new capacity, turn lanes, and grade separated intersections. Likewise, the 2023-2028 TIP includes 124 projects totaling $187 million to help achieve progress in providing transportation choices.These projects include bus rapid transit projects, express buses, multimodal hubs, bike share expansion, new bicycle facilities, pedestrian overpasses, and trails.

WFRC agrees with UDOT's targets for PHED non-SOV travel. Progress in achieving these targets is shown in Table 12.

Table 12. Traffic Congestion Targets

PERFORMANCE MEASURES	BASELINE (2017)	FOUR-YEAR TARGETS (2021)	FOUR-YEAR ACTUALS (2021)	FULL PERIOD PERFORMANCE PROGRESS
Annual hours of peak-hour excessive delay per capita	10.6	13.0	8.8	✓
Percent of non-single-occupant vehicle travel	24.9	24.9	26.4	✓

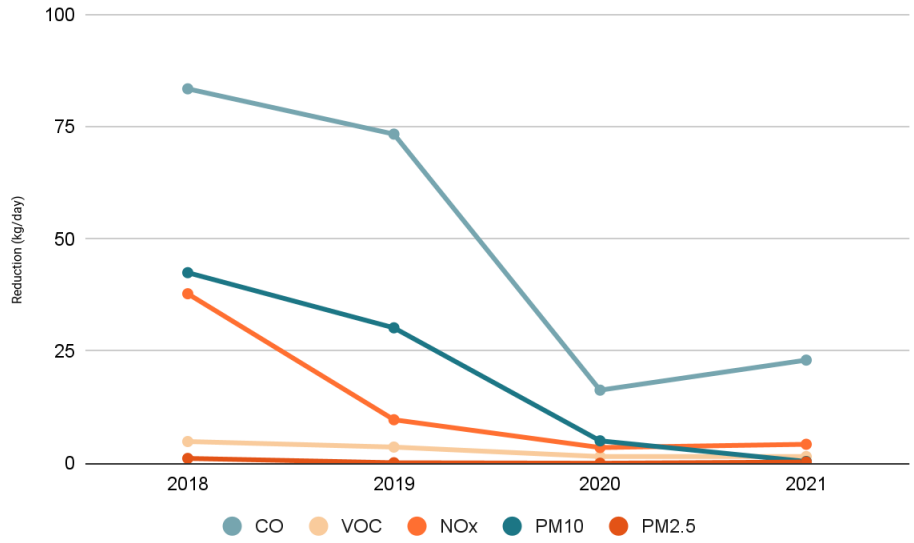
Total Emissions Reduction

Targets for the quantifiable pollutants that are reduced through transportation projects funded through the Congestion Mitigation and Air Quality (CMAQ) program are required in nonattainment or maintenance areas for ozone, carbon monoxide, or particulate matter. Performance targets are set for each criteria pollutant.

The Wasatch Front Regional Council planning area encompasses three non-attainment areas: PM_{10}, $PM_{2.5,}$ and ozone. The PM_{10} non-attainment area is identified as Salt Lake County. The $PM_{2.5}$ and ozone non-attainment areas are multi-county boundaries, including portions or all of Weber, Davis, Salt Lake, and Tooele Counties, with the addition of Box Elder County in the case of the $PM_{2.5}$ non-attainment area. The PM_{10}, $PM_{2.5}$, and ozone non-attainment conditions are mostly due to the formation of secondary pollutants from emissions of VOC and NO_x. Therefore, the reduction of these emissions is the primary concern for the Wasatch Front area.

WFRC reviewed the above data from the previous four years extracted from the Federal CMAQ Public Access System (PAS). The reported PM_{10} emission reductions for 2018 and 2019 are exceptionally high relative to the CO reductions. There were some reporting errors identified with earlier projects and WFRC attempted several years ago to correct those in the CMAQ PAS database but it appears some of those errors remain.

Figure 15. Total Emissions Reductions



One of the Wasatch Choice Vision goals is clean air and the 2023-2050 RTP strives to improve air quality through a range of multi-modal transportation choices linked to centered development, including new transit options, a wider system of active transportation facilities, and operational improvements to our Region's roadways.

Emissions reductions of the transportation system is core to WFRC's TIP, especially the CMAQ program, which identifies projects that improve the quality of life by providing multi-modes of transportation flexibility, access to opportunities, and improved air quality. In the 2023-2028 TIP, 177 projects totaling $281 million are identified to help achieve progress in reducing the Region's emissions. These projects include bus rapid transit implementation, electrification, bike share expansion, new bike facilities, and a comprehensive travel demand management program.

Progress in achieving the on-road mobile source emissions targets is shown in Table 13.

Table 13. Total Emissions Reductions Targets

PERFORMANCE MEASURES	BASELINE (2018)	TARGETS (2021)	ACTUALS (2021)	FULL PERIOD PERFORMANCE PROGRESS
Carbon monoxide (kg/day)	83.473	156.04	196.13	✓
Volatile organic compounds (kg/day)	4.844	5.230	11.380	✓
Nitrogen oxide (kg/day)	37.788	9.34	55.28	✓
Particulate matter 2.5 (kg/day)	42.488	0.52	1.36	✓
Particulate matter 10 (kg/day)	1.073	0.69	78.09[1]	✓

1. Some of the older CO data in CMAQ PAS was incorrectly reported as PM10 emissions. This was corrected for most of the reported projects, but some of the errors remain in the database.

Transit Asset Management

Transit asset management develops a framework for transit agencies to monitor and manage public transportation assets, improve safety, and increase reliability and performance to keep their systems operating smoothly and efficiently. UTA is required to coordinate with MPOs to set performance targets to assess the State of Good Repair for four capital asset categories. UTA is then required to develop a Transit Asset Management (TAM) Plan to identify local funding prioritization.

Progress in Achieving Targets

WFRC supports UTA's transit asset management performance targets. UTA provides annual updates on the performance of its system to WFRC staff. Progress in achieving the transit asset management (TAM) targets is shown in Tables 14 through 17.

In developing the 2023-2050 RTP, WFRC worked closely with UTA to incorporate state of good repair costs into financial planning. Costs for every transit project included the costs required to keep the project in a state of good repair until the 2023-2050 RTP horizon year.

UTA meets its targets for rolling stock. UTA replaces buses and other revenue vehicles every year on an annual basis. Through the TERM Lite modeling runs, UTA forms their 5-year and 20-year Capital plans which helps forecast upcoming fleet purchases. These forecasts allow UTA to plan for any major upcoming fleet purchases to maintain the desired performance targets. The continued effects of the COVID-19 pandemic and its effects on vendors' capabilities to meet procurement orders may challenge UTA in making progress toward 2022 targets. The ability to procure new vehicles may be a constraint depending on manufacturers' capacity to build and deliver vehicles in a timely manner. In addition, UTA is revisiting the current disposal process to find better ways to dispose of retired revenue vehicles in a timelier manner.

Table 14. 2021 Rolling Stock Targets

ROLLING STOCK (REVENUE VEHICLES BY TYPE)	TARGET	ACTUAL	ACHIEVED
Articulated bus	0%	0%	✓
Over-the-road bus	<35%	31.2%	✓
Bus	<15%	13.0%	✓
Cutaway bus	<15%	0%	✓
Light rail vehicle	0%	0%	✓
Commuter rail locomotive	0%	0%	✓
Commuter rail passenger coach	<40%	30.9%	✓
Van	<30%	11.8%	✓

UTA meets its targets for facilities. UTA has been able to inspect all facility assets requiring condition assessments. These physical condition assessments will allow UTA to continue to have a more calculated approach to facilities performance targets. Due to the assessment ratings, UTA expects to be able to maintain its target for 2022 at lower numbers.

UTA currently has three facility assets falling below a 3 on the TERM scale since implementing the asset management program. All three are parking areas so the risk is minimal. UTA does not anticipate any of its building facilities to drop below a 3 next year. In addition, UTA continues construction on a new bus maintenance campus that will replace its oldest bus campus.

The 2023-2028 TIP includes the construction of a new parking structure at the Layton FrontRunner Station.

Table 15. 2021 Facilities Targets

FACILITIES (BY GROUP)	TARGET	ACTUAL	ACHIEVED
Passenger/parking facilities	<5%	0%	✓
Maintenance/administrative facilities	0%	0%	✓

UTA did not meet two of its targets for infrastructure restrictions. Due to our mountainous area, sometimes erosion, weather, or other issues can result in speed restrictions. However, UTA has recently installed positive train control (PTC) and other rehabilitation projects.

UTA has had a couple of years where major rehabilitation projects have been performed. As a result of this, UTA expects its performance restrictions to remain low. The PTC system that had been installed received certification from the Federal Railroad Administration (FRA) in 2020. This implementation of PTC has not created an increase in speed restrictions thus far. UTA sees this as a move in the right direction to keep progress toward lower targets relative to speed restrictions.

During 2021, UTA replaced six (6) grade crossing panel sets, one (1) ballasted curve track section, and three (3) embedded curved track sections on its light rail system.

The 2023-2050 RTP includes both double-tracking and electrification of the FrontRunner system, which are expected to help reduce restrictions along the corridor. The 2023-2028 TIP includes on-board technology systems to develop and maintain a new controlling data system for route efficiency, vehicle monitoring, and dispatching and transit-signal priority/preemption equipment for additional transit vehicles.

Table 16. 2021 Infrastructure Targets

INFRASTRUCTURE	TARGET	ACTUAL	ACHIEVED
Commuter rail	<5%	18%	✗
Light rail	<10%	55%	✗
Streetcar	<10%	0%	✓

UTA did not meet all of its targets for equipment, primarily due to the number of vehicles purchased as part of UTA's 2015 rail expansion program. Maintaining funding levels will be critical for UTA replacing end-of-life non-revenue vehicles. UTA prioritizes the rehabilitation and replacement of vehicles providing transit service, so generally its non-revenue vehicles forego replacement when there are significant revenue vehicle capital costs. It is expected that a higher percentage of non-revenue service vehicles will exceed their useful life benchmark as a result. UTA plans to continue to use these vehicles until they are disposed of. As these vehicles age out, UTA will balance the replacement of its critical service vehicles with available funding.

In 2020 and 2021, UTA was able to allocate additional resources to the replacement of these vehicles, however, the ability to acquire vehicles was mostly pushed to 2021 and 2022. These additional funding sources will allow UTA to flatten the rate at which vehicles begin to exceed their useful life values.

Table 17. 2021 Equipment Targets

EQUIPMENT (NON-REVENUE VEHICLES BY TYPE)	TARGET	ACTUAL	ACHIEVED
Automobile	<35%	3.0%	✓
Trucks & other rubber tire vehicles	<35%	66.9%	✗
Steel wheel vehicles	<35%	100%	✗

Transit Safety

Through the Public Transportation Agency Safety Plan (PTASP) rule, FTA requires transit agencies to implement a Safety Management System to manage safety risk, which can help agencies maintain or improve their safety performance. Transit agencies are required to develop PTASP that establish performance targets based on the four measures included in FTA's National Transit Public Safety Plan (NTPSP). The four measures are Fatalities, Injuries, Safety Events, and System Reliability. Transit agencies are required to report their targets and performance to UDOT and WFRC in order to prioritize funding to improve transit safety performance.

Progress in Achieving Targets

WFRC supports UTA's transit safety targets. Progress toward achieving transit safety targets is shown in Table 18. UTA meets all of its bus and paratransit safety targets. Unfortunately, there were two fatalities related to TRAX vehicles and four fatalities related to FrontRunner in 2022.

Transit projects within the 2023-2050 RTP were prioritized based on the walkability and connectivity of the project area, in order to support safe, multi-modal travel. Additionally, it is assumed that future transit projects would be built and operated to include safety features such as well-lit shelters and sidewalk bulb outs and marked pedestrian crossings when applicable. A 2016 study conducted by the American Public Transportation Association (APTA) found that commuters can decrease their risk of being in a travel-related accident by as much as 90 percent by choosing to take transit over driving. The construction and utilization of our transit system therefore, on the whole, contribute to the overall safety of our transportation system. In support of UTA's PTASP targets, WFRC's 2023-2028 TIP includes 75 safety projects totaling $93 million identified. Many of these projects are to improve roadways for transit operations or make bicycle and pedestrian connections to transit safer.

In addition, WFRC, in conjunction with transportation partners and local governments, will be pursuing a Federal RAISE grant to fund transportation improvements that reduce barriers for the first-/last-mile to and

from transit, Wasatch Choice Vision Centers, and other major destinations. This effort will build on a previous "First-/Last-Mile" TIGER grant from 2016.

Table 18. 2021 Safety Targets

SAFETY MEASURE	MODE	TARGET	ACTUAL	ACHIEVED
Avoidable accident rate per 100,000 miles	Bus	<1.0	0.68	✓
Reportable accident rate per 100,000 miles	FrontRunner	<0.5	0.72	✗
Injuries per 100,000 miles	Bus	<0.2	0.12	✓
	Light rail	<1.1	0.43	✓
Fatalities per 100,000 miles	Bus	0.0	0.0	✓
	Light rail	0.0	0.08	✗
	FrontRunner	0.0	0.3	✗
Safety events per 100,000 miles	Bus	<0.35	0.28	✓
	Light rail	<2.5	2.49	✓
Mean distance between major mechanical failures	Bus	>18,000 miles	19,506	✓
	Light rail	>7,000 miles	19,543	✓
	FrontRunner	>14,000 miles	38,472	✓
	Paratransit	>23,000 miles	719,967	✓
Total employee industrial injuries per 100 employees	All modes	<0.75	N/A	–

Federal Performance Conclusion

WFRC will continue to coordinate with UDOT, UTA, and other relevant stakeholders to integrate their performance measure goals, objectives, and plans into its planning process by linking investment priorities to the applicable performance measure targets to the maximum extent practicable. Furthermore, WFRC will continue to direct investments in future versions of the RTP and TIP toward projects that have the potential to support the targets and measures shown. In support of the national performance goals, WFRC will continue to consider and reflect the priorities, goals, countermeasures, strategies, or projects from the:

- Strategic Highway Safety Plan (SHSP)
- Highway Safety Improvement Program (HSIP)
- Transportation Asset Management Plan (TAMP)
- State Freight Plan (SFP)
- Congestion Management Plan (CMP)
- Congestion Management Air Quality Performance Plan (CMAQPP)
- Public Transportation Agency Safety Plan (PTASP)
- Transit Asset Management Plan (TAMP)

REGIONAL PERFORMANCE MEASURES

WFRC uses scenario planning as a technique for future planning. Throughout the 2023-2050 Regional Transportation Plan (RTP) development process, the Wasatch Front Regional Council (WFRC) has had a focus on exploring and understanding external forces and future-thinking transportation policies — transportation technologies, shifts in market and consumer demand, and local and regional policies that may impact transportation, land use, and economic development decisions. Ultimately, WFRC tested three scenarios that combined five external forces while placing emphasis on a key characteristic of the future - automation, shared mobility, and e-living. In addition, WFRC tested a plausible external forces scenario based on conversations with and surveys of elected officials and the External Forces Peer Group about the reasonability of implementation. More information about the process of exploring external forces can be found in Appendix C: External Forces and Policies Scenario Framework Assumptions Tech Memo. A detailed analysis of the performance of the four external forces scenarios can be found in Appendix D: Scenario Performances Measures Memo.

The work exploring external forces ultimately led to a preferred scenario, informed by local community, transportation agency, stakeholder, and public input. The 2023-2050 RTP preferred scenario includes both optimization - policies aimed at moving more people within existing transportation facilities and enabling people to have greater mobility with less traffic - and enhancement- building additional roads, transit lines, and urban trails.

The performance of the enhancements within the 2023-2050 RTP was forecasted based on the timing and impact of anticipated growth using the regional Travel Demand Model (TDM) and the Real Estate Market Model (REMM). The 2023-2050 RTP must be fiscally-constrained, meaning the desired scenario will be one which considers current and future funding levels to afford projects. Socioeconomic and travel-related forecasts from these models helped phase when projects were needed, as well as input from WFRC's partners, including UDOT, UTA, and local communities. Phasing was further refined through coordination with UDOT, UTA, local technical advisory committees, and the local area workshops held for community elected officials and staff. Appendix E: Project Selection Criteria, Appendix I: Needs-Based Phasing Criteria, and Appendix K: Congestion Management Process has more information about the technical aspects of project selection and prioritization.

Summary of RTP System Performance

The 2023–2050 Regional Transportation Plan (RTP) was evaluated to determine its social, economic, and environmental impacts and how well it would meet the transportation needs of the Region through the year 2050. The goals and objectives for the 2023–2050 RTP helped form the basis for this evaluation and the RTP was also analyzed with regard to its conformity with state air quality plans and other factors.

It is clear from the regional performance summary that the Region will have better accessibility, mobility, and choice in 2050 with the investments recommended in the 2023-2050 RTP than without them. In particular, this system of projects supports dramatic increases in transit ridership across the Region. The

system of projects also supports positive mode share trends for the Region for walking, bicycling, and transit use. The recommended project list through 2050 contains robust and varied projects intended to provide residents and visitors with greater access to the economy, more travel choices, and continued quality of life.

Access to Opportunities

The accessibility provided by the Wasatch Choice path transportation networks performs better than that of the current path, with about 21 percent more for auto access and about 33 percent more for transit access. Overall, local residents improve their auto access by 31 percent and their transit access by 71 percent over today. Among the factors influencing accessibility is the type of transportation improvements, such as strategic widenings, operational projects, new roads, expanded rail, new BRT routes, and more frequent core bus routes. In addition, the linking of transportation investment and development decisions provides significant benefits and is one of the key strategies of the Wasatch Choice Vision.

NUMBER OF JOB AND HOUSEHOLDS ACCESSIBLE WITHIN A TYPICAL COMMUTE - AUTO

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	224,000		242,000 8.0% increase		293,000 30.8% increase

NUMBER OF JOB AND HOUSEHOLDS ACCESSIBLE WITHIN A TYPICAL COMMUTE - TRANSIT

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	14,000		18,000 28.6% increase		24,000 71.4% increase

AUTO:TRANSIT ACCESS TO OPPORTUNITIES RATIO

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	16.1		13.6 15.3% decrease		12.5 22.4% decrease

Freight Mobility

One of the most direct measures of economic vitality is truck freight mobility. Overall truck delay increases in both future scenarios, but is about 15 percent less in the Wasatch Choice path. This is in part due to specifically targeted capacity and operational road improvements. In addition, the Wasatch Choice path includes a number of grade-separated crossings over freight rail corridors to reduce conflict and improve safety between regional traffic and freight traffic.

HOURS OF TOTAL TRUCK DELAY PER DAY

Desired Trend	Today	2050 without RTP Project Investments	2050 with RTP Project Investments
	94,000	 146,000 55.3% increase	 124,000 31.9% increase

AVERAGE TRUCK SPEED ON FREIGHT CORRIDORS IN THE PM PEAK HOUR

Desired Trend	Today	2050 without RTP Project Investments	2050 with RTP Project Investments
	41 mph	 35 mph 14.6% decrease	 39 mph 4.9% decrease

Auto Travel Time

Average travel time by car will increase in either future scenario due to a growing region and significant population increase. However, seven more minutes per day over the next 28 years is a relatively minor increase, especially when considered with the significant increases in destination access. It may take longer to travel the same distance in the future, but the average person will be able to reach more destinations within that time, as noted by the access to opportunities performance measure.

TOTAL TIME PER DAY THE AVERAGE PERSON SPENDS IN A VEHICLE

Desired Trend	Today	2050 without RTP Project Investments	2050 with RTP Project Investments
	55 mins	 66 mins 20.9% increase	 62 mins 14.3% increase

Transportation Choices

The Wasatch Choice path significantly increases access to transit and active transportation over today's environment, doubling access for transit and over 40 percent for active transportation. One of the key differences between the current path and the Wasatch Choice path is the assumption of new revenue beyond our existing revenue sources. There is significant unrealized transit access if we do not identify new revenue streams for transit. This access to transit translates into a substantial increase in transit use, as compared to both current ridership and current path ridership. By investing more in our transit system and increasing service breadth and coverage, we can increase ridership by an additional 37 percent compared to the current path, to almost 300,000 trips per day.

PERCENT OF PEOPLE NEARBY FREQUENT BUS OR RAIL

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	16%		16% No change		33% 106.3% increase

PERCENT OF PEOPLE NEARBY FREQUENT DEDICATED BIKE FACILITY

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	58%		55% 5.2% decrease		83% 43.1% increase

WALK AND BIKE MODE SPLIT

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	8.1%		9.0% 11.1% increase		8.6% 6.2% increase

TRANSIT MODE SPLIT

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	1.5%		2.2% 46.7% increase		3.0% 100% increase

Air Quality

Vehicle miles traveled (VMT) is a performance metric used to measure how far people need to travel to reach destinations. Based on modeling projections, regional VMT is expected to increase from 42.3 million miles today to 58.8 million miles in 2050, or 1.4 percent per year, while our VMT per household decreases from 65.2 miles to 59.8 miles, or 0.3 percent per year. As our Region grows, we will see an increase in VMT unless dramatic changes occur in our land use, funding, and transportation policies, and, moreover, our personal transportation choices.

VMT PER DAY PER HOUSEHOLD

Desired Trend	Today	2050 without RTP Project Investments		2050 with RTP Project Investments	
	65.2		55.7 14.7% decrease		59.8 8.3% decrease

Summary of RTP System Performance in Equity Focus Areas

WFRC has developed the EFA framework as an important factor and input in its transportation planning process. This ensures that EFA communities, whose mobility and accessibility needs are acute, benefit from high levels of transportation choice and job accessibility. WFRC defines EFA communities as Census tracts with greater than 25 percent low-income and/or greater than 40 percent minority populations. By comparing system performance between the Region as a whole and the EFAs, WFRC can ensure equitable access to affordable and reliable transportation options.

It is clear from the regional performance summary that residents in EFAs have better accessibility, mobility, and transportation choice today and in 2050 than the Region as a whole. Although these measures indicate progress has been and is being made toward an equitable future, WFRC remains committed to promoting inclusive engagement in transportation planning processes and equitable access to affordable and reliable transportation options.

Access to Opportunities

For both road and transit access to opportunities, the EFAs perform better than the Region as a whole today, and they will continue to outperform the Region as a whole in the future. Today, EFAs have 303,000 opportunities via driving compared to the Region's 224,000 opportunities. EFAs also have 28,000 opportunities via transit compared to the Region's 14,000 opportunities. In the future, EFA access increases to 387,000 opportunities via driving and 46,000 opportunities via transit compared to the Region's 293,000 opportunities via driving and 24,000 opportunities via transit.

NUMBER OF JOB AND HOUSEHOLDS ACCESSIBLE WITHIN A TYPICAL COMMUTE - AUTO

Desired Trend	Today	2050 with RTP Project Investments - Region		2050 with RTP Project Investments - EFA	
	Region: 224,000 EFA: 303,000		293,000 30.8% increase		387,000 27.7% increase

NUMBER OF JOB AND HOUSEHOLDS ACCESSIBLE WITHIN A TYPICAL COMMUTE - TRANSIT

Desired Trend	Today	2050 with RTP Project Investments - Region		2050 with RTP Project Investments - EFA	
	Region: 14,000 EFA: 28,000		24,000 71.4% increase		46,000 64.3% increase

AUTO: TRANSIT ACCESS TO OPPORTUNITIES RATIO

Desired Trend	Today	2050 with RTP Project Investments - Region		2050 with RTP Project Investments - EFA	
	Region: 16.1 EFA: 10.7		12.5 22.4% decrease		8.5 21.1% decrease

Auto Travel Time

Today, those living in EFAs spend less time in a vehicle than the average Region resident by 9 minutes. Although travel time increases in the future for both the Region as a whole and EFAs, EFAs experience a much smaller increase than Region. Travel time is expected to increase by only three minutes in the future in EFAs compared to seven minutes for the Region.

TOTAL TIME PER DAY THE AVERAGE PERSON SPENDS IN A VEHICLE

Desired Trend	Today	2050 with RTP Project Investments - Region		2050 with RTP Project Investments - EFA	
	Region: 55 mins EFA: 46 mins		62 mins 14.3% increase		49 mins 7.9% increase

Transportation Choices

Today, residents in EFAs have significantly better access to transit and comparable access to active transportation facilities compared to the Region. The Wasatch Choice path significantly increases access to both transit and active transportation over today's environment for EFAs - almost doubling access to transit and increasing by 55 percent access to active transportation. This translates into significant increases in transit use, bicycling, and walking.

PERCENT OF PEOPLE NEARBY FREQUENT BUS OR RAIL

Desired Trend	Today	2050 with RTP Project Investments - Region	2050 with RTP Project Investments - EFA
	Region: 16% EFA: 30%	 33% 106.3% increase	 57% 90.0% increase

PERCENT OF PEOPLE NEARBY FREQUENT DEDICATED BIKE FACILITY

Desired Trend	Today	2050 with RTP Project Investments - Region	2050 with RTP Project Investments - EFA
	Region: 58% EFA: 58%	 83% 43.1% increase	 90% 55.2% increase

WALK AND BIKE MODE SPLIT

Desired Trend	Today	2050 with RTP Project Investments - Region	2050 with RTP Project Investments - EFA
	Region: 8.1% EFA: 8.0%	 8.6% 6.2% increase	 16.0% 100% increase

TRANSIT MODE SPLIT

Desired Trend	Today	2050 with RTP Project Investments - Region	2050 with RTP Project Investments - EFA
	Region: 1.5% EFA: 3.0%	 3.0% 100% increase	 6.0% 100% increase

Air Quality

Similar to auto travel time, residents within EFAs drive less per day than the Region as a whole. This is also reflected in EFAs having more opportunities within the typical commuting distance - having more destinations closer to home means a household can drive less. As our Region grows, households in EFAs will decrease their VMT more than the Region as a whole.

VMT PER DAY PER HOUSEHOLD

Desired Trend	Today	2050 with RTP Project Investments - Region		2050 with RTP Project Investments - EFA	
	Region: 65.2 EFA: 49.8		59.8 8.3% decrease		45.2 9.3% decrease