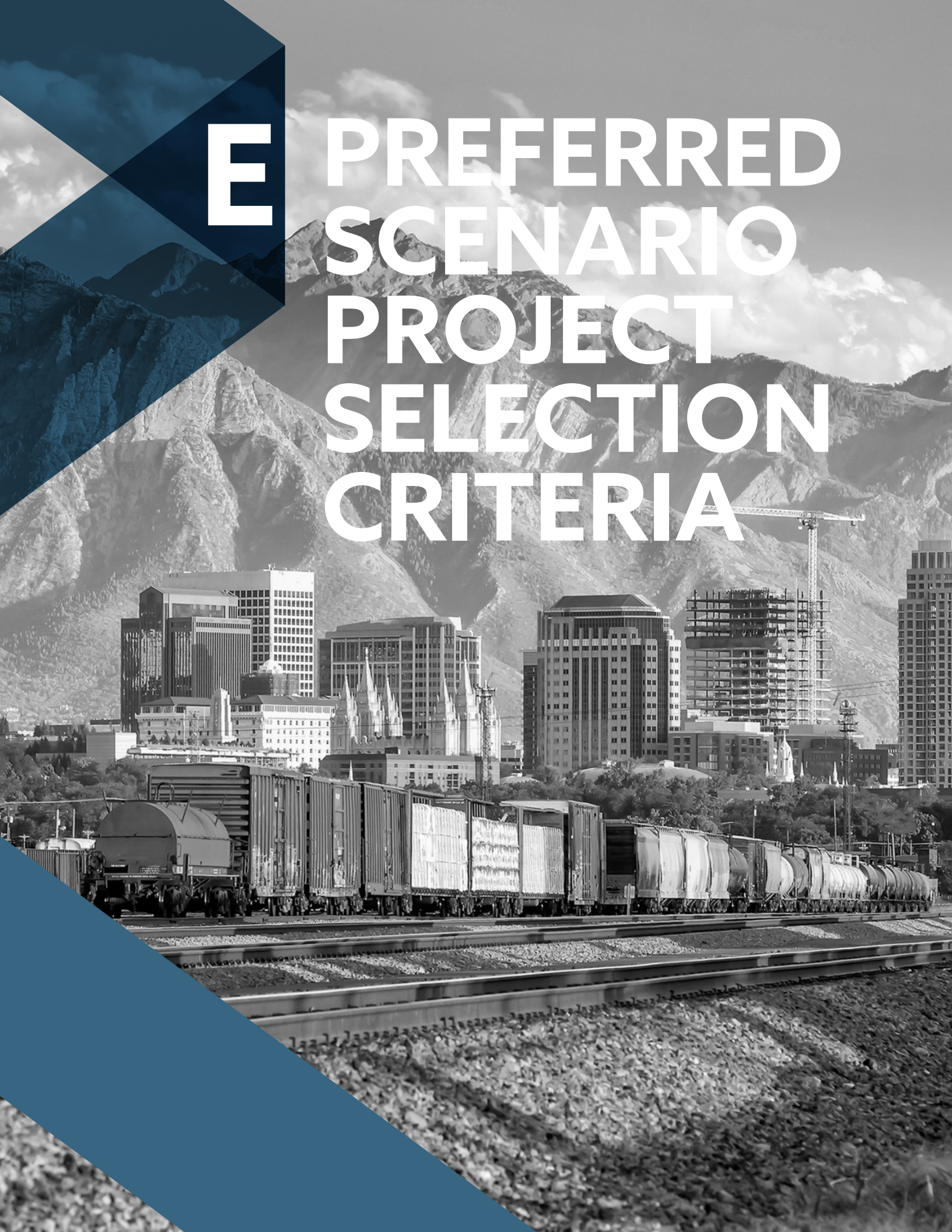
E PREFERRED SCENARIO PROJECT SELECTION CRITERIA



Regional Transportation Plan Project Selection Criteria

The Wasatch Front Regional Council in consultation with the Utah Department of Transportation (UDOT), the Utah Transit Authority (UTA), and local communities, selects projects for inclusion into the Regional Transportation Plan (RTP). Selection of the RTP projects is guided by the Wasatch Choice 2050 regional goals. This is done by translating the goals into specific criteria to help WFRC understand how a project advances these goals. This document includes the project selection criteria for active transportation, roads, and transit projects.

Active Transportation Project Selection Criteria

Active Transportation projects were selected for the 2023-2050 RTP preferred scenario in a number of ways, including the 2019-2050 RTP, new and updated local active transportation plans, other relevant local plans, and various partner outreach efforts.

The 2019-2050 RTP served as the foundation for the 2023-2050 RTP, including projects that were amended into the 2019-2050 RTP following its initial adoption. Amendments to the 2019-2050 RTP came from local active transportation plans that were completed between the initial 2019-2050 RTP adoption in May of 2019 and the Spring of 2021. The WFRC worked with the local communities to identify projects from those plans that had a regional impact, improved access to opportunities, improved safety of vulnerable road users, and/or were a high priority for the city. Projects were removed from the 2019-2050 RTP list if they were completed or anticipated to be under construction by May of 2023. Projects may also have been modified by combining two projects together based on a shared facility type and extent. At times, one project was split into two, depending on relationships with RTP road projects or city boundaries.

With this base of projects in place, additional projects were selected based on local active transportation plans that had been completed after the Spring of 2021. Specific projects were selected to be included in the RTP based on prioritization within the local plan, safety benefits, and regional significance. For instance, the Midvalley Active Transportation Plan, which was a joint planning effort between Holladay, Millcreek, Murray, Taylorsville, Midvale, and Cottonwood Heights, identified backbone projects influencing regional connectivity. Those projects were included in the preferred scenario while other projects within the respective jurisdictions were not (see Figure 1). A similar approach was taken with the following cities' active transportation plans: Bountiful, Centerville, Clearfield, Clinton, Farr West, Herriman, Riverdale, South Ogden, South Salt Lake, Sunset, Syracuse, Washington Terrace, West Point, and West Valley City.

Other planning documents that were not active transportation specific but had relevant projects were also referred to for the RTP preferred scenario. The Woods Cross Parks and Trails Master Plan, the Hooper General Plan update, and the West Weber County General Plan update all contributed projects to the preferred scenario.

Additional feedback was gathered from local communities and the Regional Growth Committee Technical Advisory Committees during specific comment periods in the Fall of 2021 and Winter of 2022. Community workshops were also held in the Fall of 2021 highlighting the preferred scenario. Over 200 active transportation project comments were received through these efforts. Lastly, several specific feedback sessions were held with UDOT Region 1 and Region 2 planners and UDOT Central Planning to review projects impacting state roads.

As the regional active transportation network continues to mature, it is likely that future RTPs will be able to be more judicious in project selection. For now, however, the immaturity of the network necessitates identification of more projects as opposed to fewer.

FIGURE 1: BACKBONE ACTIVE TRANSPORTATION NETWORK FROM THE MID-VALLEY ACTIVE TRANSPORTATION PLAN

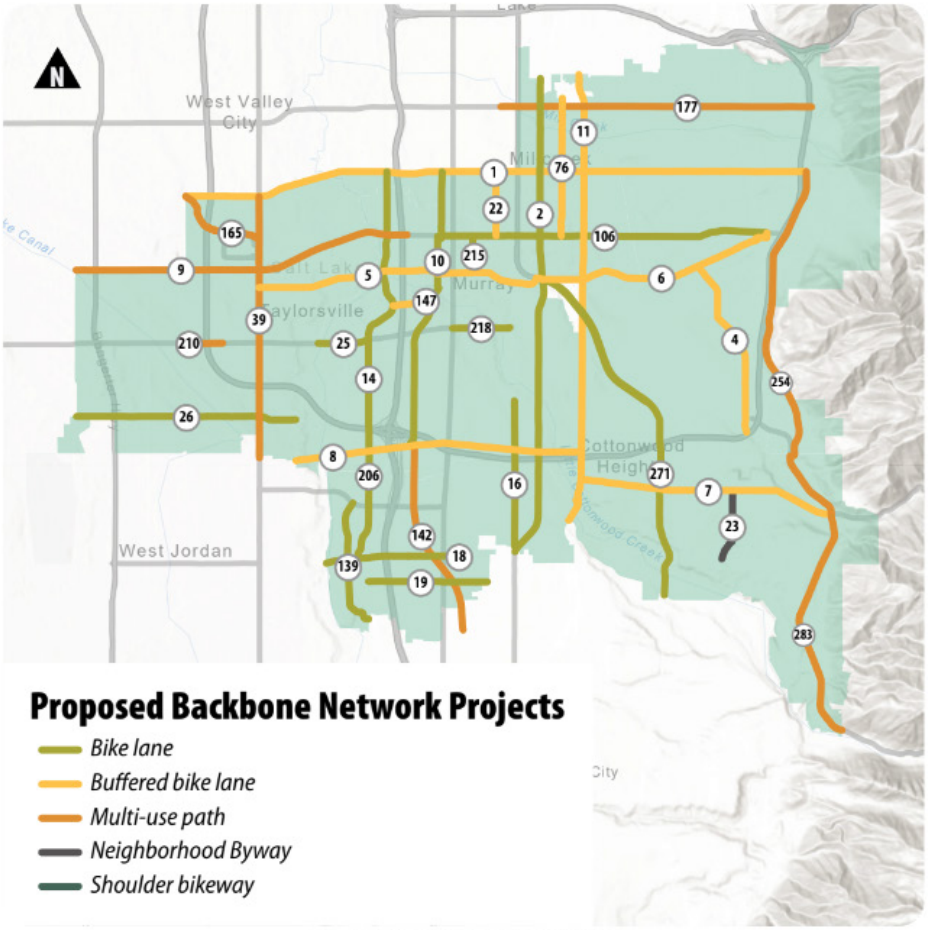


Figure 2. The Mid-Valley ATP connected Backbone Network

BACKBONE NETWORK

FOR THE MID-VALLEY REGION

Thirty-three projects were identified as critical to create the Backbone Network.

Roadway Project Selection Criteria

Roadway projects are incorporated into the 2023-2050 RTP in a number of ways. Using the previous plan, the 2019-2050 RTP, as a basis for updates, getting to the preferred roadway scenario for the 2023-2050 RTP involves the following:

1. Review feedback from partners, Regional Growth Committee technical advisory committee members, and various stakeholders.
   - » Comments received from External Forces and Policies Peer Groups (2020) and Technical Peer Group (2021).
   - » Continued coordination with UDOT, UTA, and MAG.
   - » Comments received from RGC, RGC TACs, and TransCom TACs.
   - » Comments received from outreach to targeted stakeholder groups, e.g., University of Utah, Utahns for Better Transportation (UBET), Rio Tinto, Weber State University, and the Urban Freight Stakeholder Group.
   - » Comments from the 2021 RTP Project Cultivation Map.
   - » WFRC Fall Workshops focused on the Draft External Forces Scenario (Fall 2021).
   - » Additional comments received on the Draft Fall 2021 Scenario Map.

2. Projects are also considered and incorporated if there are other relevant planning efforts. WFRC's long range planning team aims to do the following when selecting roadway projects:
   - » Ensure relevance of projects with centers and joint corridors with transit and active transportation.
   - » Ensure alignment of projects with the Transportation Investment Fund and Transportation Improvement Program.
   - » Ensure alignment of project if it is part of a major planning study such as Southwest Salt Lake County Transportation Solutions and Point of the Mountain. Other planning efforts such as transportation master plans, which identify regionally significant projects, should be considered in the RTP.

3. Technical evaluation
   - » A project qualifies for the RTP if it meets the selection criteria table for the project type found below.

Selection Criteria (Technical Need-Based Evaluation)

Proposed roadway projects undergo a robust technical evaluation process which must meet at least one of the six factors which determine project need and whether a project may meet addition to the RTP. The selection criteria factors consist of the following:

1. Capacity-type improvements
2. Operational
3. Safety
4. Freight
5. Corridor Preservation
6. Connectivity

Additional detail on the selection criteria can be found on the following pages.

1. Capacity Project Criteria

Capacity projects may add a general purpose travel lane, widen ramps, or add flyover ramps. Capacity projects meet the following Wasatch Choice Vision goal:

- Manageable and reliable traffic conditions

Capacity projects in the RTP are identified using the following criteria:

1. Project is identified through the Congestion Management Process and/or
2. Project meets volume thresholds for additional lanes and project improves V/C over no build or
3. Project increases network connectivity.

More detail on each specific capacity project criteria is provided below.

Capacity Project Criteria 1 - Project is identified through the Congestion Management Process

The Congestion Management Process (CMP) is a federally-required process for metropolitan planning areas with a population exceeding 200,000 people. The purpose of the CMP is to identify where congestion is located and to determine if the congestion can be resolved without adding additional capacity to the transportation network. The CMP network includes freeways, principal arterials, and minor arterials. Collector roads and local roads are not part of the CMP network.

A portion of the WFRC planning area is a non-attainment area for ozone pollution, and for this reason, FHWA regulations require that the CMP include an analysis for the need for additional capacity. Any highway project identified in the RTP that adds capacity must include a demonstration that the congestion associated with the project cannot be resolved by system management and demand management alone, and additional capacity may be needed.

The process to identify highway segments where additional capacity is warranted begins with a no-build network which includes the existing highway system plus the projects in the currently approved Transportation Improvement Program. Added to the NB network are all future transit and active transportation system improvements that will happen out to 2050, an increase in freeway capacity of 7%-27% to reflect future adoption of connected and automated vehicles (CAV), and a 20% reduction in the number of home-based work trips to reflect future rates of telecommuting. This modified no-build network is designated as the CMP network which is then modeled with 2050 socio-economic data. Based on this information, the team determines areas have higher levels of congestion in 2050.

Congestion on the 2050 CMP network is defined by the travel time index (TTI) which is the ratio of the maximum of AM or PM peak travel time to free-flow travel time. A map of proposed RTP projects was overlaid with a map of the CMP network with the TTI value displayed. Each capacity increasing project proposed in the RTP with a corresponding TTI value greater than 1.4 is considered necessary to resolve future congestion conditions. Other locations where TTI values exceeded 1.4 but a corresponding capacity project was not proposed were considered as potential projects for the RTP.

For more information about the technical process for developing the CMP, please see this document on the 2023-2050 RTP CMP Needs Analysis Methodology.

Capacity Project Criteria 2 - Project meets volume thresholds for additional lanes and project improves V/C over no build.

Once RTP projects are run through the CMP process, projects are also evaluated to volume threshold standards based on the facility type. The table below provides guidance for what the daily thresholds are for collector, minor arterial, and principal arterial facilities, how many lanes they may be, and whether the facility may warrant a widening to accommodate future traffic in 2050. As part of this process, “Gray Zones” were also developed for facilities that may be on the cusp of needing a widening based on Average Annual Daily Traffic (AADT) projections, but may also not necessarily need to be widened due to other factors (e.g. road bisects future centered and walkable development, the city has no plans for widening improvements, or there is no interest or room to acquire and accommodate additional right-of-way). These “Gray Zones” provide an opportunity to be flexible on the need for a widening of a facility based on the context of the existing and future surrounding land uses. WFRC utilized the Volume to Capacity or V/C and Volumes Map to evaluate facilities and whether they meet these criteria: https://www.wfrc.org/traffic-vc-map/

DAILY THRESHOLDS FOR COLLECTOR, MINOR ARTERIAL, AND PRINCIPAL ARTERIAL ROADWAY FACILITIES

	AVERAGE ANNUAL DAILY TRAFFIC			
NUMBER OF LANES (TOTAL)	BELOW THRESHOLD: POTENTIALLY REDUCE	WITHIN THRESHOLD: OK	"GRAY ZONE": BORDERLINE	ABOVE THRESHOLD: POTENTIALLY WIDEN
3 lanes	-	0 - 18,000	18,000 - 22,000	22,000 +
5 lanes	0 - 22,000	22,000 - 38,000	38,000 - 42,000	42,000 +
7 lanes	0 - 42,000	42,000 - 58,000	58,000 - 62,000	62,000 +
9 lanes	0 - 62,000	62,000 - 78,000	78,000 - 82,000	82,000 +

Capacity Project Criteria 3 - Project increases network connectivity.

See Network Connectivity Criteria.

2. Operational Project Criteria

Operational projects do not add general purpose travel lanes. Operational projects improve the median, improve shoulders, add turn lanes at intersections, improve signal timing coordination, improve access management, add a median two-way left-turn lane, improve intersections with innovative designs such as roundabouts or continuous flow intersections (CFIs), or complete a roadway (e.g., curb and gutter, shoulders, sidewalks). Operational projects must be at least a half mile in length. Operational projects meet the following Wasatch Choice Vision goals:

- Manageable and reliable traffic conditions
- Fiscally efficient communities and infrastructure

Operational projects in the 2023-2050 RTP are identified using the following criteria:

OPERATIONAL PROJECT MEASURE	CRITERIA
Project is identified as an operational project in the 2019 RTP	(Y/N analysis) Project can be carried over from the previous plan as these are projects planned and yet to be built and constructed.
Project does not meet volume thresholds for additional lane capacity, or project has identified funds	(Y/N analysis) Project may not meet the volume thresholds identified under Criteria 2 of the Capacity Project Criteria. An operational project may also have funding already identified that is necessary for construction.
Projects provides an improvement such as adding turn lanes at intersections, median two-way left-turn lanes, access management, or completion of a roadway (e.g., curb, gutter, shoulders, sidewalks, bike lanes)	(Y/N analysis) Project improvements are defined in workshop comments of further conversation with communities, and evaluated in City Transportation Master Plans.

3. Safety Project Criteria

A safety project is one that improves safety of the transportation network within the Region. Safety projects meet the following Wasatch Choice Vision goals:

- Safe, user-friendly streets
- Quality transportation choices

Safety-specific projects in the 2023-2050 RTP are identified using the following criteria:

SAFETY PROJECT MEASURE	CRITERIA
Project is a grade-separation of roadways, railways, etc.	(Y/N analysis) The project improvement is identified as a grade-separated crossing. Grade separation in projects is identified as a measure as this would increase safety for all users.
Project is identified under the usRAP Safety Rating less than 2	All projects will be scored using the usRAP Safety Data Map for the RTP. A usRAP scoring of 1 or 2 will be identified as a safety-specific project of concern. Interchange or point projects use usRAP scoring, and are evaluated using the review of the roadway connection to the point project. All project scoring is included, if available.
Planned active transportation projects are located along the roadway project facility	(Y/N analysis) Planned active transportation projects from local and regional plans are evaluated if they are on the facility using the WFRC AT GIS Data Resources.

4. Freight Project Criteria

A freight project is one that improves the freight network and prioritizes needs for improving and facilitating the movement of goods. Freight-specific projects meet the following Wasatch Choice Vision goals:

- Manageable and reliable traffic conditions
- Fiscally efficient communities and infrastructure
- Access to economic and educational opportunities

Freight-specific projects in the 2023-2050 RTP are identified using the following criteria:

FREIGHT PROJECT MEASURE	CRITERIA
Proposed project is identified to be on a facility that is part of the Utah Highway Freight Network	(Y/N analysis) Project is identified as part of the Utah and National Highway Freight Network. This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system.
Project addresses project need identified in the latest UDOT Statewide Freight Plan	(Y/N analysis) The 2017 UDOT Statewide Freight Plan recognizes a list of critical freight specific projects. Projects in the Statewide Freight Plan of freight importance and found within the WFRC region are added into the 2023-2050 RTP as a freight-specific project. Mapping was developed to recreate this list.
Project addresses area with high commerical vehicle activity and found to intersect or is within a Wasatch Choice industrial center	(Y/N analysis) The Wasatch Choice centers were refined in the 2023-2050 RTP process. The refined centers were used to determine if any proposed projects intersect with the area and meet this selection criteria.

5. Corridor Preservation Project Criteria

Corridor preservation projects are identified in the plan to help identify future purchase of ROW, and no construction included. Corridor preservation projects must at least be a half-mile in length. Corridor preservation projects meet the following Wasatch Choice Vision goals:

- Fiscally efficient communities and infrastructure

Corridor preservation projects in the 2023-2050 RTP are identified using the following criteria:

CORRIDOR PRESERVATION MEASURE	CRITERIA
Efforts underway to preserve the project's corridor	(Y/N analysis) Projects that are identified as a corridor preservation project on previous plans and have been determined as such on the 2023 RTP by partners and key stakeholders.
Right-of-way is needed	(Y/N analysis) Projects that need future additional ROW as determined by future ROW and existing ROW data. Does not apply to operational projects. Yes is applied to new construction type projects.

6. Connectivity Project Criteria

Street connectivity projects are projects that create a more efficient transportation system that helps disperse traffic throughout the network, leads to significant reduction in travel times, delays, and supports the use of other transportation modes such as transit, bicycling, and walking. Connectivity projects must at least be a quarter mile in length. Connectivity projects meet the following Wasatch Choice Vision goals:

- Manageable and reliable traffic conditions
- Fiscally efficient communities and infrastructure
- Access to economic and educational opportunities
- Quality transportation choices

Connectivity projects in the 2023-2050 RTP are identified using the following criteria:

CORRIDOR PROJECT MEASURE	CRITERIA
Project increases network connectivity	(Y/N analysis) If the project is a new construction or grade separated crossing project, it increases connectivity in the transportation network. Operational projects, widening projects, and interchanges are not applicable to this criteria measure.

Transit Project Selection Criteria

1. Review scenario workshop and stakeholder feedback
   - » Map comments
   - » Visualization tool – survey & map comments

2. Technical evaluation
   - » Evaluate criteria for transit line and point projects. Transit projects were run on the travel demand model (TDM) v8.3.2 and compared ridership to outputs from v8.3.1. The updated TDM v8.3.2 calibrated ridership numbers and land uses. Projects were reassigned modes based upon ridership thresholds, along with other relevant criteria screening listed below.
   - » Compare adjacent corridors when relevant.
   - » Use cross-run scenarios for comparative purposes (for instance, TDM 8.3.1 and TDM 8.3.2, external forces and transportation policy model runs)

3. Consideration and incorporation of relevant efforts
   - » Ensuring alignment with centers and noting corridors with overlapping road and active transportation projects.
   - » Incorporate findings from other efforts such as Local Link Study, Point of the Mountain, and small area studies.
   - » Incorporate alignments and operating characteristics that are defined from existing/ongoing environmental analyses.

Selection Criteria (Technical Need-Based Evaluation)

First Screening

WASATCH CHOICE GOAL	OBJECTIVE	MEASURES
Fiscally efficient communities and infrastructure	Aligns with existing projects (if yes to any, then automatically on draft preferred)	Project in municipal planning documents
		Project is part of a planning/environmental study
		Efforts underway to preserve the project's corridor
Quality transportation choices	Supports transportation choices	Project meets established ridership threshold
		Project improves connectivity of transit system by connecting fixed guideway routes to major destinations

Second Screening

Projects that have not met first screening criteria will be screened through the following criteria to further determine need.

WASATCH CHOICE GOAL	OBJECTIVE	MEASURES
Access to economic and educational opportunities	Improves access to job and educational opportunities	Project improves job and service access
		Project improves job and service access for Equity Focus Areas
		Project improves access to GOEO strategic cluster
		Project improves access to major education centers
Housing choices and affordable living	Supports affordable housing and transportation costs	Project serves identified environmental justice populations
Livable and healthy communities	Supports the Wasatch Choice for 2050 and revitalizes the economy	Project connects to Wasatch Choice 2050 Center or job area

Impacts Screening

Projects that have either met the first or second criteria will be screened for potential impacts.

WASATCH CHOICE GOAL	OBJECTIVE	MEASURES
A sustainable environment including water, agricultural, and other natural resources	Supports environmental sustainability	Potential impact on vulnerable lands (i.e., avoiding wetlands, reducing impacts to agricultural lands)

Mode Determination Ridership Thresholds

DAILY RIDERSHIP THRESHOLDS BY MODE

TRANSIT MODE	AVERAGE DAILY BOARDINGS PER MILE
Light Rail Transit	1,000 +
Bus Rapid Transit	800 - 1,000
Core Route 10-Minute Service	400 - 800
Core Route 15-Minute Service	200 - 400