TransPlan40

Regional Transportation Plan

2015-2040 Plan for the Provo/Orem Metropolitan Area

Mountainland AOG
Association of Governments

We Call to Your Attention

TransPlan40

LOCAL ROADS NEED MAINTENANCE

Maintenance and preservation needs for local road networks are woefully under funded.

Estimates show that the current funding through gasoline taxes only covers a third of what the municipalities and counties need.

Local highway agencies will need an additional $149 million a year statewide, with $28 million needed within Utah County.

REGIONAL ROADS, KEEP UP THE GOOD WORK

Funding infusions in recent years for the regional highway system have helped to keep up with demand for new and widened highways.

Utah County has seen almost $4 billion in highway and transit expansion in the last five years, helping to deal with unprecedented population growth and transportation demand.

However, Utah County is forecasted to remain the fastest growth area of the Wasatch Front, doubling in population by 2040. TransPlan40 lays out a path to stay ahead of congestion. Continued vigilant attention to funding the highway projects in the plan is vital.

A VISION FOR TRANSPORTATION CHOICES

As Utah County approaches one million people, the demand for choice in transportation increases. Commuter rail (FrontRunner) to Payson and light rail (Trax) from Draper south to Spanish Fork will be needed. Bus Rapid Transit also shows healthy future ridership. Transit, in conjunction with a robust bicycle and pedestrian system creates real choice for healthier and less expensive transportation options.

Utah County's need for a transportation system appropriate for the future requires new highways, transit, and active transportation facilities, balanced with efforts to maintain what already exists. Additional funding and careful planning will help ensure we are ready for what will come. To fully fund a bus and rail system for 1 million people, an additional $804m is needed. To fund the planned active transportation network requires an additional $335m.

TransPlan40

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Utah Transportation Commission, Commissioner

Mountainland
Association of Governments
586 East 800 North
Orem, UT 84097
P.801/229-3800
F.801/229-3801
www.mountainland.org

Table of Contents

TransPlan40

Metropolitan Planning Organization

MANAGEMENT STAFF

Andrew Jackson
AOG Executive Director

Shawn Seager
MPO Director

PLANNING STAFF

Bob Allen
Project Management Manager

Aaron Cloward
GIS Data Analysis

Chad Eccles
Transit Planner

Shawn Eliot
Project Development Manager

Susan Hardy
Air Quality Planner

Tim Hereth
Transportation Modeler

Kory Iman
GIS Coordinator

Nan Kuhn
Administrative Assistant

Jim Price
Ped/Bike Planner

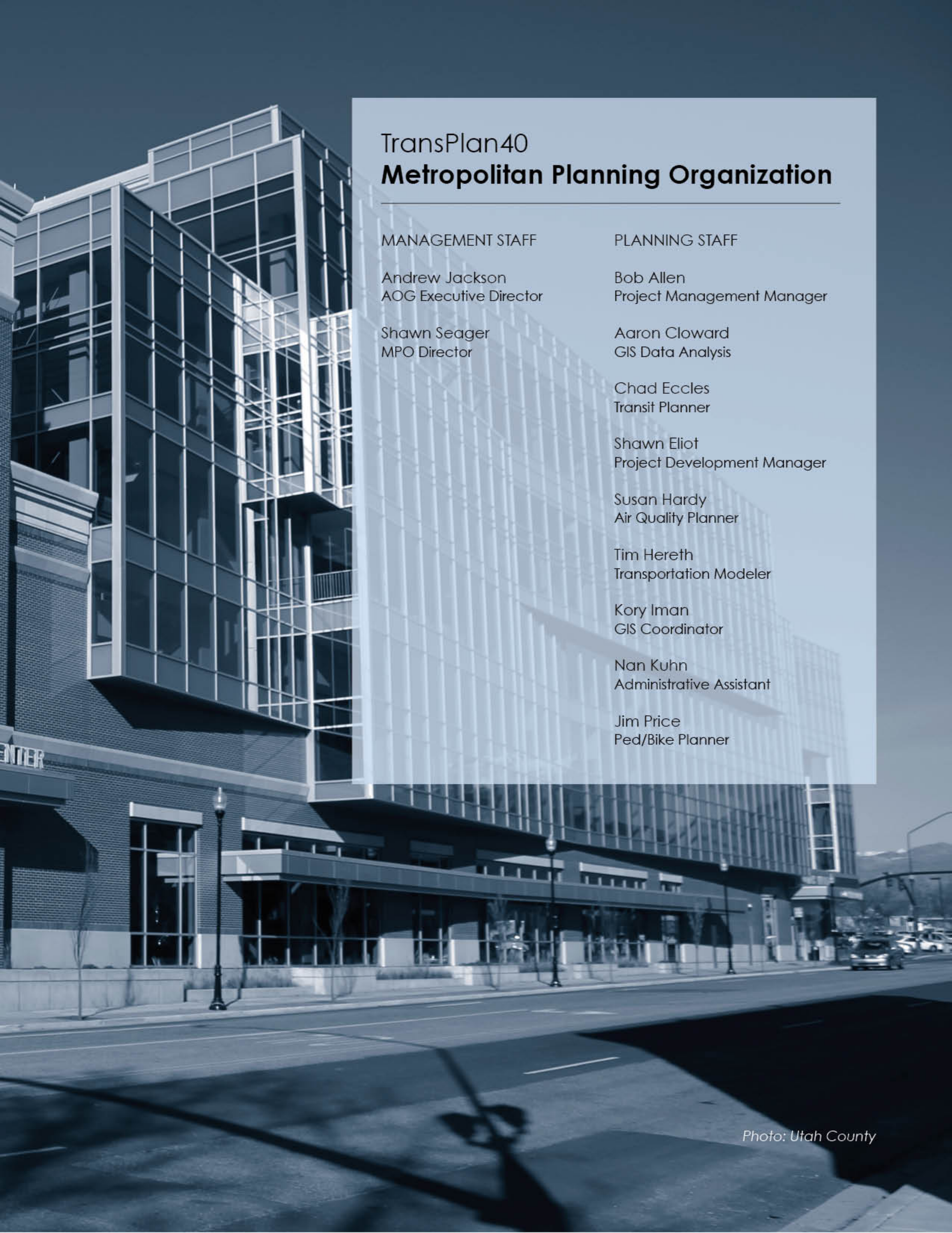


Photo: Utah County

Yesterday, Today

TransPlan40

Historic and Current Setting

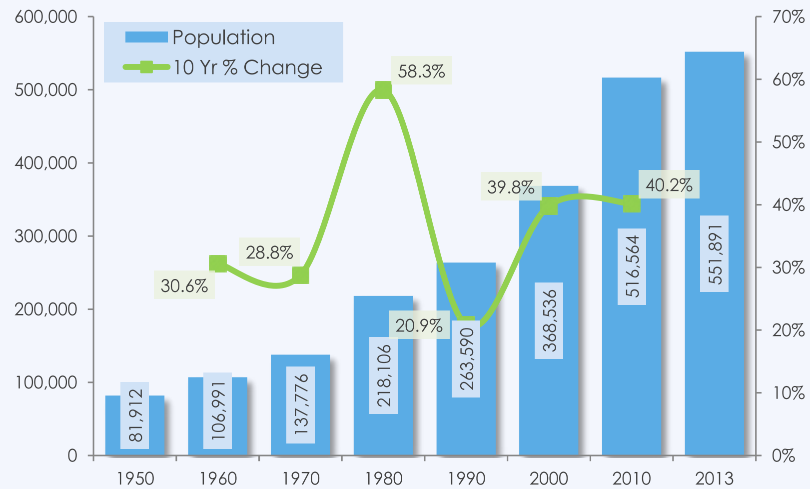
Yesterday, Today

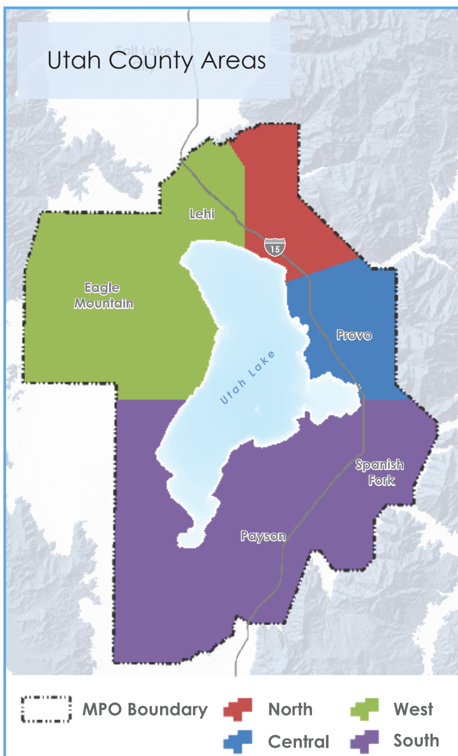
Urban Setting
Mountainland Metropolitan Planning Organization (MPO) is located at the southern end of the Wasatch Front region of Utah. It encompasses the rapidly growing Provo/Orem Urbanized Area and includes all 25 Utah County municipalities and contiguous unincorporated areas in between.

Urbanization and the locations of major transportation facilities are constrained by a physical boundary of steep mountain terrain to the east and west and by the large, centrally located Utah Lake. The urban area is roughly bisected by I-15, the only freeway currently within Utah County.

The MPO serves as the transportation association for urban leaders and state and federal transportation officials to create a dialogue and process for all to be involved in planning and funding the transportation needs of the area. We have a strong history of working together and accomplishing results.

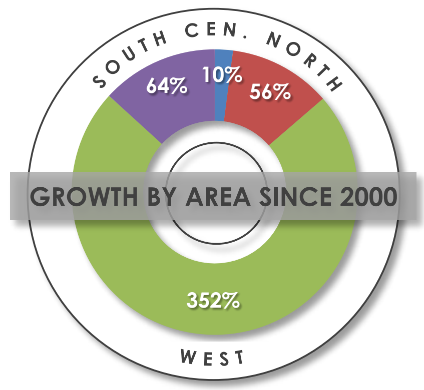
Utah County Population, Past Present





Growing, A Lot
Historically, population growth in Utah County has been robust with the last two decades growing 40 percent each. Over the last decade, Provo/Orem was the 4th fastest growth metro area in the country. Surpassing half a million people in 2009, the mainly rural transportation system was stretched thin. A nearly $4 billion infusion of funding by the state and county for highway and rail projects made a huge impact towards easing congestion and creating better connectivity.

Provo and Orem cities have always been the urban core of Utah County. This is changing. Since the year 2000, the West Area (including Lehi, Eagle Mountain, and Saratoga Springs) has been the epicenter of statewide growth adding more than 80k people. Lehi is seeing explosive growth in the high-tech sector earning the title "Silicon Slopes". Much of this activity can be attributed to location. Two metropolitan areas (Salt Lake City and Provo/Orem) converge making



this a high-value area. Of course, other areas are prospering too. The North Area, including American Fork and Pleasant Grove, with less developable land and high real estate values, still added 40k new people. The South Area has the largest geographic area with densities mostly at rural values. Most of the 60k population growth centered outward from the historic city cores. Provo and Orem in the Central Area mostly filed in older areas and grew upward with 20k new people.

> The Provo/Orem area is consistently recognized nationally for its outstanding quality of life, well-being, employment and entrepreneurship, and as a beautiful place to live with unbelievable recreational opportunities. *– Provo.org*

Yesterday, Today

I-15 CORE
The Utah County I-15 Corridor Expansion project or I-15 CORE, was a design-build project that reconstructed 24 miles of I-15 in Utah County between 2010 and 2012. According to the American Association of State Highway and Transportation Officials (AASHTO), the $1.725 billion project was the fastest billion-dollar public highway project ever completed in the US. Completed on December 15, 2012—35 months from the original notice to proceed—and finished $260 million under budget at $1.465 billion, the project:

- Widened the freeway by two lanes in each direction
- Replaced the aging asphalt with new 40-year concrete pavement
- Rebuilt 63 bridges
- Rebuilt 10 freeway interchanges
- Extended the Express Lane from Orem to Spanish Fork.

This project and 15 others were an investment of almost $4 billion.

I-15 Daily Traffic

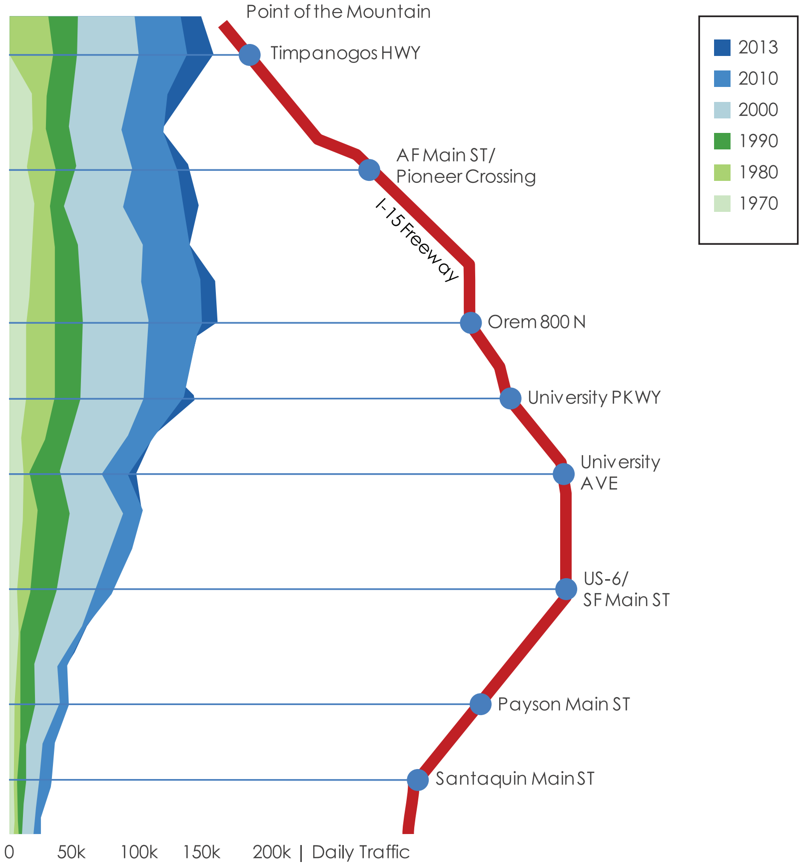
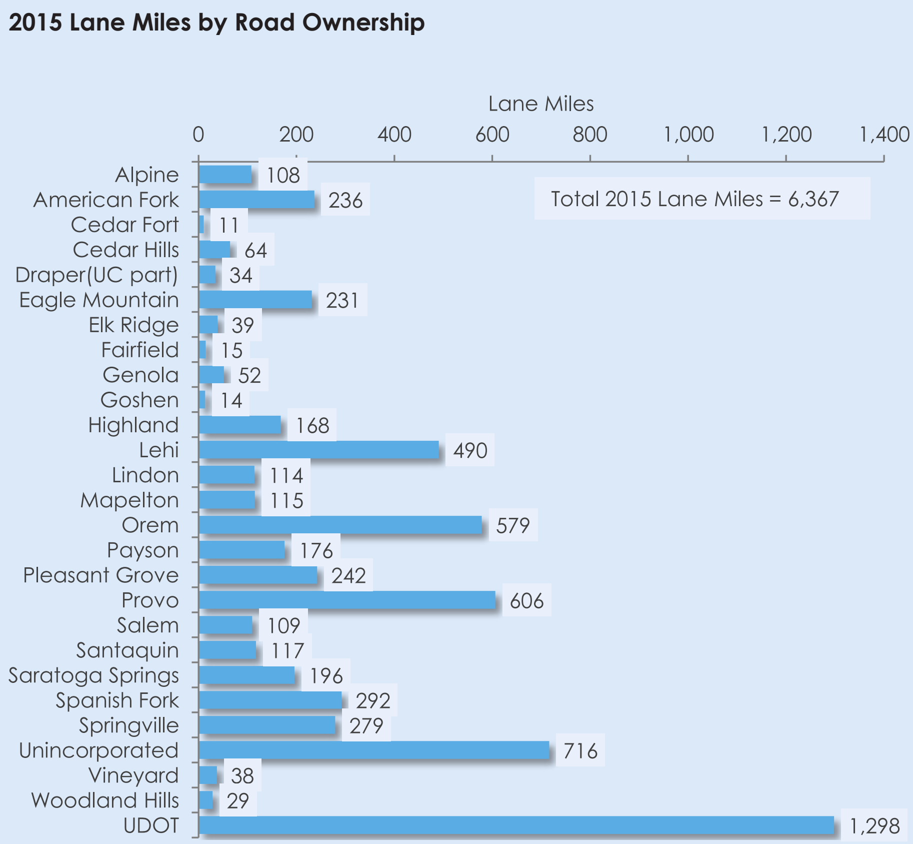


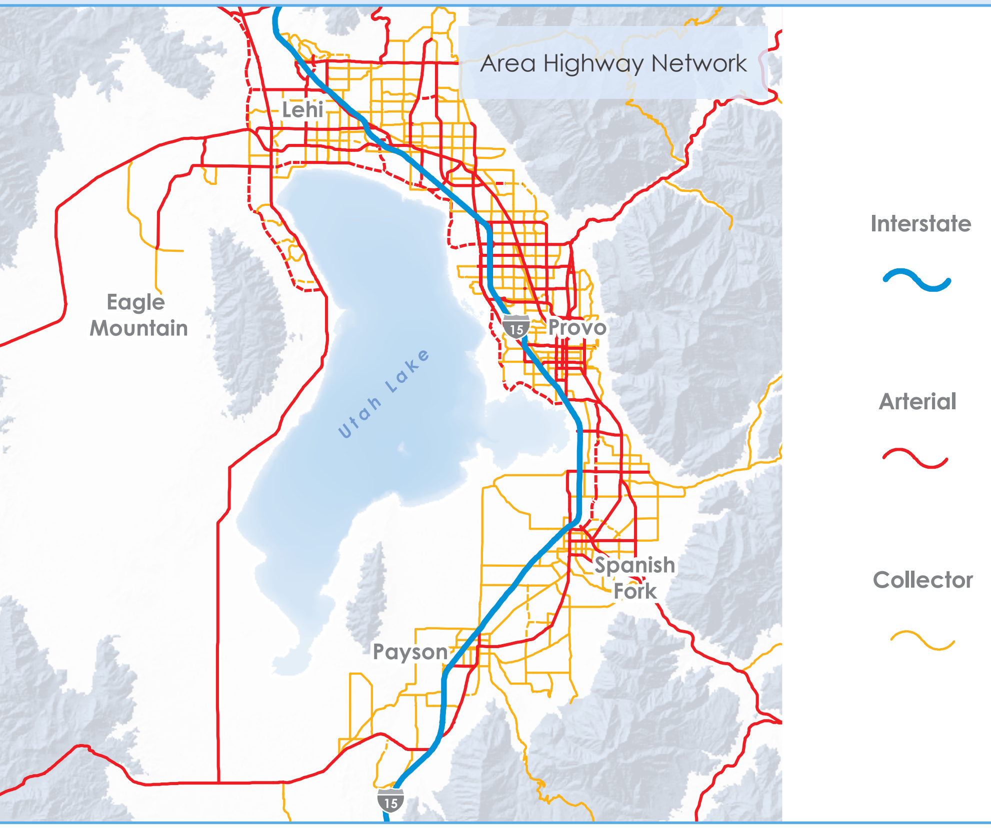
Photo: UDOT

The $4 billion - Recently Competed Projects

- I-15 | Spanish Fork to Lehi – Reconstruction
- I-15 | Spanish Fork to Payson - Widening
- Geneva RD – Widening
- HWY 73 | Eagle Mountain – Widening
- Lehi 2100 North – New Highway
- North County BLVD – Widening
- Orem 800 North – Widening
- Pioneer Crossing | Lehi – New Highway
- Redwood RD | Saratoga Springs – Widening
- Springville 400 South – Widening
- State ST | Orem to Pleasant Grove – Widening
- State ST/Pleasant Grove RR Bridge – Reconstruction
- Timpanogos HWY | Lehi – Widening, Commuter Lanes
- University PKWY – Widening
- FrontRunner Commuter Rail – New Service
- Provo/Orem Bus Rapid Transit – Preliminary Work

Yesterday, Today

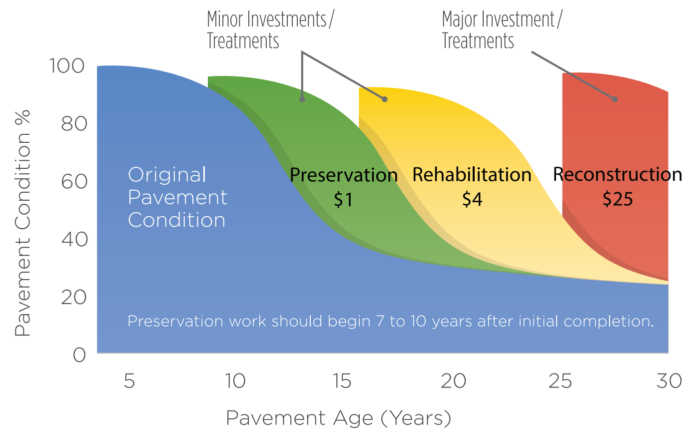




Area Highway Network

There are over 6,000 miles of roads in Utah County. Different roads serve different functions. Most travelers start a trip on a local road and work up to a collector, to an arterial, to a freeway. Local roads serve access to property and are usually the slower, less used roads. Freeways and arterials have limited access which helps preserve higher speeds and traffic flow. Municipalities start with a grid network of local roads, then county and state highways create regional connections. The new projects in the last five years have begun the transformation of the regional transportation system from a rural to an urban network. There is still much to do, especially in the far north and south as they develop. And it all ties into the I-15 Freeway, like tributaries flowing into a massive river. Population growth places huge demands on the system.

Good Roads Cost Less
UDOT manages and maintains over 16,000 highway lane miles across the state, from multi-lane urban interstates to rural two-lane roads. State roads comprise most of the major highways and carry about 75 percent of all traffic. UDOT's philosophy, "Good Roads Cost Less," means that lower cost preservation and rehabilitation projects in the near term delay more costly reconstruction. Annually, it is estimated that UDOT needs an additional $79 million statewide while the local jurisdictions need an additional $149 million ($28 million in Utah County).



Highway System Preservation
By the year 2040 the network of highways, transit, pedestrian and bikeways will evolve into an urban transportation network. Proper maintenance and preservation can maximize the useful life and effectiveness of the transportation infrastructure. Employing travel demand techniques like ride-sharing, telecommuting, and active transportation limit wear and tear by reducing the number of vehicles using the system.

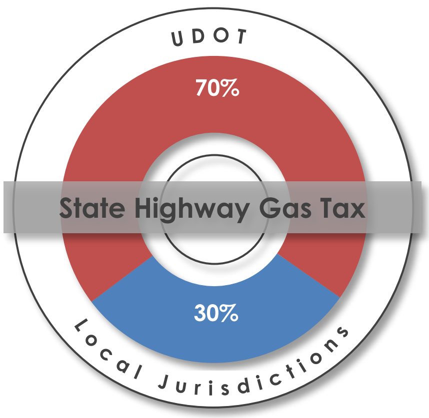
Upkeep of highway pavement provides public infrastructure that is efficient and long-lasting. One of the best ways to accomplish this is through a Pavement Management program. Maintaining pavement on a large regional highway system involves complex decisions about when to schedule resurfacing projects or when to apply other treatments to keep the highway performing, UDOT and most local jurisdictions employ many techniques to maintain their roadways in good condition, and such efforts represent one of the largest investments to the transportation system.

Local Road Preservation
Preservation needs for local roads are harder to predict due to varying local needs, priorities, and many of the smaller localities not having the staff or means to collect data.

The Utah Foundation surveyed Utah's cities and counties to gain a better understanding of local roads, and what these entities would like to see in their transportation network in the future. Many respondents expressed a desire to increase funding to achieve better maintenance and build additional features for pedestrian and bike users. Of the survey's findings, common threads emerged regarding local roads and their contribution to quality of life. Sufficient road capacity to handle traffic demands in urban areas was cited as a key component of economic development, while better maintenance was a top reason for cost savings among all survey respondents.

Today 30 percent of the state gas tax goes to cities and counties for road maintenance. It is estimated that this tax covers a only third of local maintenance needs. This means the remaining funds must be made up through city general funds or other means, or that projects are delayed.

Over 75 percent of Utah roads are under local jurisdiction, and nearly 25 percent of vehicle miles traveled are on local roads, connecting Utahns with their communities, the region, and the interstate highway system. Local connections provide a framework on which cities and counties grow – with roadways being one of the longest lasting pieces of infrastructure that a community will build.



According to the Utah Foundation, 30 percent of state gas taxes go to cities and counties for road maintenance, but covers only one third of the need.

Managing Congestion
The Congestion Management Process is under the direction of the MPO Technical Advisory Committee (TAC). This committee evaluates problem areas, determines possible causes of congestion, and identifies strategies to alleviate it and improve transportation efficiency. If congestion can be reduced by mitigation strategies alone, these strategies will be proposed in place of a capacity-increasing project. Where additional general-purpose lanes are needed, congestion management strategies are proposed to maintain the functional integrity of the additional lanes as well as facilitate demand management and operational improvements.

Congestion relief projects are proposed by MPO staff, state, county and municipal agencies. Evaluating both appropriate measures and regional congestion reduction benefits, the TAC reviews these projects and works towards a funded program recommendation for approval by The Regional Planning Committee. Approved projects and programs contribute to the implementation of this transportation plan.

Highway System Management
Part of providing efficient public infrastructure is ensuring that unnecessary obstacles to mobility are removed from the transportation system. Maintaining congruence between the regional growth principles and UDOT's three strategic goals: Zero Crashes, Injuries and Fatalities, Preserving Infrastructure, and Optimizing Mobility, is again reflected. This includes installing sidewalks in areas that lack them, providing handicap access, the use of traffic sensors and cameras to monitor and measure traffic, and allowing transit to operate more smoothly when interfacing with automobile traffic. Local governments provide vital support to both system and demand management. Transportation System Management (TSM) strategies include incident management, freeway ramp metering, High Occupancy Vehicle / Toll (HOV / HOT) lanes, signal coordination, access management, and Intelligent Transportation Systems (ITS) which overlap several of the previous strategies.

Most of these strategies are currently applied to some degree, but need to be expanded or enhanced for greater benefit. Putting such congestion mitigation into place helps preserve the capacity of highway facilities and accomplish the purpose they were built for.

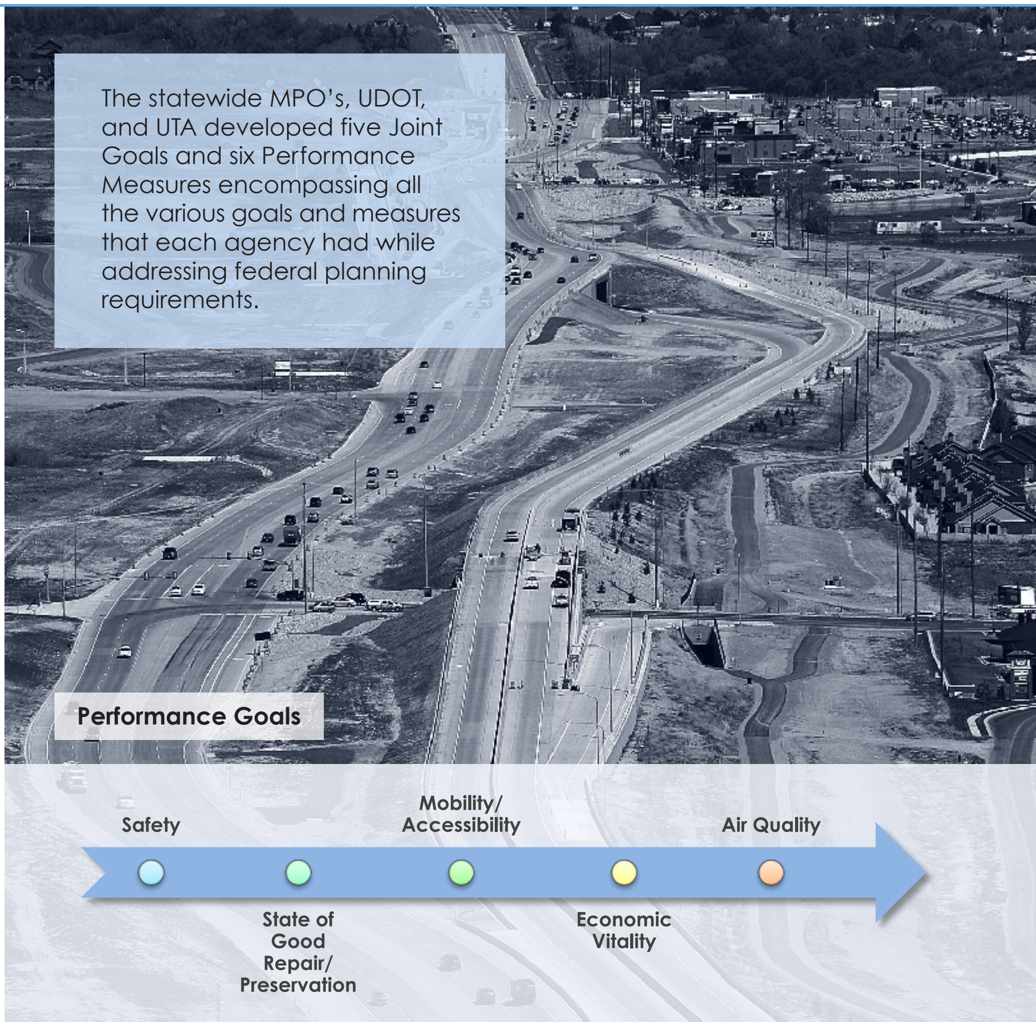
For example, a highway with numerous side streets or driveways will experience diminished capacity due to side friction, accidents, and reduced speeds. This may suggest an apparent need for additional capacity, when in reality, if access management were in place, the roadway would function as intended. Travel Demand Management (TDM) strategies include transit service in all forms (bus, light rail, commuter rail, and bus rapid transit), ridesharing, flextime, telecommuting, pedestrian and bicycle accommodations, growth management, and congestion pricing. Many of these strategies are currently used as part of the existing transportation network.

Yesterday, Today

Measuring Performance
Mountainland MPO has co-developed with UDOT, UTA, Cache MPO, Dixie MPO, and the Wasatch Front Regional Council statewide Joint Performance Goals and Performance Measures to develop a base line and track the performance of the transportation system. The joint goals developed are important to ensure the transportation system functions as an integrated network, rather than independent road, transit, and active transportation networks separated by political boundaries.

These goals build on the unique collaboration that is occurring in Utah and has been recognized as a nationwide best practice by the Federal Highway Administration (FHWA), the American Association of State Highway Transportation Officials (AASHTO), and the Association Metropolitan Planning Organization (AMPO). These goals and performance measures act as the beginning point for developing a true performance based focus process for future plans.

The statewide MPO's, UDOT, and UTA developed five Joint Goals and six Performance Measures encompassing all the various goals and measures that each agency had while addressing federal planning requirements.



With hundreds of potential performance measures, six basic criteria helped formulate the Joint Goals and Performance Measures chosen:

- Commonality between agencies and modes
- Level of impact on the transportation system
- Understandability by the general public
- Track-ability and predictability
- Availability of data and ease of calculation
- Level of control agencies have to move the dial

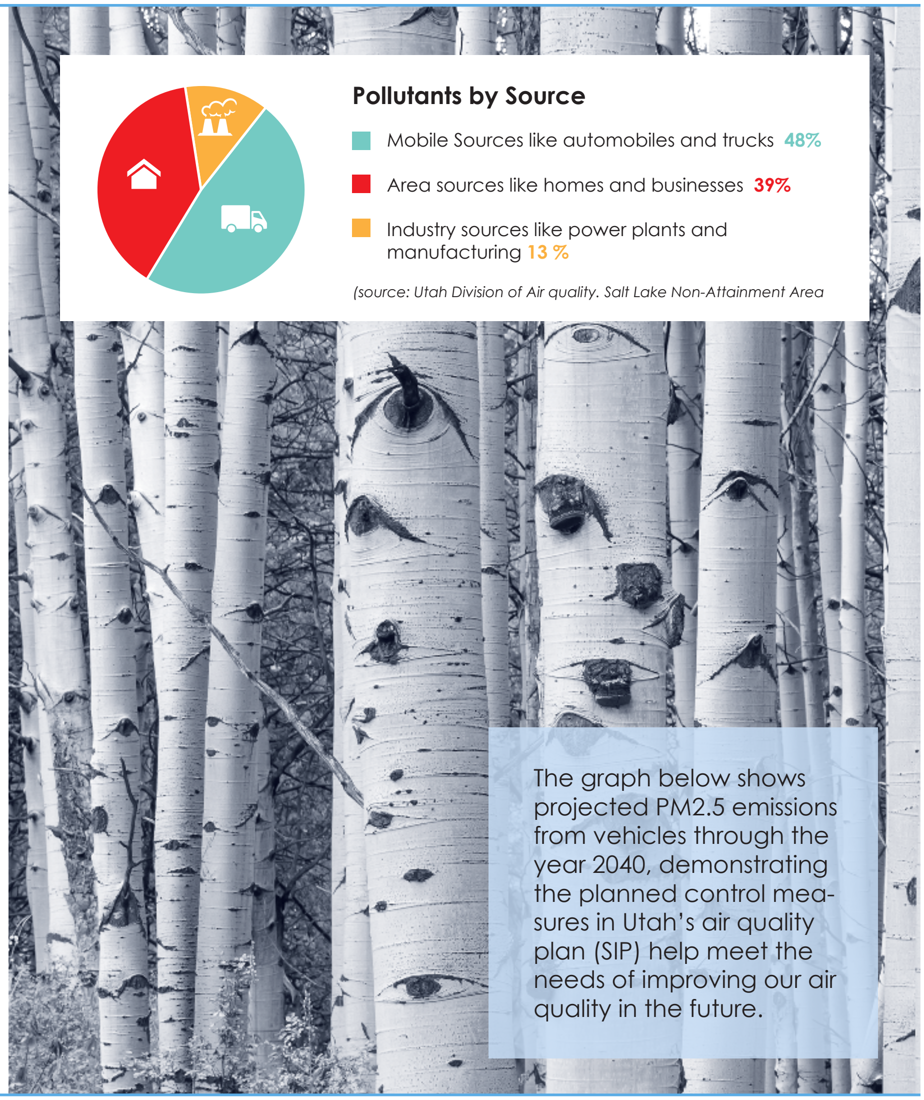
Performance Measures

	Key Objectives	Key Performance Measures
1	Reduce the number of fatal and serious injuries	Fatalities + Serious Injuries per capita
2	Extend the useful life of our current transportation assets	Percent of useful life remaining
3	Reduce emissions that adversely affect health, quality of life, and the economy	Key mobile source ozone and PM2.5 emissions
4	Improve access to jobs & higher ed. opportunities	Number of jobs & higher ed. that can be reached within a certain travel time by average household
5	Increase the share of trips using non-SOV modes	Commute Mode Split Percentages
6	Reduce the likelihood of driving long distances daily	Vehicle Miles Traveled per capita

Yesterday, Today

Air Quality

The Wasatch Front enjoys, on average, over 330 days per year meeting and surpassing National Ambient Air Quality Standards (NAAQS). However, during severe winter inversions emissions trapped in valleys make for stagnant unhealthy air. Air quality has been improving steadily since the 1980s even as our population has doubled. However, national air standards have become stricter, challenging Utah to meet these healthier standards. TransPlan40 must conform to the Utah State Implementation Plan (SIP) for air quality. This means that vehicle emissions resulting from the transportation projects proposed in the plan may not exceed the level or "budget" set for them in the SIP. Strategies in TransPlan40, including more active transportation and transit options, clustering of development, coupled with more advancements in automobile technologies, will help to continue the downward trajectory of bad air (vehicle emissions decrease by 52 percent by 2020). A particular air quality concern for the region is PM2.5 (particulate matter 2.5 microns in diameter or less). This fine pollution can reach unhealthy levels during winter inversion conditions.



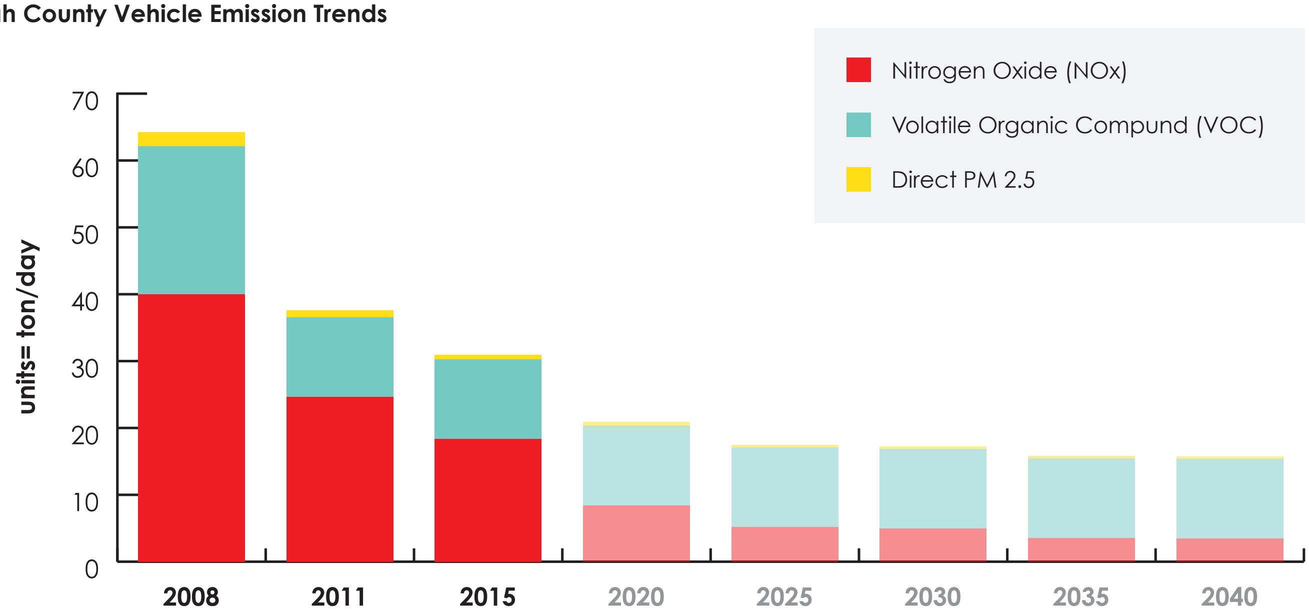
Pollutants by Source

- Mobile Sources like automobiles and trucks 48%
- Area sources like homes and businesses 39%
- Industry sources like power plants and manufacturing 13 %

(source: Utah Division of Air quality. Salt Lake Non-Attainment Area

The graph below shows projected PM2.5 emissions from vehicles through the year 2040, demonstrating the planned control measures in Utah's air quality plan (SIP) help meet the needs of improving our air quality in the future.

Utah County Vehicle Emission Trends



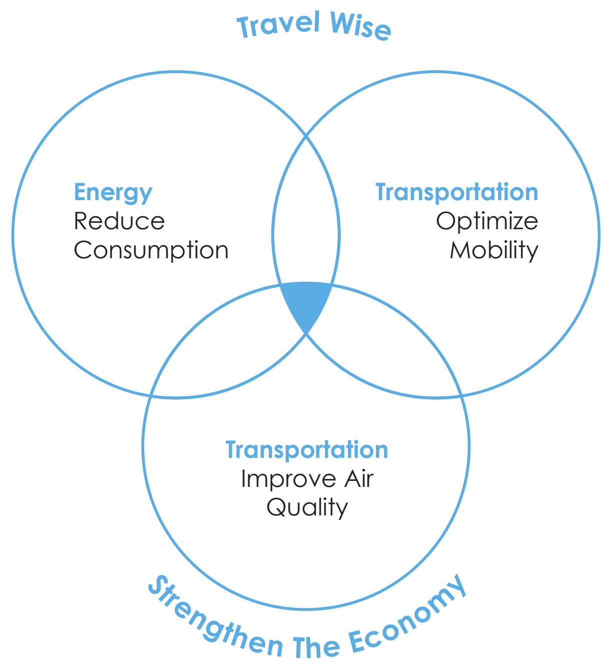
Yesterday, Today

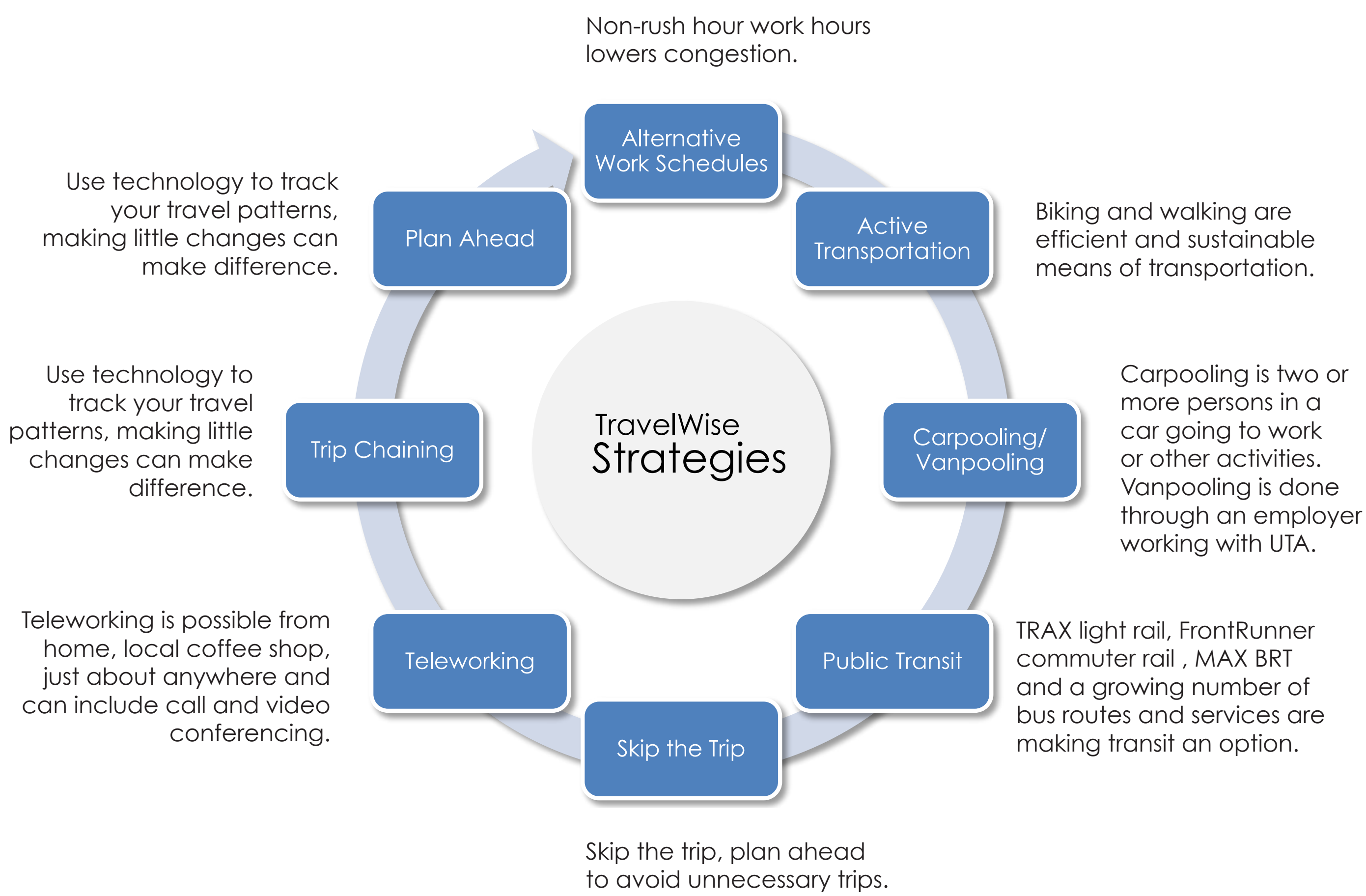
TravelWise

To address some of the transportation challenges created by Utah's unprecedented growth, UDOT had developed TravelWise--a set of strategies that encourages Utahns to consider alternatives to driving alone, helping improve air quality and ultimately quality of life in Utah.

The TravelWise program began with the 2002 Winter Olympics. In preparation for the increased traffic the Games would bring, UDOT reached out to residents, businesses and industries and encouraged them to implement what are now known as TravelWise strategies. The outreach efforts were a success as downtown Salt Lake City traffic dropped 30-40 percent, interstate truck traffic was reduced significantly and Utahns became more educated about the transportation system.

The success of the Olympic program has translated to everyday travel. Today, employers, employees, non-work and recreational travelers are encouraged to incorporate various strategies into their daily routine, including alternative schedules, active transportation, carpooling/ vanpooling, e-travel, public transit, teleworking, compressed workweeks and trip chaining.

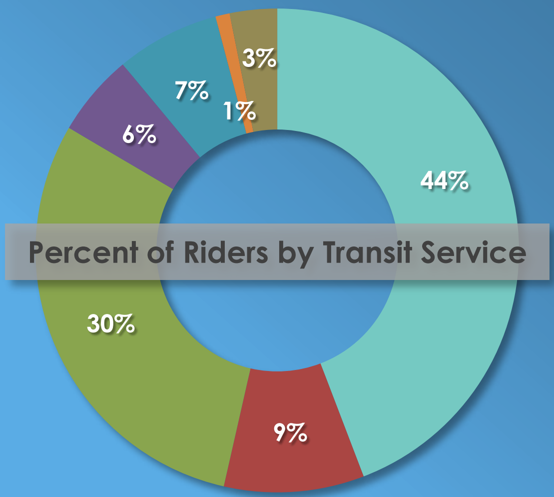




Transit System
Fulfilling its promise made to voters in 2006, The Utah Transit Authority concluded its FrontLines 2015 program with the opening of the Airport and Draper TRAX lines. FrontLines 2015, which consisted of the Mid-Jordan, West Valley, Airport and Draper TRAX lines and the Provo to Salt Lake FrontRunner extension, was delivered two years ahead of schedule and $300 million under budget. UTA also opened Utah's first modern streetcar line between South Salt Lake and Sugar House. These new projects bring the Wasatch Front's rail transit system to 140 miles.

The majority of bus routes in the Utah County transit system are centered in the Provo/Orem core with express routes and inter-urban routes reaching out into outlying areas. With the arrival of commuter rail, most express bus service to Salt Lake County has been discontinued.

The Provo/Orem Bus Rapid Transit system, currently in the design stage with federal and local funding secured, should begin construction next year. When complete it will serve UVU, University Mall, BYU, Downtown Provo, Provo Towne Centre Mall, and Eastbay.

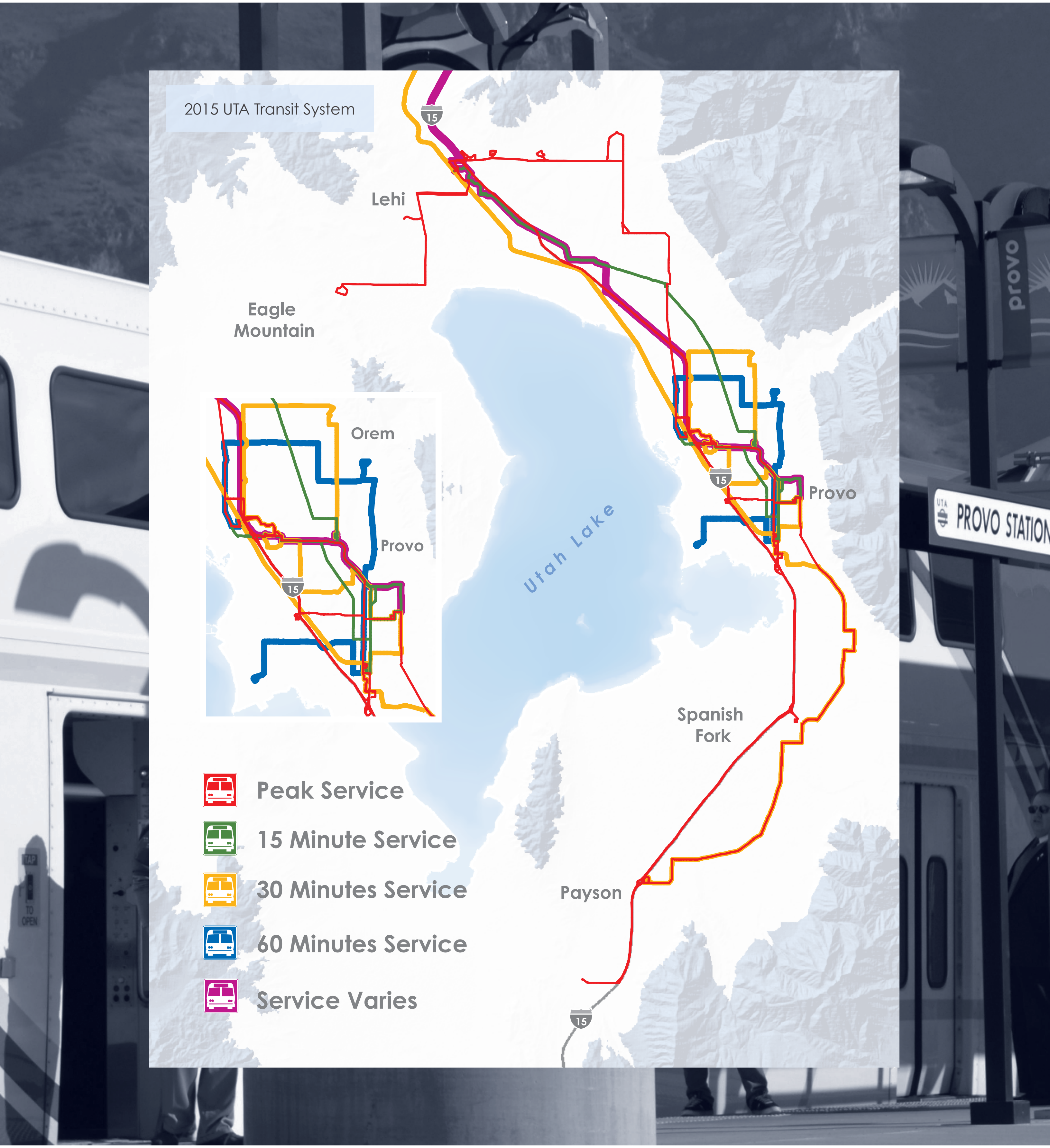


2013 System-wide Weekday Ridership

- Trax | 70k
- FrontRunner | 15k
- Salt Lake County Bus | 47k
- Utah County Bus | 9k
- Davis & Weber Counties Bus | 11k
- Paratransit | 2k
- Vanpool | 5k

Total Weekday Ridership | 158 Thousand
2013 Total Ridership | 44 Milllion

Yesterday, Today



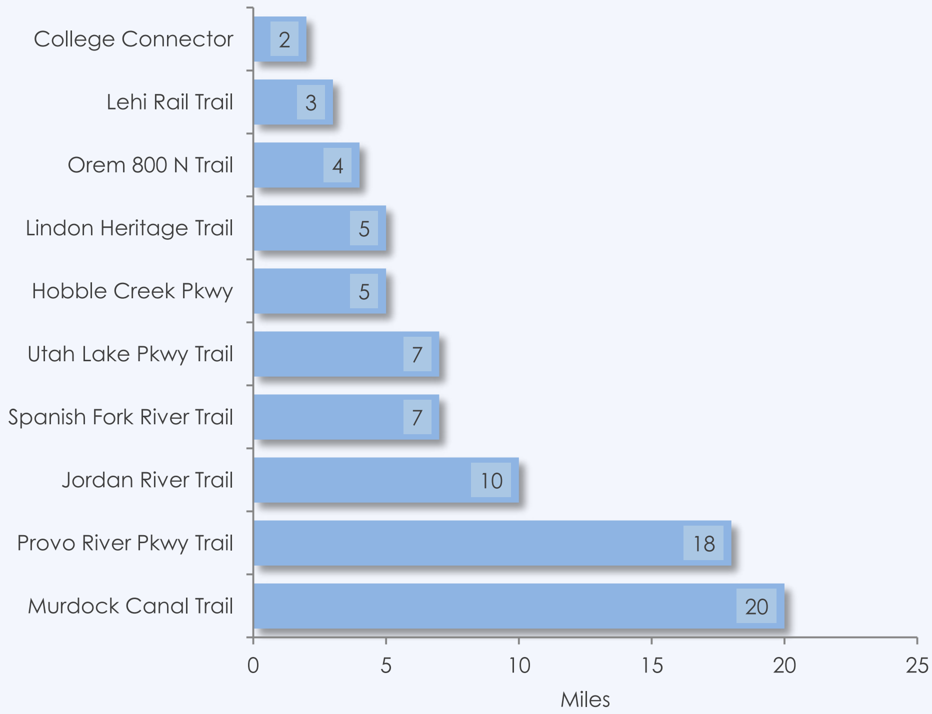
Yesterday, Today

Pedestrians and Bikes
In 2010, a massive project was undertaken to enclose the 21-mile Provo Reservoir Canal in Utah County. The project created a perfect corridor for a 20-mile addition to Utah County's existing trail system, the Murdock Canal Trail. Running from 800 North in Orem to Timpanogos HWY in Lehi, passing through seven Utah County cities, the trail connects the Provo River Parkway Trail in Orem to the Jordan River Parkway Trail in Lehi.

These trails and seven others constitute the major backbone for the valley active transportation system totaling over 80 miles. In 2014 the MPO documented 2.2 million user trips on this backbone system.

The MPO has funded pedestrian/bicycle plans for many jurisdictions. These plans help to develop an interconnected system of both on-street and off-road facilities to enhance highway and transit facilities.

Major Trails



Planning, Tomorrow

TransPlan40

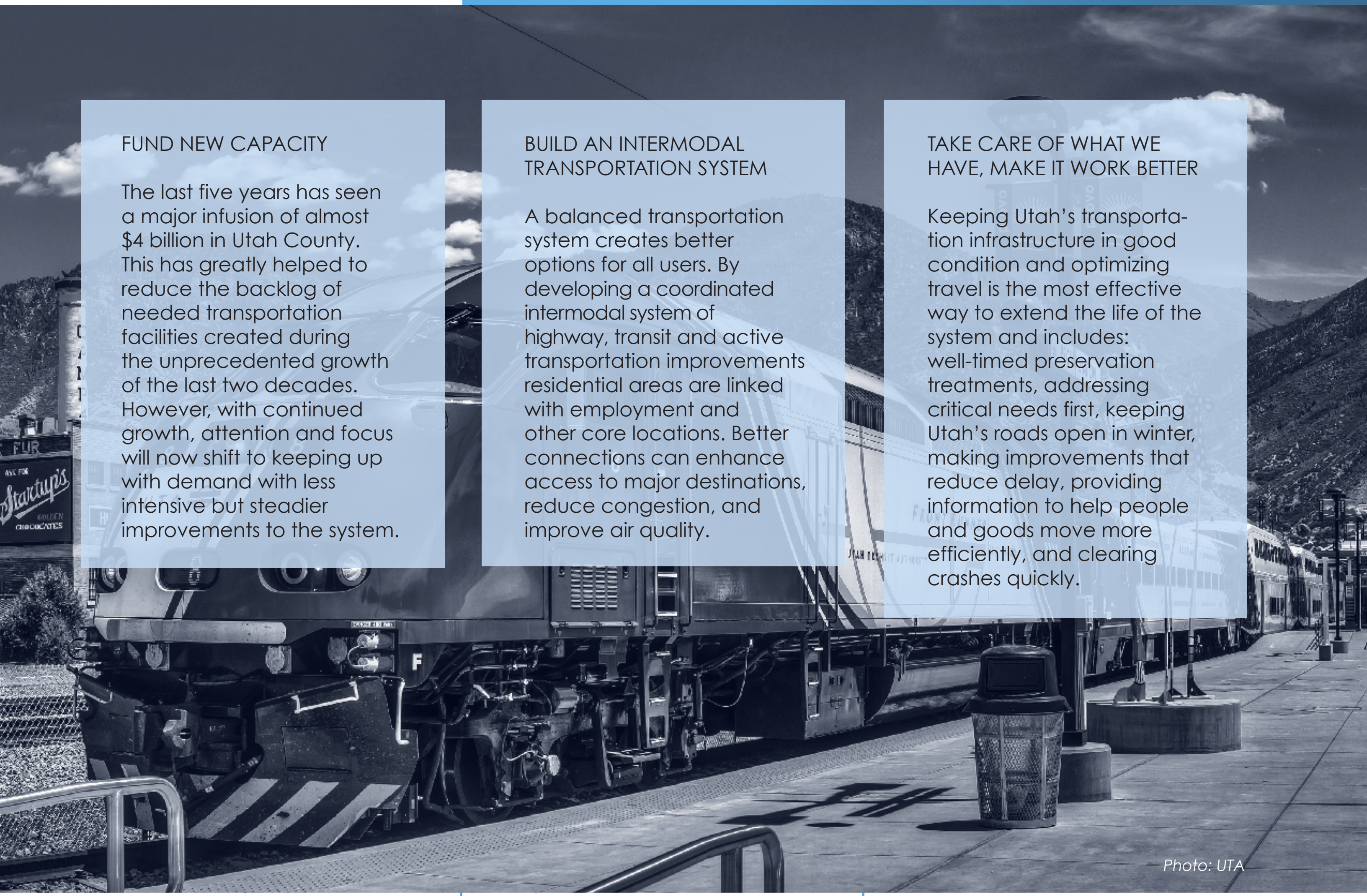
Planning Process and the Future Setting

Planning, Tomorrow

Goals
Transportation in Utah County is evolving from a rural to an urban system, and major facilities such as freeways, expressways, light rail, and bus rapid transit will be needed to supplement today's more limited choices focused on single occupant vehicles. This evolution will focus on three primary areas:

TransPlan40 Vision Statement

Provide an intermodal transportation system that efficiently moves people and freight, to fuel our economy, while retaining the unique western character of the Wasatch Mountains



FUND NEW CAPACITY

The last five years has seen a major infusion of almost $4 billion in Utah County. This has greatly helped to reduce the backlog of needed transportation facilities created during the unprecedented growth of the last two decades. However, with continued growth, attention and focus will now shift to keeping up with demand with less intensive but steadier improvements to the system.

BUILD AN INTERMODAL TRANSPORTATION SYSTEM

A balanced transportation system creates better options for all users. By developing a coordinated intermodal system of highway, transit and active transportation improvements residential areas are linked with employment and other core locations. Better connections can enhance access to major destinations, reduce congestion, and improve air quality.

TAKE CARE OF WHAT WE HAVE, MAKE IT WORK BETTER

Keeping Utah's transportation infrastructure in good condition and optimizing travel is the most effective way to extend the life of the system and includes: well-timed preservation treatments, addressing critical needs first, keeping Utah's roads open in winter, making improvements that reduce delay, providing information to help people and goods move more efficiently, and clearing crashes quickly.

Photo: UTA

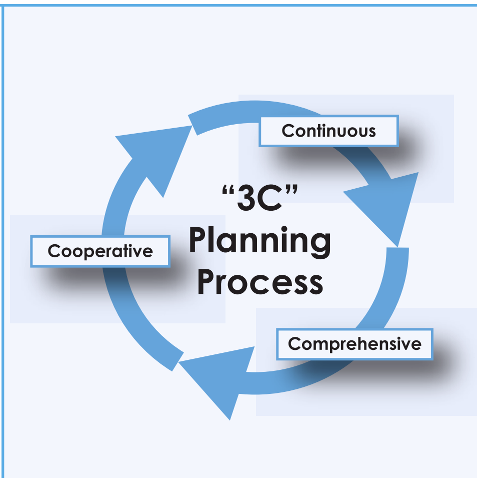
The Public's Help
Public knowledge, participation, and input are key elements in all areas of the Mountainland transportation planning efforts. The public uses the transportation system. Without allowing all users to comment, shape and form the needs of the system, we would have an incomplete picture. Part of this process solicits information about congested areas, road connectivity, visions of future roads, transit routes, traffic signal timing, etc. Public participation is not only a requirement, but a vital tool utilized by transportation planners, engineers, and elected officials. MPO sponsored studies require extensive public participation. All stakeholders are invited to attend workshops, focus groups, open houses, and meetings. Three times each year, transportation open houses are held, geographically spread throughout the county, to educate, inform, and gain input for TransPlan40, other on-going studies and plans, and for our transportation partners including UDOT, UTA, Utah County, and its 25 municipalities.

Planning, Tomorrow

Planning Requirements
TransPlan40 follows the guidelines of the last federal transportation bill -- Moving Ahead for Progress in the 21st Century Act (MAP-21)--and embodies them philosophically as well as technically. The Federal Highway Administration (FHWA) requires each MPO to address eight specific planning factors. MAP-21 states that the metropolitan planning process shall be continuous, cooperative, and comprehensive (3C).

The process will also provide consideration and implementation of projects, strategies, and services to address the following factors:

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 accessibility and mobility of people and 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.



Government Collaboration
As the fourth fastest growing metropolitan area in the United States over the last decade, coordination with local land use plans is essential to the creation of an efficient and effective transportation system. The essential linkage between land use can be illustrated in two ways:

1. The spatial distribution and type of land use activity influences demand. For example, retail land uses will generate more vehicle trips than residential land uses.
2. Improving access by expanding the transportation system allows for the development of land at higher intensities and provides access to land that was previously inaccessible.

In developing TransPlan40 the fundamental relationship between transportation and land use is recognized, and the effects that land use and growth have on transportation is considered by all local governments involved in land use policy.

General Plans are the means by which local jurisdictions plan for their future growth and development. The development of these plans provides a process for anticipating and influencing the orderly and coordinated development of land.

Each plan is required to have a land use element showing the general distribution and location of land for various uses, as well as a circulation element showing the street system and transportation routes. Local comprehensive plans are the basis for defining and integrating land use and transportation, and are the foundation of this plan.

The MPO has numerous committees that involve elected officials as well as technical staff for all the municipalities and the county. The Utah Department of Transportation, the Utah Transit Authority, and the Utah Department of Air Quality are all key players in development of TransPlan40. These players together are the key transportation stake-holders in the process. In developing the plan, sub-committee meetings and technical meetings are held to understand and collaborate regional processes. Resource agencies are also contacted and invited to participate.

Photo: Joli Hunt

Planning, Tomorrow

Regional Trends
By 2040, Utah County will add almost half a million more people, surpassing 1 million people, the same population that Salt Lake County is today. This is nearly 100 percent growth and double any other Wasatch Front county. For Utah County, this is consistent with historic growth for the past 30 years.

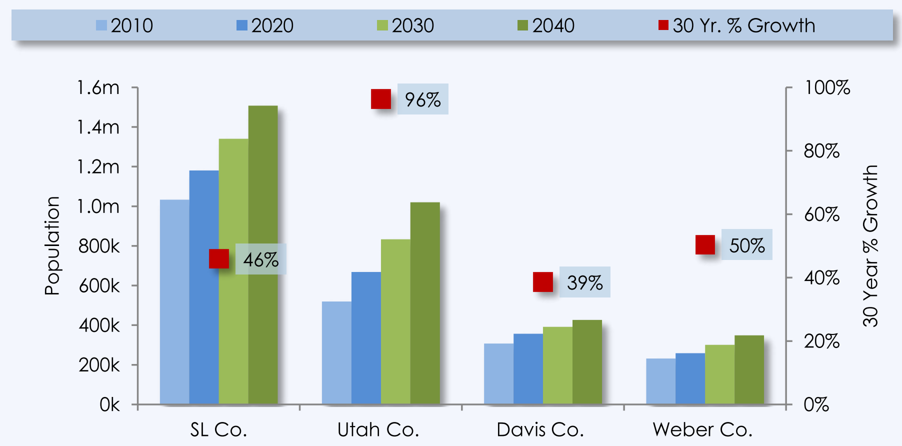
Employment mimics population trends for all four Wasatch Front counties. Like population, Utah County's employment growth is projected to almost double from a quarter of a million jobs today to half a million in 2040. With the additional jobs, downtown Salt Lake City will remain the major urban employment center.

Development along the Wasatch Front has historically favored the areas south of downtown Salt Lake City. Today, half a million people live north of downtown, 1.5 million live south. By 2040 700,000 people live north of downtown with 2.5 million living south.

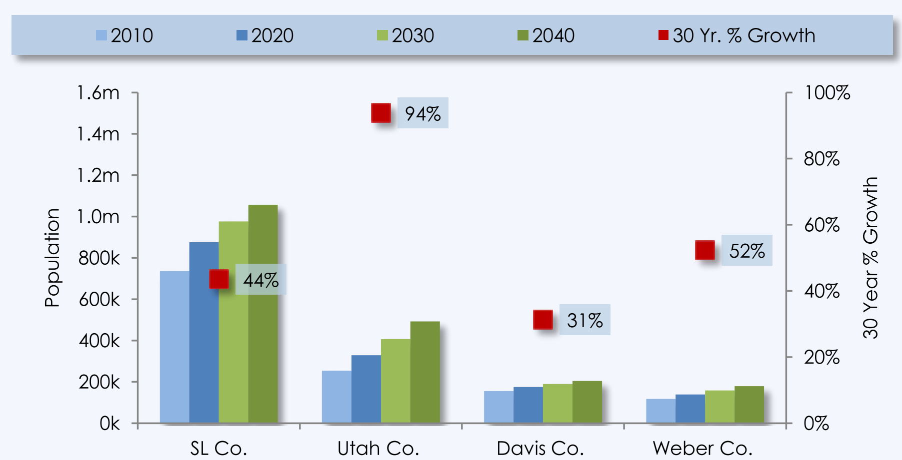
Until recently, Utah County's development trends have been tied to in-county employment, but in the last decade, the two metro areas (Provo/Orem and Salt Lake City/ Ogden) have begun to converge, creating the highest employment growth area in the state. The high-tech "Silicon Slopes" area at the Point of the Mountain, and the abundance of vacant land available in the area, will keep a lot of attention on this area.

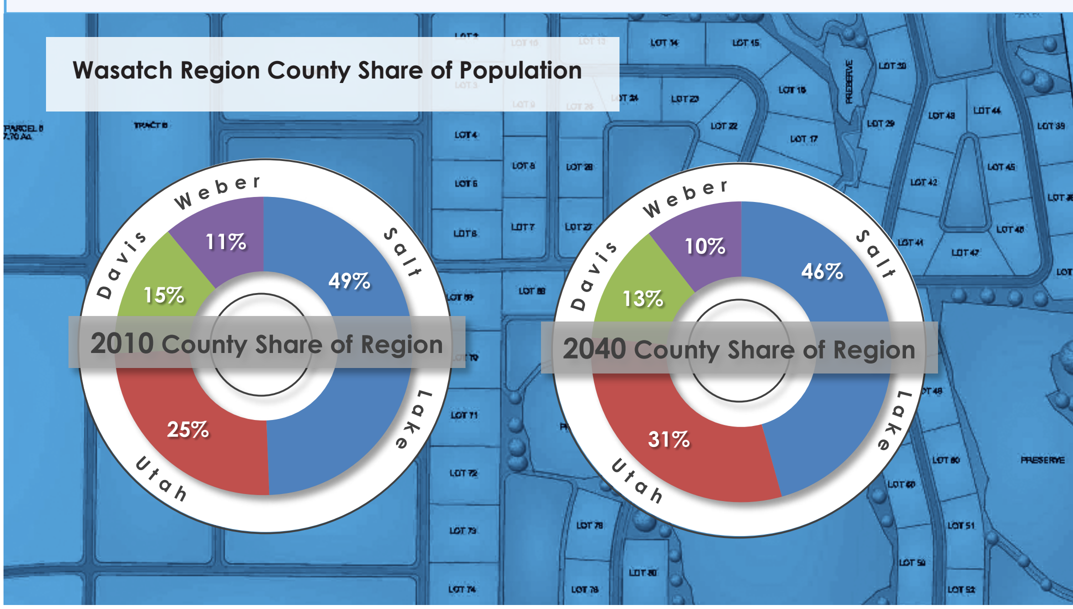
With such growth, Utah County's importance in the region increases. When compared with the four county Wasatch Front region (Davis, Salt Lake, Utah, and Weber counties), Utah County's region-wide share of population increases from 25 percent in 2010 to over 31 percent in 2040.

Population | Wasatch Front Region | 2010-2040



Employment | Wasatch Front Region | 2010-2040





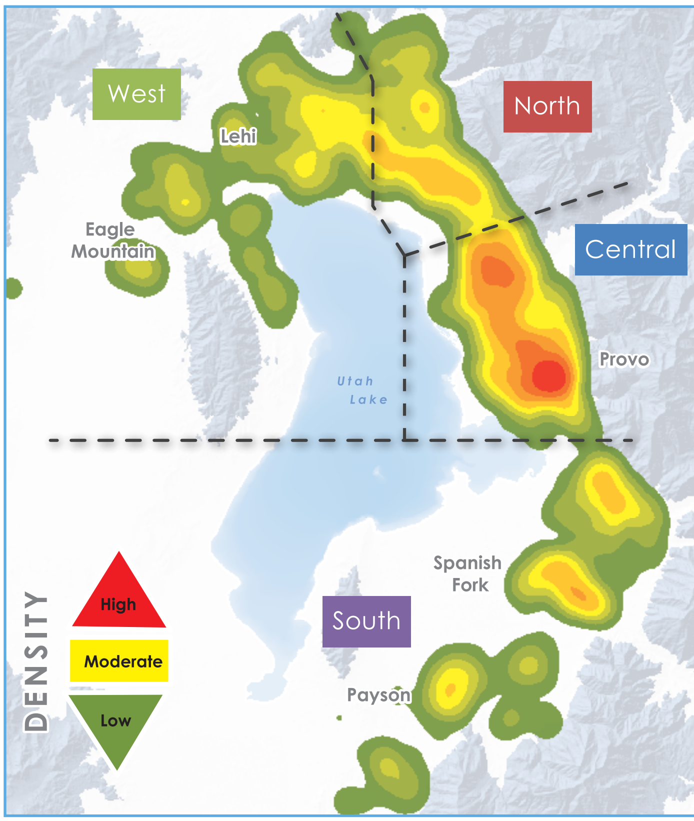
Planning, Tomorrow

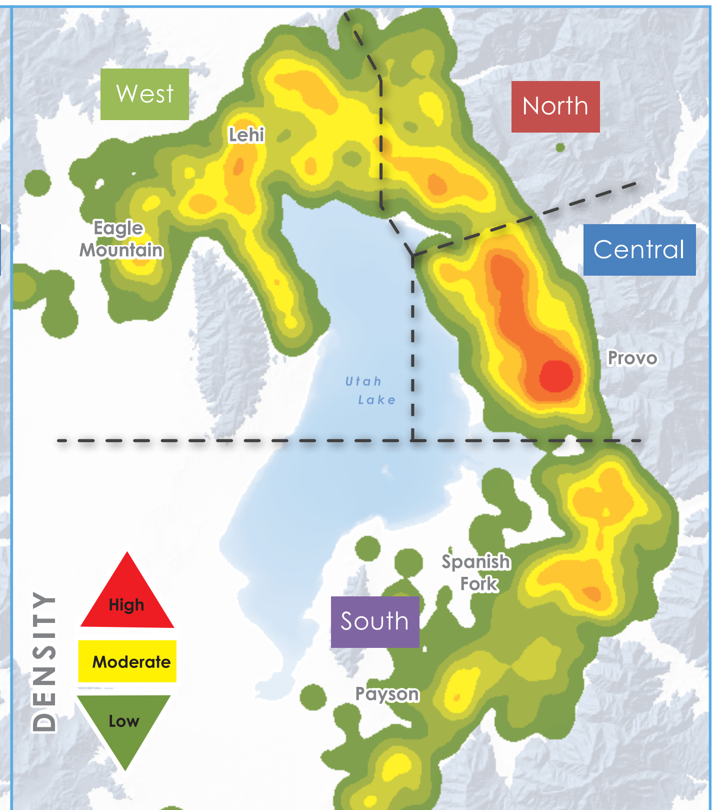
2014 Population

572,000

2040 Population

1,000,000

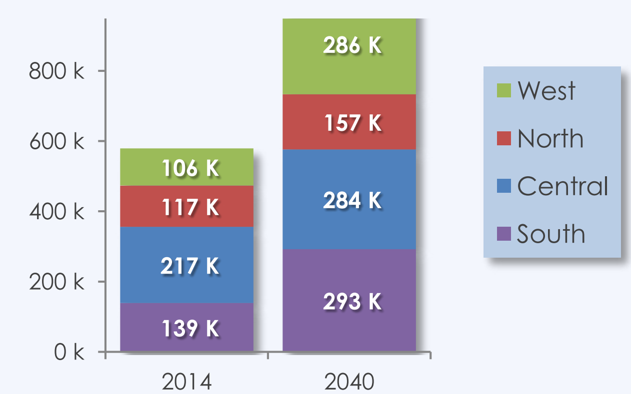




Local Trends
As growth mounts, the population distribution will continue to increase outside the historical center of Provo/Orem. In 2040, Provo/Orem will still be the urban core, but northward along the I-15 freeway and into Salt Lake County similar densities start to occur. West of I-15 becomes denser and self-sustaining (more jobs, fewer long commutes), and begins to have more urban characteristics. South of Provo, communities fill in with development and spread out from historic city cores. Densities still remain low with suburban characteristics.

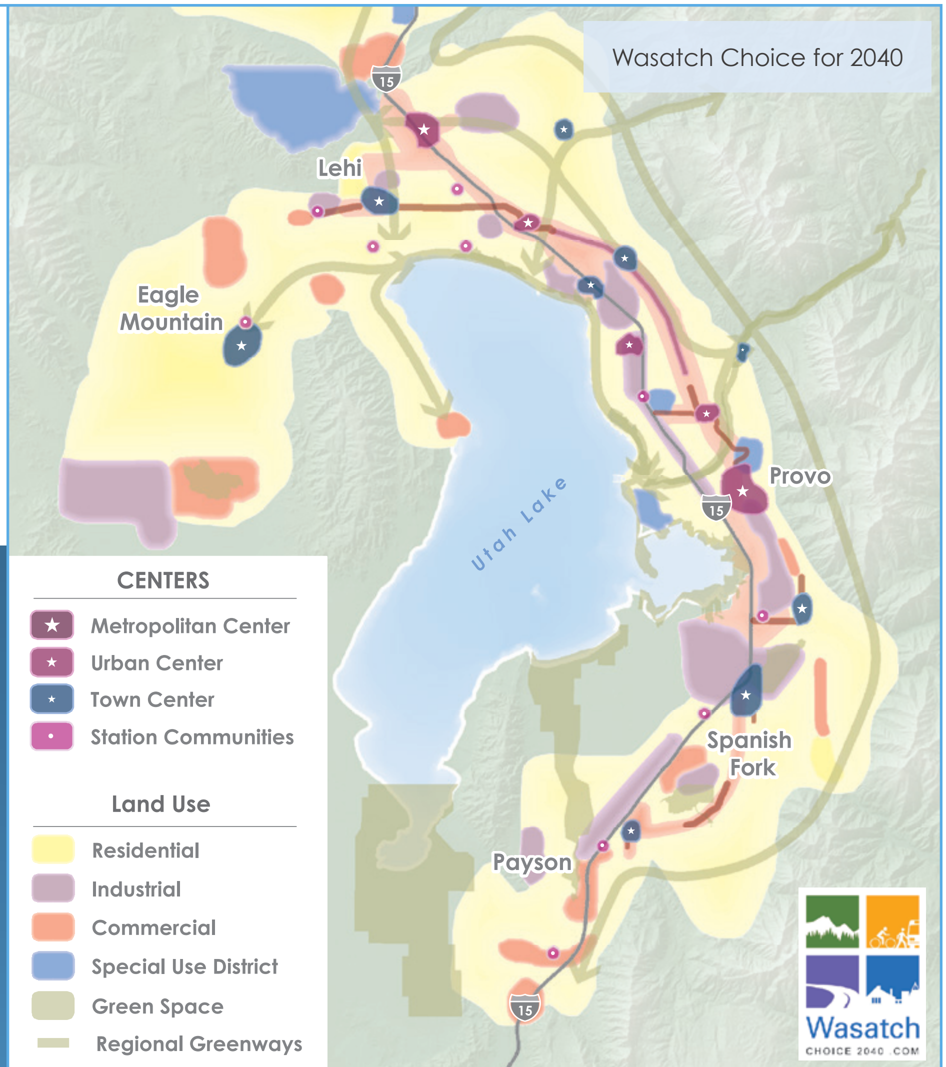
Notice the table to the right, the central area stays relatively the same between 2014 and 2040, growth is in the west and south, both becoming as large as the central area.

Population by Sub-Region



Planning, Tomorrow

A Choice for the Wasatch
The Wasatch Front is one socioeconomic region stretching from Brigham City south to Santaquin and from Tooele east to Park City. It competes with other regions economically, comprises a single job and housing market, and shares natural resources. Where and how we shape tomorrow's communities, neighborhoods, and economic centers will dramatically affect our quality of life, including how much time we spend in traffic, our air quality, and our choices available to live, work, shop, and play.



Challenge and Opportunity
Utah is among the fastest growing states in the nation. Growth brings both benefits and challenges statewide:

- 2/3rds of the buildings in 2040 have not yet been built
- Total investment in new development is estimated at $700 billion
- More than 900k new growth-related residential units by 2040
- Nearly 1.9 billion sq. ft. of new/rebuilt space will be needed to contain the projected 2.9 million jobs in 2040
- The region has limited land available for development and roads. Widely dispersed populations will become increasingly impractical and expensive to serve.

Mountainland MPO encourages cities to explore a mix of activities and walkable development to reduce the need for long drives and provide residents with what they want out of life - affordability, time for family, improved health, and the pride of living in a world-class region.

Preferred Wasatch Choice Solution
Wasatch Choice for 2040 proposes a mixture of housing types, jobs, and transportation choices more centered and closer to jobs and retail when compared to today's current development trends. The preferred solution exhibits distinct benefits.

More walkable communities--new homes are about twice as likely as today's to have convenient access to places to work, shop, play, and learn.

More growing up, less growing out--40% more growth, compared with today, fills in existing communities and business districts. Allows more biking, shorter commutes, better air quality, and better utilizes existing infrastructure.

Better options for commuters--average transit use in 2040 is 45% higher than at present, making commuting more affordable, providing more options.

More open land stays open--24 fewer sq. miles converted to buildings and streets allowing for more green infrastructure and open land.

Planning, Tomorrow

Travel Demand
Predicting where future transportation facilities will be needed is a large undertaking. Changes in political leadership, anticipated funding, land use patterns and many other factors continually affect the dynamics of an area and require constant study. TransPlan40 is updated every four years in order to stay relevant.

This frequency of updates allows the MPO to remain current with emerging trends and policy changes. The work is also collaborative, bringing federal, state, county and city agencies together into one deliberative body.

The MPO uses a sophisticated travel demand model co-managed with WFRC (Salt Lake/Ogden MPO) to predict where future transportation improvements are needed. The key inputs are:

1. **Socioeconomic**--household and employment level forecasts for each city
2. **Land use**--each municipality and the county produce their land use plans as a part of the general plan process. In developing future land use patterns for the traffic model, MPO staff builds off individual land use plans to create countywide development patterns.

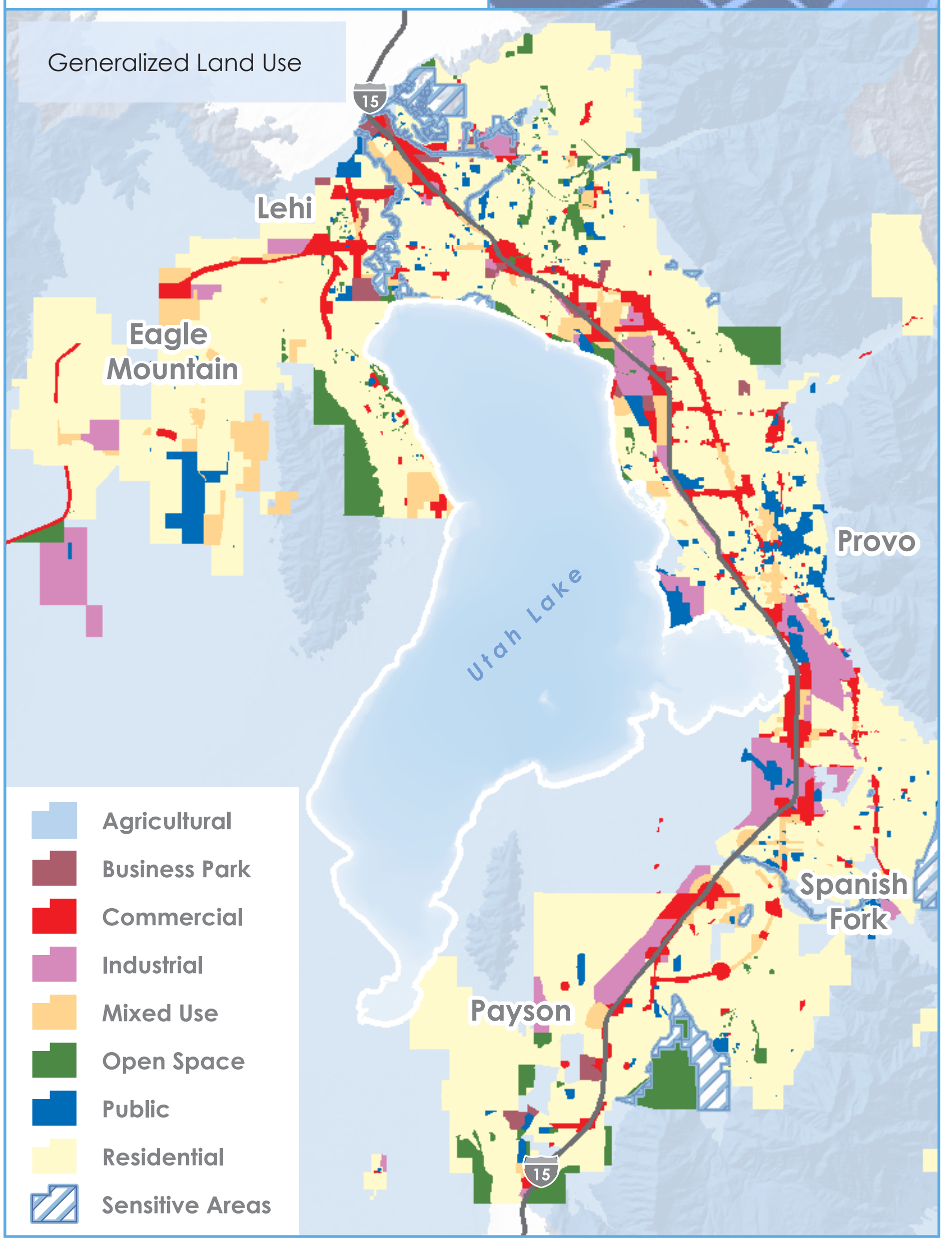
Many land use plans only project for the next 10 to 15 years leaving a gap between their planning horizon and the needs of long range transportation planning. MPO staff meet with each municipality and the county to review their plans and to gain additional insight into where future growth could occur. The local plans are used to gauge what could occur on vacant land, infill and redevelopment areas.

By continuing historic low-density land use policies, most cities will run out of buildable land by 2035, so changes will be needed to handle projected growth all along the Wasatch Front.

Wasatch Choices for 2040 fosters creative thinking concerning land-use policies going forward. This plan proposes denser clusters of housing, retail and employment in key strategic areas along the Wasatch Front using the Wasatch Choice centers to augment the general plans.

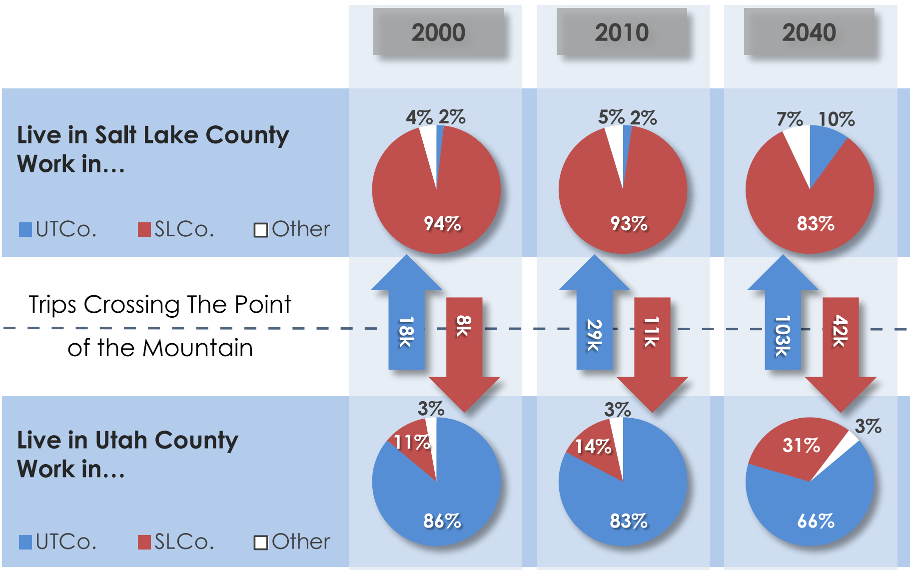
"A goal without a plan is just a wish."

– Antoine de Saint-Exupery



Planning, Tomorrow

Weekday Commuter Trips



Means of Travel to Work

Drive Alone	**2013 | 73%** **2040 | 72%**	Need other options to lower this number in the future.
Carpool	**2013 | 12%** **2040 | 13%**	Need incentives to use our highway lanes more wisely.
Transit	**2013 | 2%** **2040 | 4%**	Modest growth, but most major transit projects remain unfunded.
Walk/Bike	**2013 | 6%** **2040 | 6%**	Higher than national average, helps to have to large universities.
Other	**2013 | 7%** **2040 | 5%**	Other means...Taxi, Ferry, Plane...

Point of the Mountain Commuting
Today, the Salt Lake City and Provo/Orem Metropolitan areas are still distinct, with most work trips being made in-county. But that is beginning to change. In 2000 the US Census showed that only 10.6 percent of all Utah County workers were employed outside the county. In 2010 that rose to 17.2 percent.

By 2040 it is projected to reach 30 percent. In contrast, in 2010 Davis County had 47 percent of its work-force commute out of county each workday. In 2010, there were over 40,000 one-way commuter trips at the Point of the Mountain each work day, averaging over 40 miles per trip. By 2040 this grows to over 300k trips a day. With all the additional jobs created closer to the Point, the average trip shortens to just under 30 miles.

Means of Travel
Commuting in Utah County mostly means one person driving alone, accounting for 73 percent of all work trips. Carpools add another 12 percent. Transit work trips total 2 percent. Walking and biking is above the national average at 6 percent due in part to a large student population at the valley's two universities.

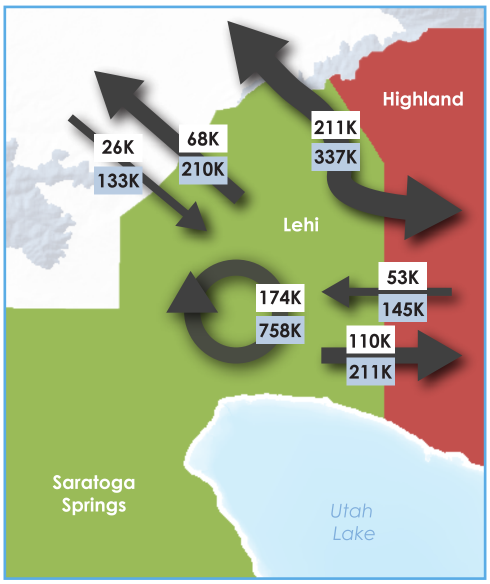
A key strategy of TransPlan40 is to spread trips across all transportation modes. Less dependency on cars means less congestion and air pollution. With the diversity of projects proposed in the plan, only modest increases of transit use and carpooling occur. By 2035, I-15 becomes congested with limited options available.

To continue to rely on infrastructure for automobiles, more costly corridors such as a bridge over Utah Lake or raised express lanes down the middle of I-15 would need to be studied. Additional funding for transit and active transportation could help diversify the system and help in rush hour congestion.

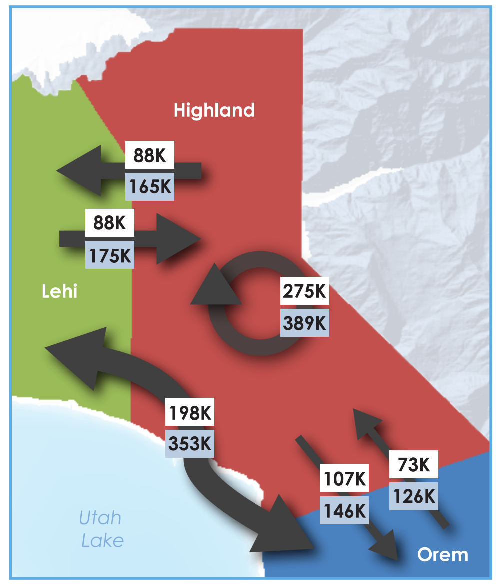
Planning, Tomorrow

Travel Patterns
Modeling the transportation patterns to and from each area of Utah County and into Salt Lake County shows the magnitude of traffic that traverses each area or stays within the local area. This aids in understanding the local and regional trends which generates needed projects to address traffic and travel demand. The data reveals two patterns: trips between the Central and North areas and onto Salt Lake County will always be a large travel movement, travel within the West and South areas will grow dramatically, showing that each area will become more self-sufficient in job creation closer to the characteristics of the Central area.

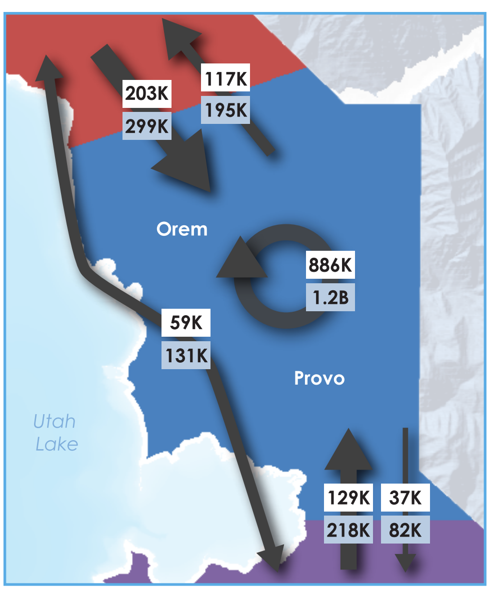
West Area Trips



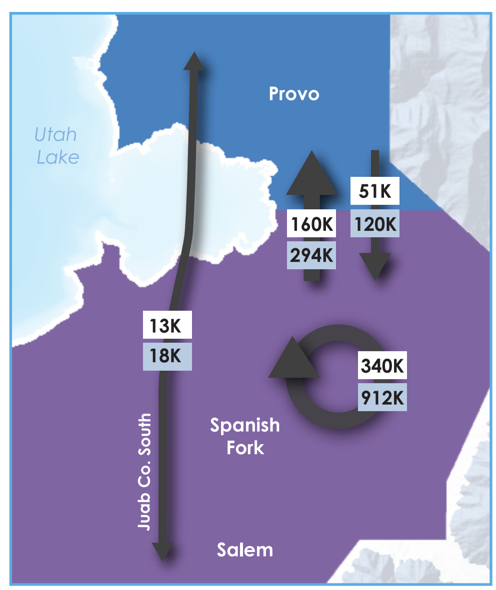
North Area Trips



Central Area Trips



South Area Trips



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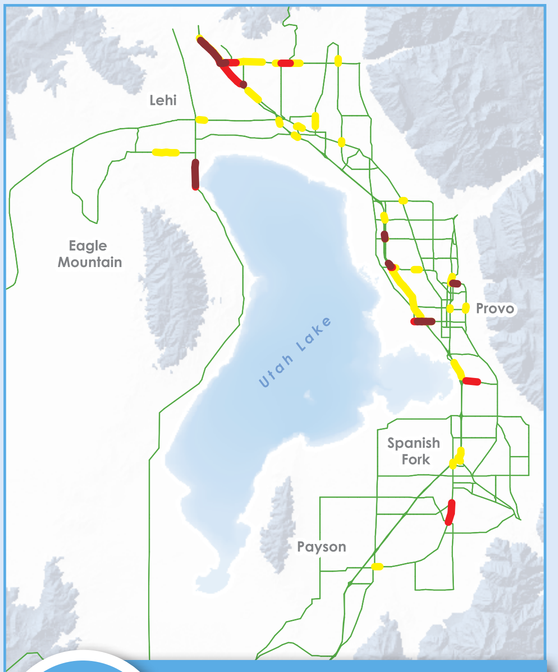


Base Year

Modeled 2014 Base Traffic Conditions

Choosing a Project

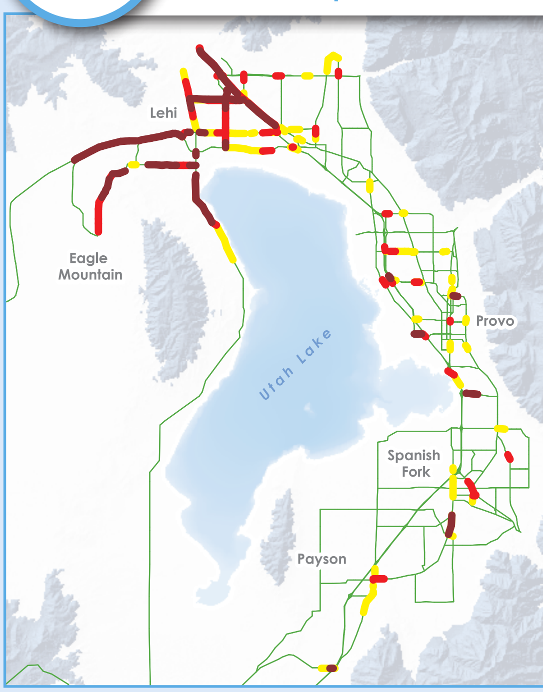
In developing a plan for a balanced transportation system, attention is given to connecting regional freeway and arterial facilities, both within the county and across the county line. Minor arterials and collectors are also evaluated in the system for connectivity with other facilities as well as to major commercial, retail, and employment centers. Local bus routes, bus rapid transit lines, and light and commuter rail lines are integrated with the transportation system at rail stations. Where transit and highway projects cross the county line, coordination is made with Mountainland's sister agencies ensuring consistency with other regional transportation needs.

When running the transportation model, the first 10-year phase of the plan (Phase 1) is run using the socioeconomic data for 2024 (population, employment, households) compared to 2011 highway/transit network(Base Year). This gives an indicator of what traffic congestion will be in 2024 if no improvements are made. Next, projects are proposed in congested areas and the model is then run again for Phase 1 with the new projects added to gauge their performance. This process is then repeated for each phase of the plan: Phase 2-2034 and Phase 3-2040. Once the three phases of the plan are modeled and a draft listing the projects is created, MPO staff review the data and projects with each municipality, the county, Utah Transit Authority and the Utah Department of Transportation gaining input on any needed changes.

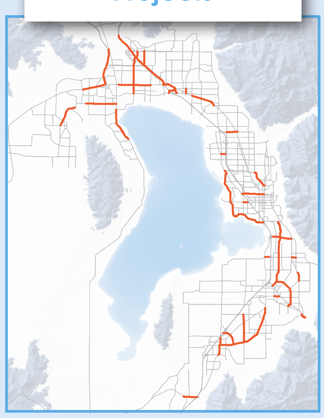
Free Flow
Constrained Flow
Congested
Extreme Congestion

Phase 1

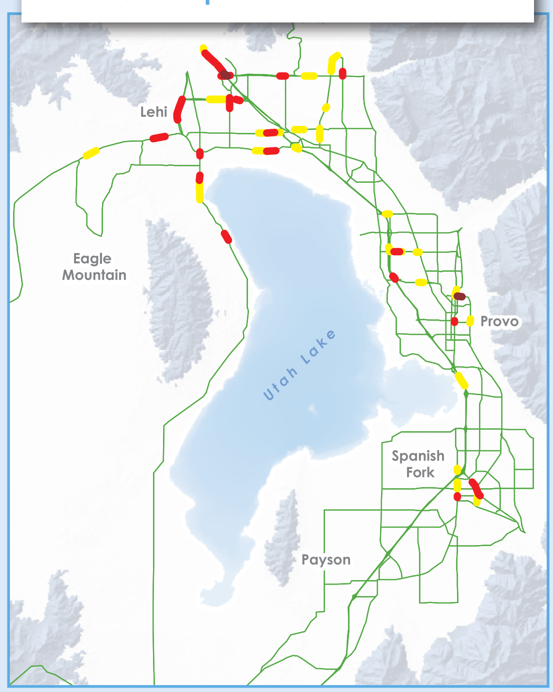
Modeled 2014 Highways with 2024 Population & Jobs



Planned Phase 1 Projects



Modeled Planned Phase 1 Projects with 2024 Population & Jobs



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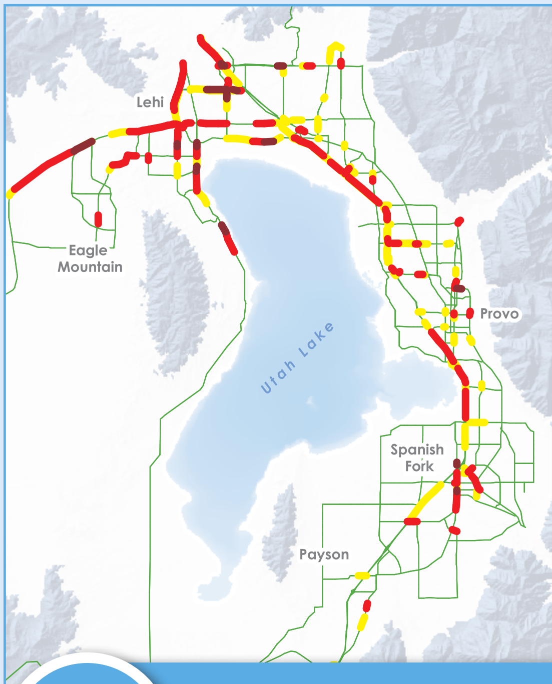
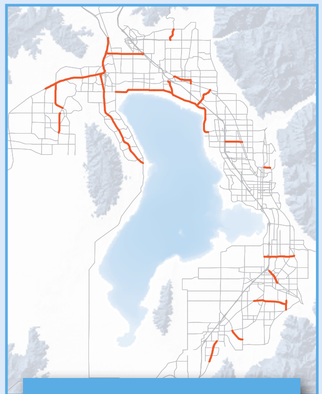
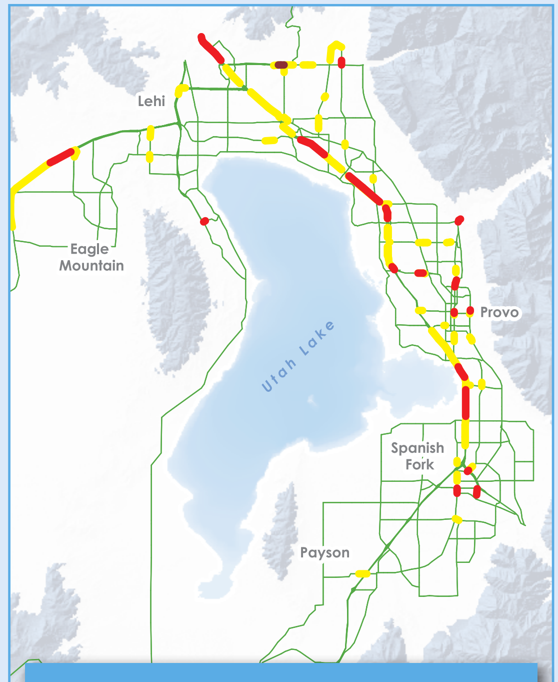


Phase 2

Modeled 2025 Highways with 2034 Population & Jobs



Planned Phase 2 Projects

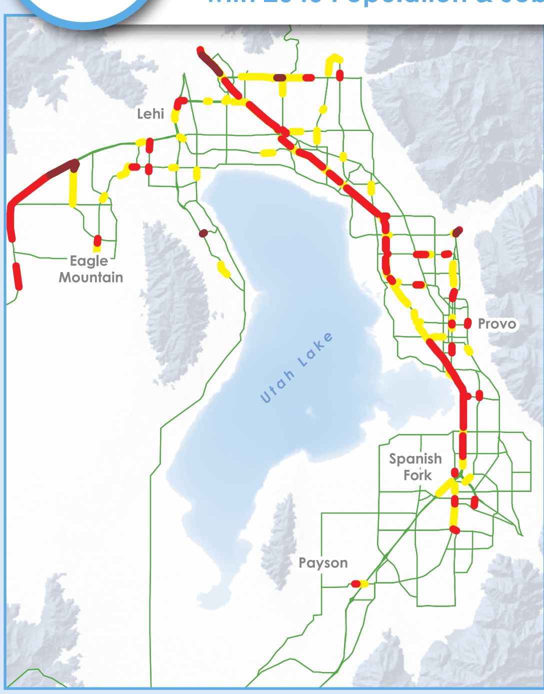


Modeled Planned Phase 2 Projects with 2034 Population & Jobs

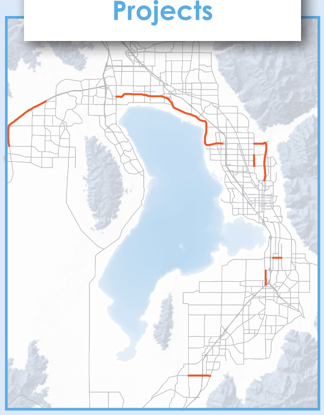
- Free Flow
- Constrained Flow
- Congested
- Extreme Congestion

Phase 3

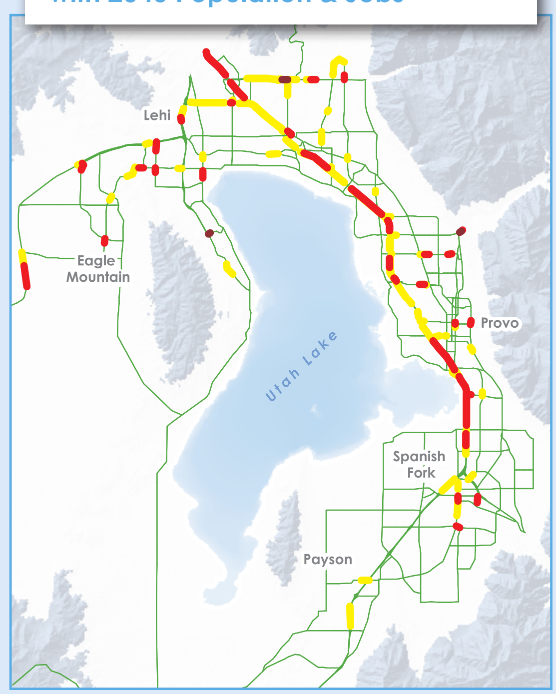
Modeled 2035 Highways with 2040 Population & Jobs



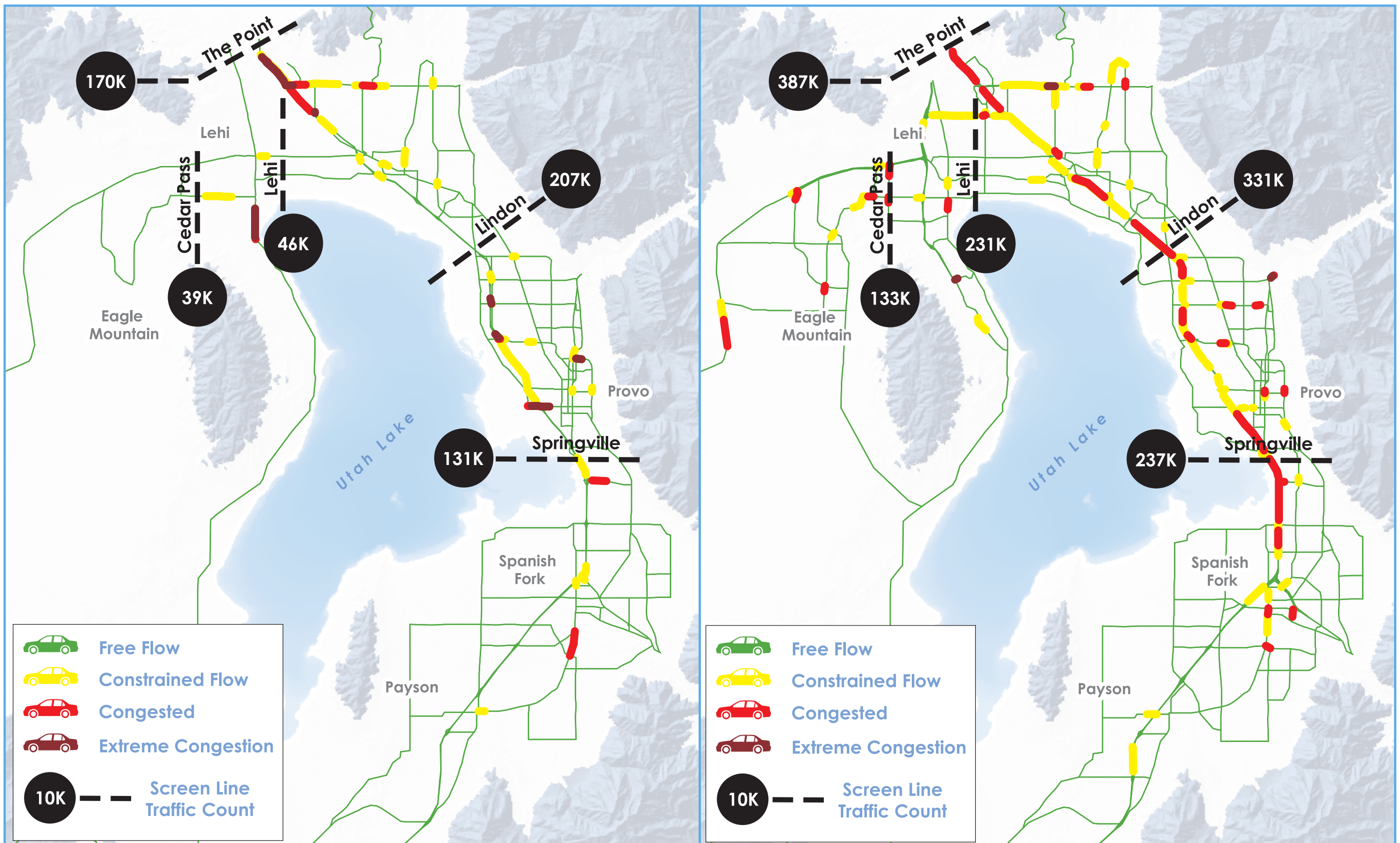
Planned Phase 3 Projects

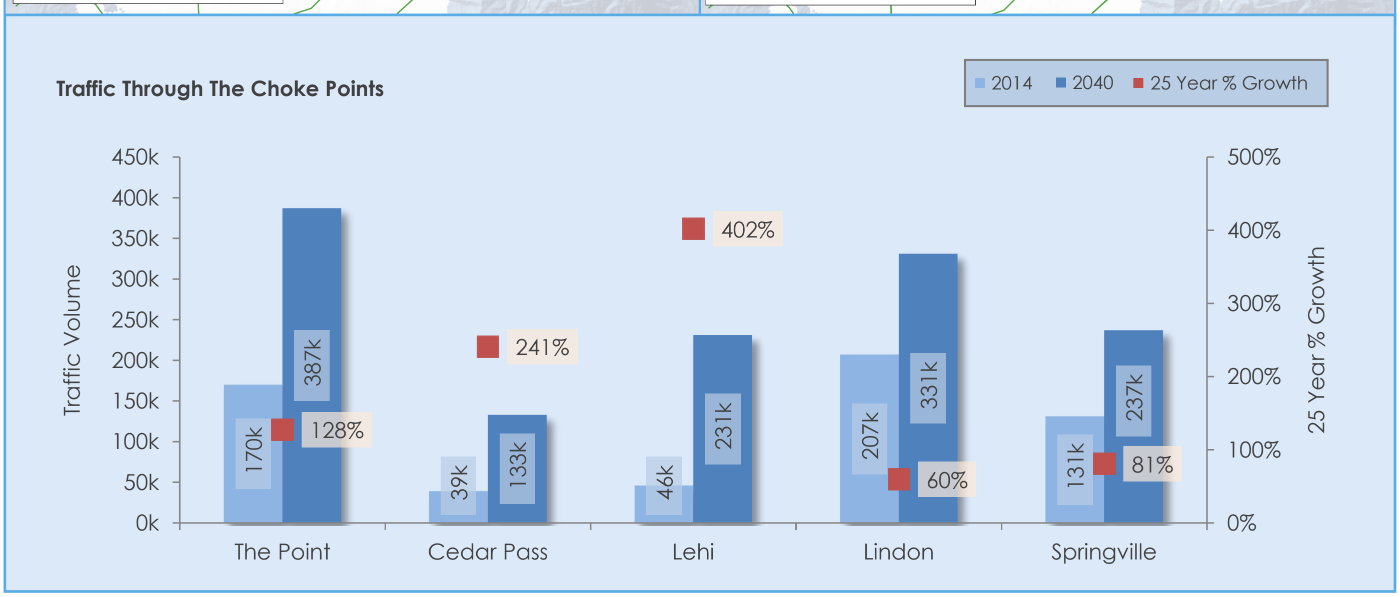


Modeled Planned Phase 3 Projects with 2040 Population & Jobs



Choke Points
Utah County is challenging in that there are distinct choke points where the geography limits available transportation corridors--Cedar Pass between Utah and Cedar Valley, The Point between Salt Lake and Utah Valley, western Lehi, Lindon, and Springville just south of Provo. The black dashed lines are screen lines drawn across the Choke Point or Bottle Neck areas. They are used by transportation planners to help evaluate traffic from all highway corridors flowing across the line to study the magnitude of volumes through the area. The map shows the volumes crossing each screen line, the chart shows the present volumes compared with 2040. The difference in traffic volume is profound. Limited options through these areas mean other solutions, such as a bridge over Utah Lake, larger express lanes on I-15, or additional freeways and transit ideals will need future study.





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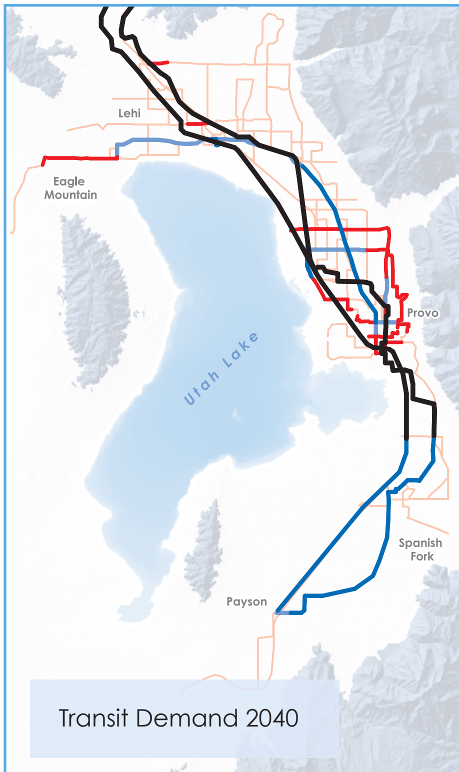


DEMAND	MODE
High	• Light Rail • Commuter Rail
High / Low	• Commuter Rail • Bus Rapid Transit
High / Low	• Bus

Transit Demand
Transit projects are selected by assessing which areas or markets are viable for investments in transit coupled with an analysis of what transit technology is most appropriate. Population and employment densities are the most important factors in determining transit need. Higher development densities allow more housing and commercial activities to take place and concentrate more trips into a smaller area. A concentration of trips traveling to or from the same point makes transit operations viable. Options identified in specific transit studies are modeled using the regional travel demand model to predict their effectiveness.

Project selection is based on the following goals:

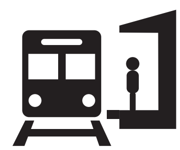
1. Ridership: Increase ridership at a rate greater than population growth.
2. Quality: Provide transit service that is fast, frequent, and reliable by incorporating modern technologies, infrastructure improvements, and passenger amenities to enhance transit system operations and rider comfort.
3. Productivity: Increase transit ridership per unit of service by evaluating and modifying service areas with greater potential and minimizing service with lesser potential for ridership.
4. Efficiency: Reduce the cost per passenger by maximizing ridership and minimizing operating costs.
5. Access: Maximize access to the transit system according to the intensity of development through appropriate local, express, and regional services complemented by park-and-ride lots, transit centers, and intermodal facilities.

Today, population and employment densities are not to the levels for an optimum transit system. The linear Wasatch Front with rail service feeding downtown Salt Lake City performs well, but the suburban type development that forms most of Utah County isn't as conducive for transit. As Utah County approaches one million people and densities increase, more transit options work as shown on the Transit Demand 2040 map.

Based off travel modeling, the following could warrant future service:

TRAX Light Rail

- Lehi to Spanish Fork traversing the urban core warrants light rail in Phase 2 (2025-2034) of the plan
- Alignment of TRAX through Orem is being studied (State ST or Geneva RD)



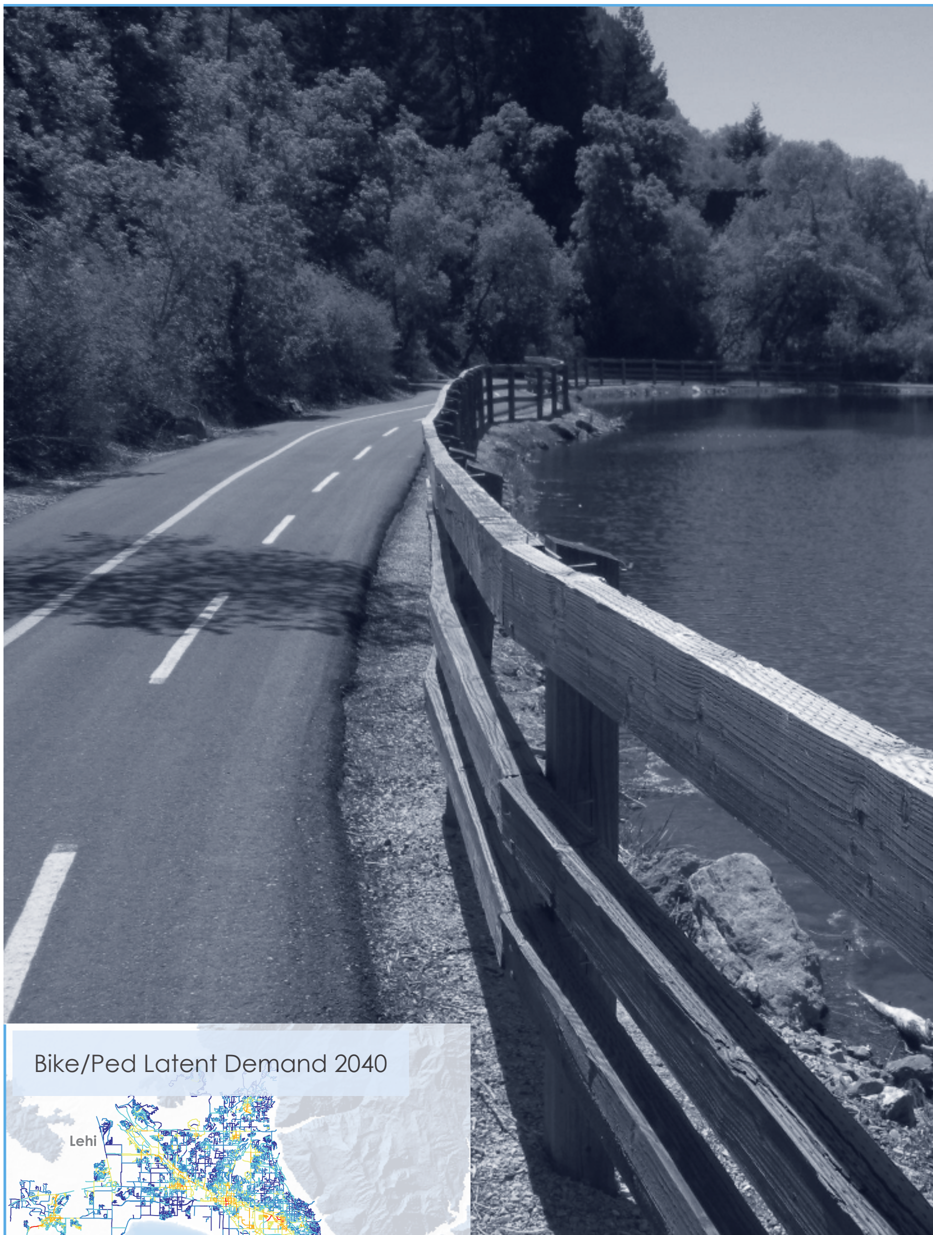
Front Runner Commuter Rail

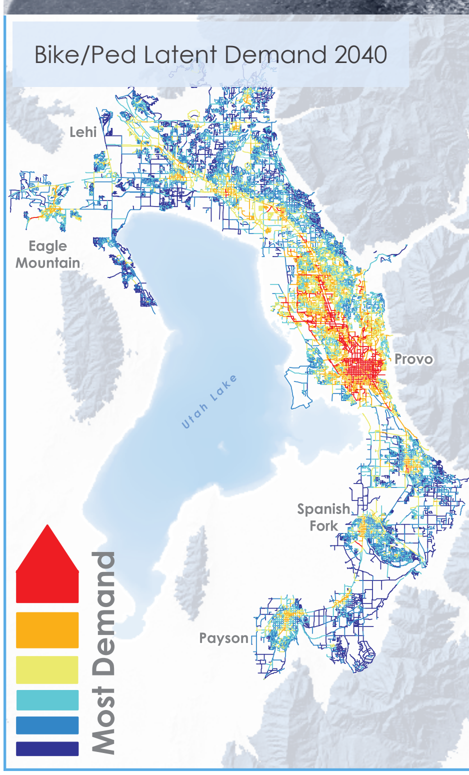
- Provo to Payson warrants commuter rail in Phase 2 (2025-2034) of the plan
- Commuter rail to Santaquin, not warranted before 2040

Bus Rapid Transit/Enhanced Bus

- Provo/Orem Bus Rapid Transit has ridership demand to convert to a light rail in the future
- BRT/EB along State ST between Orem and Pleasant Grove in Phase 2 (2025-2035) has strong ridership
- BRT/EB to Eagle Mountain has strong ridership in Phase 3 (2035-2040), could convert to light rail after 2040
- BRT/EB to Payson works in Phase3(2035-2040) of the plan

Planning, Tomorrow





During 2014, the MPO documented 2.2 million user trips on ten regional urban trails.

Active Transportation Network
Utah County leaders have acknowledged non-motorized transportation as an integral part of improving air quality, reducing congestion, and reducing travel costs. While major highway and transit facility construction consumes the vast majority of transportation dollars, bicycle and pedestrian access are low-cost and low-impact improvements to a truly multi-modal transportation system. Initial construction costs are low, especially where facilities are included in the design and construction of highway projects, typically less than 5% of the roadway project costs. The goal of the bike/ped system is to reduce vehicle trips and mitigate traffic congestion. During 2014, the MPO documented 2.2 million user trips on ten regional urban trails.

As Utah Valley continues to grow and urbanize, the need and demand for multi-use paths, neighborhood connections, on-street bike lanes, sidewalks and pedestrian friendly development increases. Walking and biking are viable alternatives to driving for short trips, typically under two miles. For longer trips, connections to transit are vital.

TransPlan40 identifies a network that connects population and employment centers, based on projected densities through 2040. One tool that planners have to help locate where regional trails are needed is the Active Transportation Latent Demand Model. This model uses population and employment densities, land use, demographic indicators, and proximity to schools, parks, transit and existing facilities to show where higher bike/ped uses are anticipated.

Active transportation projects proposed in TransPlan40 are based largely on adopted municipal bike/ped plans.

Financially Speaking

TransPlan40

Financing the Transportation Network

Financially Speaking

Funding Sources
Funding assumptions for TransPlan40 are based on coordination between Utah MPOs (Cache, Dixie, Mountainland, and Wasatch Front), UDOT, and UTA. Utah follows an advanced practice in the development of a statewide Unified Transportation Plan (summary of all MPO, UDOT and UTA plans). In order to ensure consistency for this Unified Plan, each individual plan follows a common set of demographic, financial, cost estimating, and related assumptions. TransPlan40 funding assumptions are developed for planning purposes only. They do not suggest endorsement of any particular tax or transportation funding solution. This effort is also not intended to craft optimal tax policy for transportation infrastructure. Rather it is a statewide attempt to develop a reasonable set of assumptions that are based, at least in part, on the history of federal and state efforts to fund transportation infrastructure. The amounts and identified funding mechanisms may well be different than described in the plan.

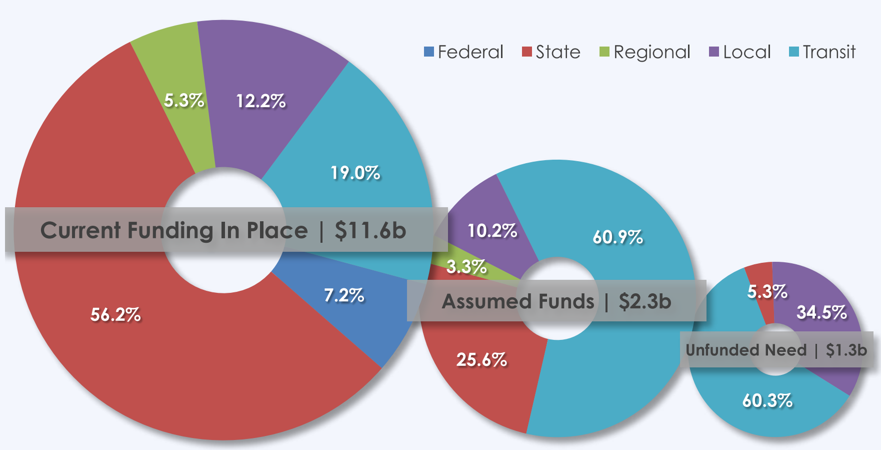
The Utah Legislature has historically provided funding from a variety of sources to meet identified needs. We recognize that when the state legislature becomes aware of the need for transportation funding they step forward with funding from a variety of sources to meet those needs. We further recognize it is the MPOs responsibility to determine the transportation needs within the region and to forward solutions to the legislature. Ultimately the amount and type of funding is the prerogative of the legislature and local government bodies. On average, the legislature has made significant funding increases to transportation every 11 years. Historically, this has occurred through a gas tax, but general funds and one-time infusions also play a part.

Transportation funds can be generated from a number of sources, including sales tax, tolls, bonds, and state, local, and federal excise taxes on various fuels, and credit assistance sources. Each state decides which mix of funds is best suited to carry out particular projects.

{ Mountainland MPO's transportation funding policy is first, grow the economy, second, reallocation of existing funds, third, seek new funding as needed. }

Planning Assumptions
Statewide assumptions regarding long-term funding for transportation in Utah are developed in collaboration with UDOT, UTA, and the MPOs. Generally, the assumptions are kept at the same level that has historically occurred in the last 30 years, plus inflation. All assumptions are for planning purposes only and are an equivalent of the tax or fee listed. Different solutions, including growth in the economy, will most likely happen.

Statewide Funding Assumptions	Regional Funding Assumptions
All Auto Related Sales Tax to Transportation by 2019	$5 Vehicle Registration Fee in 2018, 2028, 2038
5-cent Gas Tax in 2015, 2025, 2035	All Vehicle Reg. Fees Funds Grow at 2% annually
$10 Vehicle Registration Fee in 2018, 2028, 2038	New 4th Quarter-Cent Sales Tax to Transit in 2020
State Funds Grow at 4% annually	New 5th Quarter-Cent Sales Tax to Transit in 2030
Federal Funds Grow at 1.5% annually	



Financially Speaking

In 2005, the state legislature created the Transportation Investment Fund by redirecting half of automobile related sales taxes from the state general fund to transportation. By 2019 all auto-related taxes will go to transportation. This equates to about a half billion dollars a year.

Projected Revenue
Most major highways listed in the transportation plan are under UDOT's jurisdiction. The State Transportation Commission programs both state and federal funds based on statewide needs, without geographic or demographic requirements. For planning purposes, UDOT and the MPOs propose that future funding, outside of what is already programmed in the State Transportation Improvement Program and the MPO Transportation Improvement Programs, be distributed to each area based on a proportionate share of population. For non-state major highway projects (mostly minor arterials) 10 percent of the B&C Road funds (gas tax) and municipal general funds are proposed to go toward operations, maintenance, and expansion of the local system.

Funding for transit projects is primarily obtained by local sales taxes. Projected fare revenue accounts for between 25-40 percent of operational revenue. Federal formula and capital funding for rail and Bus Rapid Transit projects is discretionary and fluctuates depending on the competitive nature of the Federal Transit Administration process. Therefore transit assumptions attempt to account for these expected changes.

Estimated Costs
Highway expenditures are categorized by Operations, Pavement Preservation/Replacement, Bridge Preservation/Replacement, and Safety/Other. Operational costs are proposed to grow at about 3 percent annually; all other activities are projected to grow at a 4.5 percent rate. Historically, system preservation activities have not been fully funded. For this plan the funding gap for state needs has been significantly narrowed.

Highway operational expenditures are used for administration, support services, engineering services, maintenance, construction, and equipment management.

For other costs, the state highway system is divided into three categories - Freeways, Class 1, and Class 2. Freeways have the highest priority for maintenance funding with Class 1 next and Class 2 last. Utah County has few Class 2 roads.

Pavement preservation actions are treatments that range from a chip seal up to a full reconstruction. Keeping existing highway bridges maintained is one of UDOT's highest priorities. The cost of maintaining a structure is far less than total replacement. Safety improvements include hazard elimination, intersection upgrades, railroad crossing improvements, and other similar projects. Others are spot improvements such as signals, lighting, barriers, and department contingencies. UDOT provides estimates for these costs.

The cost of each new highway capacity and expansion project was based on a cost-per-mile by facility type and right-of-way using current costs of recently completed projects. All projects in the plan are shown in today's costs, but are listed in the phase they are needed. With bonding assumed, all highway projects are funded when needed.

UTA operational costs compare well with other transit agencies of similar size and complexity, though UTA has determined that its maintenance program has been significantly underfunded. Nationally, the Federal Transit Administration has encouraged transit agencies to account for and fund maintenance to a level called State of Good Repair (SGR). SGR is a new and significant line item in the transit cost table.

Capital project costs for transit are estimated using standard cost per mile and kept in today's dollars or net present value amount and not inflated into an estimated year of construction.

Financially Speaking

If a project has progressed through a study or preliminary engineering that has a better estimated cost for the project that number is then used.

Surplus/Deficit
In summary, revenue expected within the MPO area though 2040 is proposed at $13.9 billion--$10.3 billion toward highway operations, preservation and capacity projects and $3.6 billion for transit operations, maintenance, administration, and capital projects.

Highway preservation costs for state highways show a deficit of funding of $70 million. Highway capacity projects are fully funded in each phase of the plan when needed. Local road maintenance is underfunded. The 30 percent of statewide gas tax that is distributed to the local jurisdictions only funds about a third of maintenance needs. Cities and counties augment their road budgets with general funds and other fees, but still come up short. Local maintenance needs equate to $1.4 billion with revenue projected at $678 million leaving a $700 million deficit.

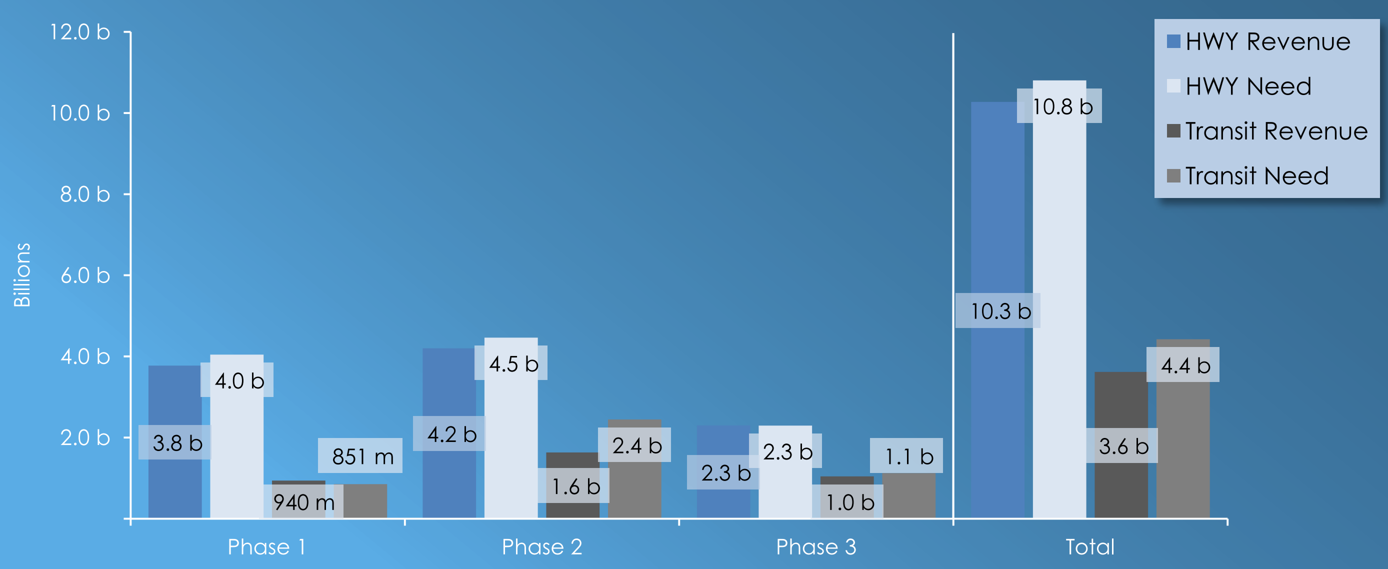
The major impediment to implementing the region-wide, interconnected active transportation system is funding. Estimated costs to implement the proposed build-out are nearly $335 million over thirty years. While Mountainland and its partners have committed tens of millions of dollars to improvements, the $16 million annual cost to create the needed system is beyond available funding sources. TransPlan40 takes a new tack, identifying high priority projects that can be funded within the first 10 years based on historic allocation levels. Such continued steady efforts and integration with roadway projects will make biking and walking increasingly viable modes over time.

Transit operations, maintenance, and administration are fully funded with no deficits proposed. Transit capital projects remain underfunded. Major projects such as Trax Light Rail from Lehi to Orem and BRT in southern Utah County are functional with high ridership in Phase 2 of the plan, but are moved to Phase 3 or listed as a Vision Project (not in a phase) due to a lack of funding.

Plan Revenues and Needs

Transportation Revenue	
Current Funding Sources	11.6b
Assumed New Funding	2.3b
Total Revenue	13.9b
Transportation Need	
HWY Capacity Needs	4.2b
Transit Capacity Needs	2.7b
HWY Ops., Main., Pres.	6.6b
Transit Ops., Main., Admin.	1.8b
Total Need	15.2b
Surplus/Deficit	
Highway Unfunded	-530m
Transit Unfunded	-805m
Total Unfunded	**-1.3b**

Projects and Programs Estimated Revenue and Need



With Growth Comes Expansion

TransPlan40

Building the Transportation Network

HIGHWAYS

No.	Project/Limits	Description	2015 Cost
Phase 1 | 2015-2024 | North Projects			
1	American Fork 100 E | SR74 State ST to AF 300 N	Widen to 4 Lanes, Buffered Bike Lanes	3.5M
2	I-15 Freeway | Draper to Lehi Draper 12300 S to Lehi Main ST (cost UC only)	Reconstruct FWY & Interchanges, Widen to 10 Lanes + HOV	429M
3	Lehi 2300 W Timpanogos HWY to Pioneer Crossing	Widen and New 4 Lanes (6 north of 2100 N), I-15 FWY Bridge, Buffered Bike Lane	59.7M
4	Lehi 1200 W Timpanogos HWY to Lehi 2100 N	Widen to 4 Lanes	10.1M
5	Lehi Main ST | SR73 State ST to Lehi 850 E	Widen to 7 Lanes	4.5M
6	Lehi Main ST/Crossroads BLVD | Lehi to Saratoga Springs Commerce DR to Lehi 500 W	Widen to 4 Lanes, Buffered Bike Lane	32.4M
7	Meadows Connection RD, American Fork State ST to Pioneer Crossing	New 2 Lane Road, New I-15 Bridge, Buffered Bike Lane	19.7M
8	Mountain View Frontage RD| SR85 | UT/SL Co. line to S. S. Porter Rockwell PKWY, Bluffdale to SR73, Saratoga Springs	New 4 Lanes, Trail	45M
9	Pony Express PKWY | Eagle Mountain Mountain Ash WY to EM 5600 N	Widen to 4 Lanes, Trail	17.3M
10	Pony Express PKWY | Eagle Mtn to Saratoga Springs Smith Ranch RD to Redwood RD	Widen to 4 Lanes, Trail	30.8M
11	Redwood RD | SR68 | Saratoga Springs SSprings 400 S to Stillwater DR	Widen to 4 Lanes, Buffered Bike Lane	30.4M
12	SR73 | Eagle Mountain to Saratoga Springs Ranches PKWY to Mountain View Frontage RD	Widen to 6 Lanes	54.5M
13	State ST | US89 | American Fork to Pleasant Grove AF 500 E to Pleasant Grove BLVD	Widen to 6 Lanes, Buffered Bike Lane	21.5M
14	State ST | US89 | Lehi to American Fork Lehi Main ST to American Fork Main ST	Widen to 6 Lanes, Buffered Bike Lane	12M
Phase 1 | 2015-2024 | Central Projects			
15	I-15/Provo 820 N Interchange	New Interchange	45M
16	Lakeview PKWY | Orem to Provo Geneva RD to I-15/University AVE Interchange	New Lanes Vary 2-4, Trail	75.9M
17	Orem 1600 N Orem 1200 W to Orem 400 W	Widen to 4 Lanes, Bike Lanes	10.3M
18	Orem Center ST Geneva RD to I-15 FWY	Widen to 4 Lanes, Bike Lanes	3.2M
19	Provo 820 N Geneva RD to University AVE	Widen to 4 Lanes	25.3M
20	Provo Center ST | SR114 Geneva RD to Provo 1600 W	Widen to 4 Lanes	3.5M
21	State ST/University PKWY, Orem	New Grade Separated Intersection	38M
22	University PKWY | SR265 | Orem to Provo Orem 800 E to University AVE	Widen to 6 Lanes, Trail (north side)	51.2M

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HIGHWAYS

No.	Project/Limits	Description	2015 Cost
Phase 1 | 2015-2024 | North Projects			
23	I-15/Payson Main ST Interchange	Interchange Modification Possibly add Connections to Main ST and SR198	45M
24	I-15/Santaquin Main ST Interchange	Interchange Modification	45M
25	Payson Main ST | SR115 I-15 FWY to Payson 100 N	Possibly Widen to 5 Lanes depending on I-15 Interchange EIS	6.4M
26	Santaquin Main ST | US6 Santaquin 500 W to I-15 FWY	Widen to 4 Lanes,	37.5M
27	Springville 1400 N | SR75 I-15 FWY to Springville Main ST	Widen to 4 Lanes, 2 Bridges Reconstructed, Trail	37.5M
28	Springville 400 S | SR77 I-15 FWY to SF Main ST	Widen to 5 Lanes	4.4M
29	Springville 400 S Springville Main ST to 400 E	Widen to 4 Lanes, Additional Turn Lanes at Main ST	2.7M
30	Elk Ridge DR | Salem UC 8000 S to SR198	New 2 Lanes, Bike Lanes	8M
31	Nebo Beltway RD | Payson I-15 FWY to SR198	Possible New 5 Lanes depending on I-15 Inter-change EIS (available cost is less Payson Main ST cost)	12.1M
32	Spanish Fork Center ST 900 E to US6	Widen to 4 Lanes, Widen RR Bridge, Trail	3.8M
33	Spanish Fork PKWY | Spanish Fork Canyon CR PKWY to Canyon RD	New and Widen to 4 Lanes	28.7M
34	Springville 1200 W/Canyon Creek PKWY, SpFork Provo 1860 S to US6	New and Widen to 4 Lanes, Trail	63.6M
35	Springville Main ST/US89/SR51 Intersection	Reconstruct Interchange	25.3M
36	SR198 | Spanish Fork/Salem/Payson Arrowhead Trail to Payson 800 S	Widen to 4 Lanes, Trail	68.5M
37	US6 | Spanish Fork Powerhouse RD to Diamond Fork RD (cost in MPO only)	Widen to 4 Lanes	16M
38	US89 |Mapleton 1600 N to Maple ST	Widen to 4 Lanes, Buffered Bike Lane	6.6M
Phase 2 | 2025-2034 | North Projects			
39	Airport RD | Eagle Mountain SR73 to Pony Express PKWY	New 4 Lanes	23.1M
40	Highland BLVD Highland 11800 N to Timpanogos HWY	Widen to 4 Lanes	11.8M
41	I-15/Traverse Mountain Interchange, Lehi	New Interchange into Traverse Mountain	49.6M
42	Lehi 2100 N Freeway | SR85 Mountainview FWY to I-15 FWY	New 6 Lanes, System Interchanges, Buffered Bike Lanes, Trail Extension	105M
43	Mountainview FWY Extension | SR85 | Saratoga Springs SR73 FWY to Harbor PKWY	New 4 Lanes, Interchanges North of Still Water PKWY	442.9M
44	Mountainview FWY | SR85 | UT/SL Co. line to S. Springs Porter Rockwell PKWY to SR73 FWY	New 6 Lanes, Trail	250.9M

HIGHWAYS

No.	Project/Limits	Description	2015 Cost
Phase 2 | 2025-2034 | North Projects (continued)			
45	Pacific DR/American Fork 500 E Pioneer Crossing to State ST	Widen to 4 Lanes	10.9M
46	Pleasant Grove BLVD Vineyard Connector RD to State ST	New and Widen Varies 4-6 Lanes	20.5M
47	Pony Express PKWY | Eagle Mountain EM 5600 N to Eagle Mountain BLVD	New 4 Lanes	11.9M
48	Pony Express PKWY | Saratoga Springs to PlGrove Redwood RD to Vineyard Connector RD	New 4 Lanes	64.8M
49	SR73 Freeway | Eagle Mountain to Saratoga Springs Eagle Mountain BLVD to Mountainview FWY	New 6 Lanes FWY, Frontage RDs Lanes Vary, Trail	297.2M
50	Vineyard Connector RD | SR52 | Vineyard to Am. Fork Vineyard Main ST to Pioneer Crossing	New 4 Lanes	123.2M
Phase 2 | 2025-2034 | Central Projects			
51	I-15/Orem 800 S Interchange	New HOV Interchange to UVU, Trail/Side Path	72.7M
52	Orem Center ST I-15 FWY to State ST	Widen to 6 Lanes	16.8M
53	Provo 2230 N Provo Canyon RD to Temple DR	Widen to 4 Lanes	3.8M
54	University AVE/Orem 800 N Intersection	Intersection Modification	38M
Phase 2 | 2025-2034 | South Projects			
55	I-15/Spanish Fork Center ST Interchange	New Interchange	48.1M
56	I-15/Springville 1600 S/SpFork 2700 N Interchange	New Interchange	69M
57	I-15/UC 8000 S Interchange	Interchange Modification	45M
58	Nebo Beltway RD | Payson SR198 to Elk Ridge DR	New 2 Lanes	14.8M
59	Spanish Fork 2300 E SR198 to UC 8800 N	New and Widen 2 Lanes	17.9M
60	Springville 1600 S/Spanish Fork 2700 N Spanish Fork Main ST to US89	New and Widen to 4 Lanes, New RR Bridges	64.1M
61	SR198 | Payson Payson 800 S to UC 12400 S	Widen to 4 Lanes	8.8M
62	UC 8000 S | Spanish Fork Arrowhead Trail to Spanish Fork 2300 E	New 2 Lanes	45.1M
63	US6 Expressway | Spanish Fork I-15 FWY to Spanish Fork Center ST	4 Lane Expressway, 2, 2-Lane Frontage RDs	90.8M
Phase 3 | 2035-2040 | North Projects			
64	Pioneer Crossing/Vineyard EXPWY Vineyard to Lehi	Connect Two Roads, Widen to 6 Lanes	554.6M
65	SR73 | Eagle Mountain/Cedar Fort EM 3400 N to Airport RD	Widen to 4 Lanes	49.8M

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HIGHWAYS

No.	Project/Limits	Description	2015 Cost
Phase 3 | 2035-2040 | Central Projects			
66	Orem 800 N | SR52 Orem 800 E to University AVE, Provo	Widen to 7 Lanes	12.9M
67	Orem 800 E Orem Center ST to Orem 800 S	Widen to 4 Lanes	19.9M
68	University AVE | US189, Provo Provo 2230 N to Orem 800 N	Widen to 7 Lanes	31.4M
69	University AVE Viaduct | US189, Provo Provo 500 S to 900 S	Reconstruct Bridge, Widen to 6 Lanes	27.5M
Phase 3 | 2035-2040 | South Projects			
70.	I-15/Payson 800 S Interchange	Interchange Modification	45M
71	I-15/UC 12400 S Interchange | Santaquin	New Interchange	45M
72	Spanish Fork Main ST Spanish Fork 2700 N to I-15 FWY	Widen to 4 Lanes	7.4M
73	Springville 400 S | SR77 I-15 FWY to Springville 950 W	Widen to 6 Lanes	7.3M
74	UC 12400 S | Santaquin Santaquin Center ST to SR198	Widen to 4 Lanes	27.8M
Vision Projects | Further Study Needed | Not Phased			
75	Cedar Valley Corridor | Eagle Mountain to Santaquin HWY 73 FWY, Eagle Mountain to I-15 Santaquin	Possible west valley bypass FWY to I-15	Vision
76	Nebo Beltway RD | Elk Ridge to Spanish Fork Elk Ridge DR to US-6, Spanish Fork	Possible 4-Lane Arterial	Vision
77	Point of the Mountain FWY, Lehi I-15 to Mountain View FWY	Possible 6-Lane FWY, Bridge	Vision
78	Redwood RD South Corridor | Saratoga Springs to Elberta Utah Lake Bridge to US-6	Possible west bypass FWY to I-15	Vision
79	South Wasatch Corridor I-15 FWY, Provo/Orem to I-15, Payson	Possible Provo Bay crossing between Provo and Payson	Vision
80	Utah Lake Bridge | Provo/Orem to Saratoga Springs I-15 FWY, Provo/Orem to Mountain View FWY, SSprings	Possible east/west FWY link bridge over Utah Lake	Vision
		Total	4.18B

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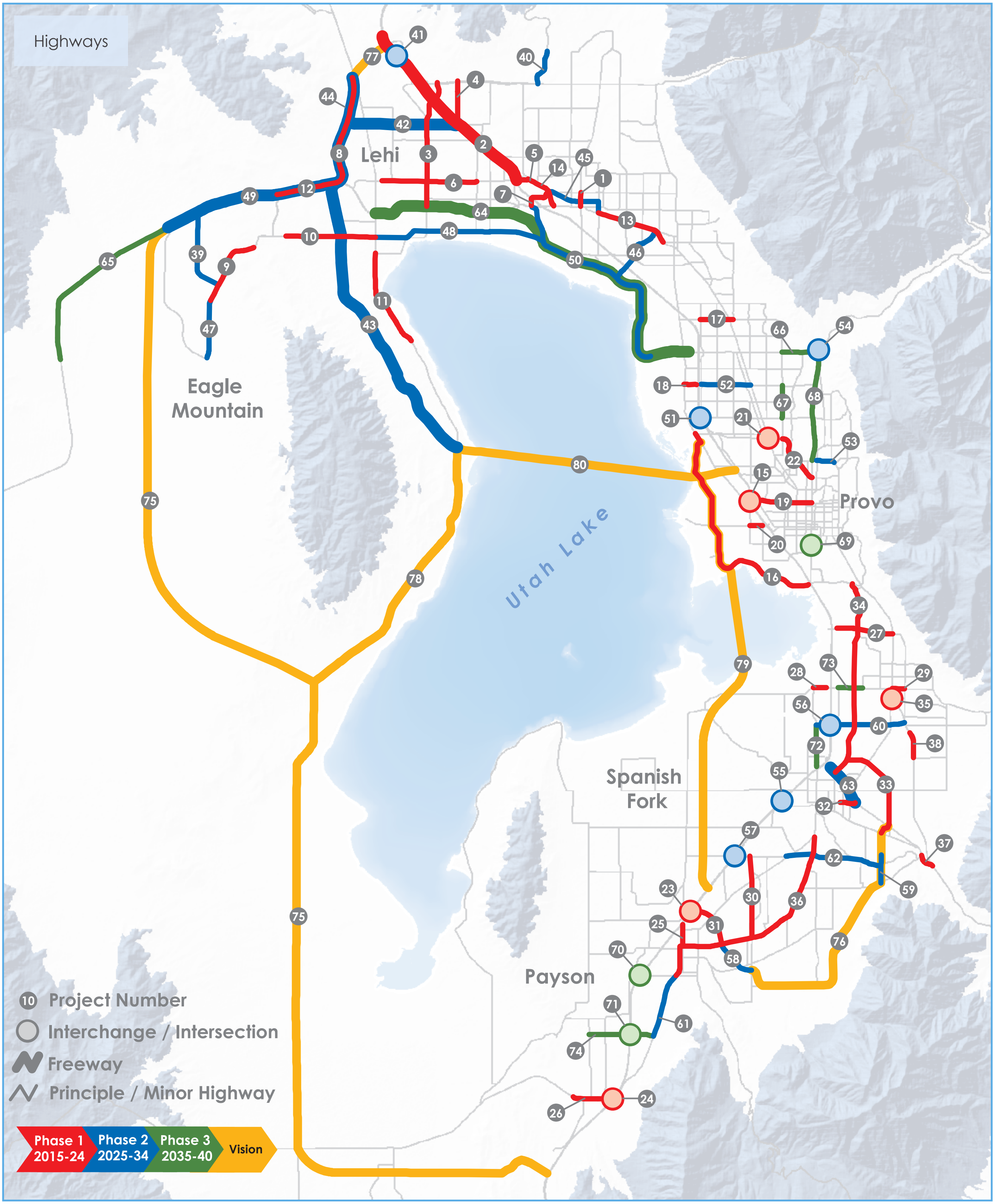

ACTIVE TRANSPORTATION (Bike/Ped)

No.	Project/Limits	Description	2015 Cost
Phase 1 | 2015-2024 – Bike/Ped Highway Projects			
81	1600 N Orem - Bike Lanes	Bike Lanes	na
82	2100 N - Buffered Bike Lane	Buffered Bike Lane	na
83	2100 N Trail Extension	Paved Trail / Bike Lanes	na
84	800 S Orem New Interchange - Trail	Paved Trail	na
85	American Fork Meadows - Buffered Bike Lane	Buffered Bike Lane	na
86	Elk Ridge Dr; Salem - Bike Lanes	Bike Lanes or Shoulders	na
87	Geneva Road Trail	Paved Trail	na
88	HWY198 Connector - Trail	10' Asphalt Trail	na
89	InterCity Connector Trail - (seg. 1)	Paved	na
90	InterCity Connector Trail - (seg. 2)	Paved Trail	na
91	Lakeview Parkway Trail - (seg. 1)	Paved Trail	na
92	Lakeview Parkway Trail - (seg. 2)	Paved Trail	na
93	Lakeview Parkway Trail - (seg. 3)	Paved Trail	na
94	Lehi 2300 W - Buffered Bike Lane	Buffered Bike Lane	na
95	Lehi Main St - On Street Bike Facilities	Buffered Bike Lane	na
96	Mapleton 1800 W - Buffered Bike Lane	Buffered Bike Lane	na
97	Orem Center St; Bike Lanes	Bike Lanes	na
98	Pony Express Pkwy Trail (seg. 1) - Eagle Mountain	10' Asphalt Trail	na
99	Pony Express Pkwy Trail (seg. 2) - Eagle Mtn/SSpring	10' Asphalt Trail	na
100	Spanish Fork Trail	Paved Trail	na
101	SR68 / Redwood Rd - Buffered Bike Lane	Buffered Bike Lane	na
102	SR68 / Redwood Rd - Buffered Bike Lane (Refit)	Buffered Bike Lane (Refit)	na
103	SR73 - Trail	Asphalt Trail	na
104	SR74 - Buffered Bike Lane	Buffered Bike Lane	na
105	SR75 Widening / Trail & Bridge	Paved Trail	na
106	State St; Lehi - Buffered Bike Lane	Buffered Bike Lane	na
107	State St - Buffered Bike Lane	Buffered Bike Lane	na

ACTIVE TRANSPORTATION (Bike/Ped continued)

No.	Project/Limits	Description	2015 Cost
Phase 1 | 2015-2024 – Bike/Ped Highway Projects			
108	City Core Bike Network - American Fork	Various Improvements	1M
109	City Core Bike Network - Lehi	Various Improvements	1.5M
110	City Core Bike Network - Lehi	Various Improvements	750K
111	City Core Bike Network - Orem	Various Improvements	1.5M
112	City Core Bike Network - Pleasant Grove	Various Improvements	1M
113	City Core Bike Network - Provo	Various Improvements	2M
114	College Connector Trail	Paved Trail	1.2M
115	Cycle Track to Connect 700 S Lehi to 200 S American Fork	Cycle Track	1.3M
116	Dry Creek Trail - Lehi to Highland	Paved Trail	2M
117	Highline Canal Trail - Phase 1	4' Crushed Stone	3.1M
118	Highline Canal Trail - Phase 2	Spanish Fork to Payson	4M
119	Highline Canal Trail - Phase 3	Payson to West Mountain	4M
120	Historic Utah Southern RR Trail - Lehi to PG	10' Asphalt Trail	4.4M
121	Hobble Creek Trail - Springville	10' Asphalt Trail	2M
122	Mapleton Lateral Canal Trail - Springville to Sp Fork - (seg. 1)	Paved Trail	3.3M
123	Mapleton Lateral Canal Trail - Springville to Sp Fork - (seg. 2)	Paved Trail	600K
124	Mapleton Lateral Canal Trail - Springville to Sp Fork - (seg. 3)	Paved Trail	3.7M
125	Payson Canyon Trail - Highline Canal to Four Bay	Paved Trail	1.5M
126	Provo River Parkway Trail - Provo Canyon	10' Asphalt Trail	400K
127	Spanish Fork Canyon Trail	Paved	1.6M
128	SR92 Pedestrian Bridge @ Rail Trail	Ped Bridge	2M
129	Utah Lake Shore Trail – Vineyard to Orem	10' Asphalt Trail	1.9M

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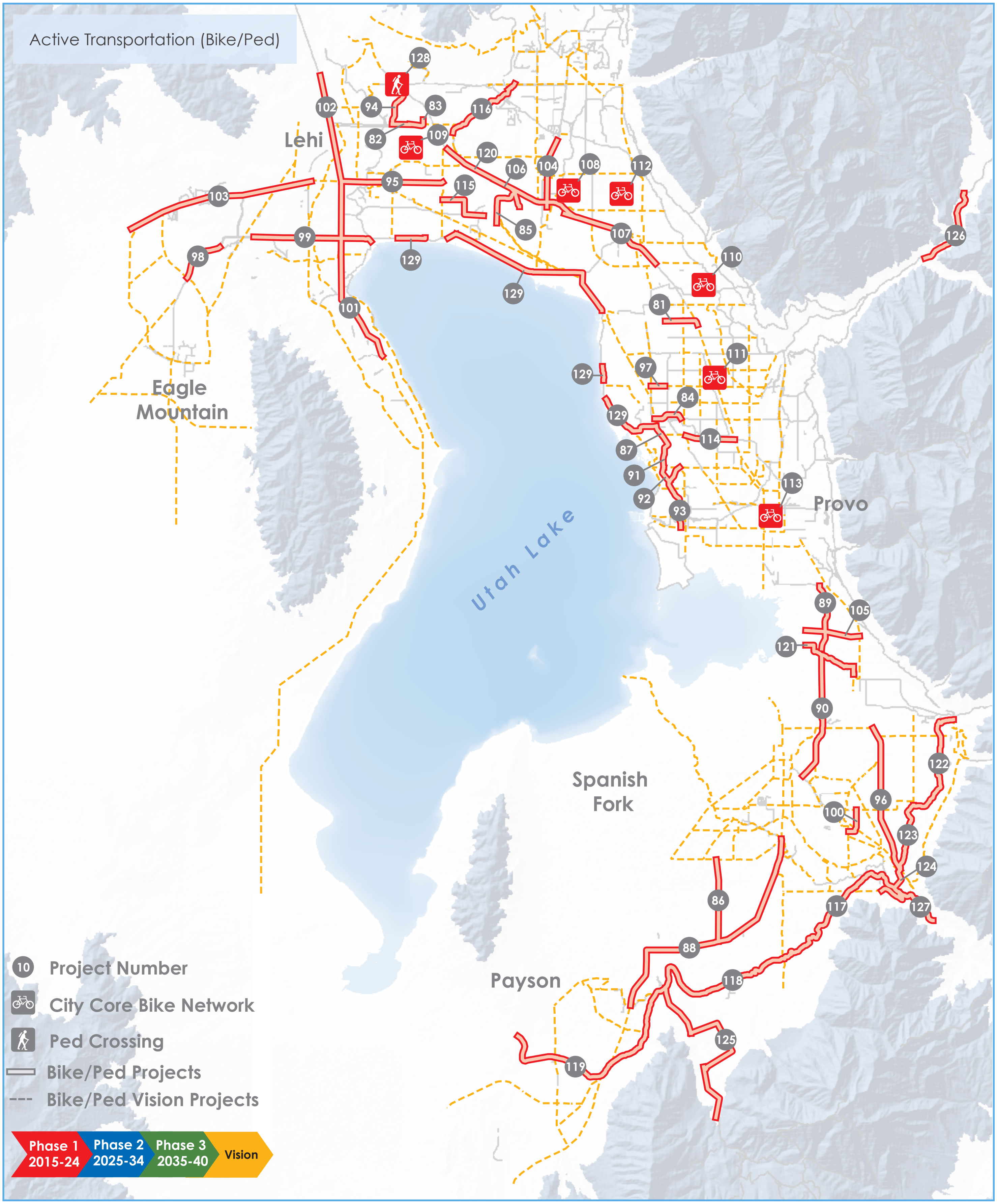

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TRANSIT

No.	Project/Limits	Description	Phase	2015 Cost
FrontRunner Commuter Rail Projects				
T1	FrontRunner | Provo to Payson Line	New commuter rail service from Provo to Payson	2	413.6M
T2	FrontRunner | Payson to Santaquin Line	New commuter rail service between Payson and Santaquin	Vision	Vision
	FrontRunner | Positive Train Control	Technology upgrade	1	7.5M
	FrontRunner | Line Upgrade	Double tracks, various locations	1	12.8M
Trax Light Rail Projects				
T3	Trax | Draper to Lehi Line	New light rail service between Draper and north Lehi, demand warrants construction in Phase 2	3	248.9M
T4	Trax Light Rail | Lehi to Orem Line	New light rail service between north Lehi and Orem, demand warrants construction in Phase 2	Unfunded	622.4M
T5	Trax Light Rail | Alternative Orem Light Rail Line	Alternate alignment of Trax from Geneva RD to State ST	Vision	Vision
T6	Trax Light Rail | American Fork to Eagle Mountain Line	New light rail service between Am. Fork and Eagle Mountain	Vision	Vision
Bus Rapid Transit/Enhanced Bus Projects				
T7	Provo to Orem Line	New BRT via University AVE and University PKWY	1	150M
T8	American Fork to Eagle Mountain Line	New BRT/EB service between Am. Fork and EMtn., demand warrants construction in Phase 3	Unfunded	30.2M
T9	American Fork to Provo Line	New BRT/EB service between Provo and Am. Fork	2	38.8M
T10	Provo to Spanish Fork Line	New BRT/EB between Provo and Sp. Fork, demand warrants construction in Phase 2	Unfunded	23.7M
T11	Spanish Fork to Payson Line	New BRT/EB service between Sp. Fork and Payson, demand warrants construction in Phase 3	Unfunded	23.7M
Other Transit Projects				
T12	American Fork Intermodal Center	Convert current train station into intermodal center	1	2.5M
T13	Orem Intermodal Center	Convert current train station into intermodal center	1	4.5M
T14	Provo Intermocal Center	Convert current train station into intermodal center	1	4.5M
T15	Spanish Fork Intermodal Center	New intermodal center	2	2.5M
T16	Vineyard Commuter Rail Station	New station at Vineyard Connector RD (Orem 800 N)	1	2.5M
T17	Bus Maintenance Facility | Orem	Expand current facility	1	3M
	Double Local Bus Service	Expand current bus service	Varies	127M
			Total	1.72B

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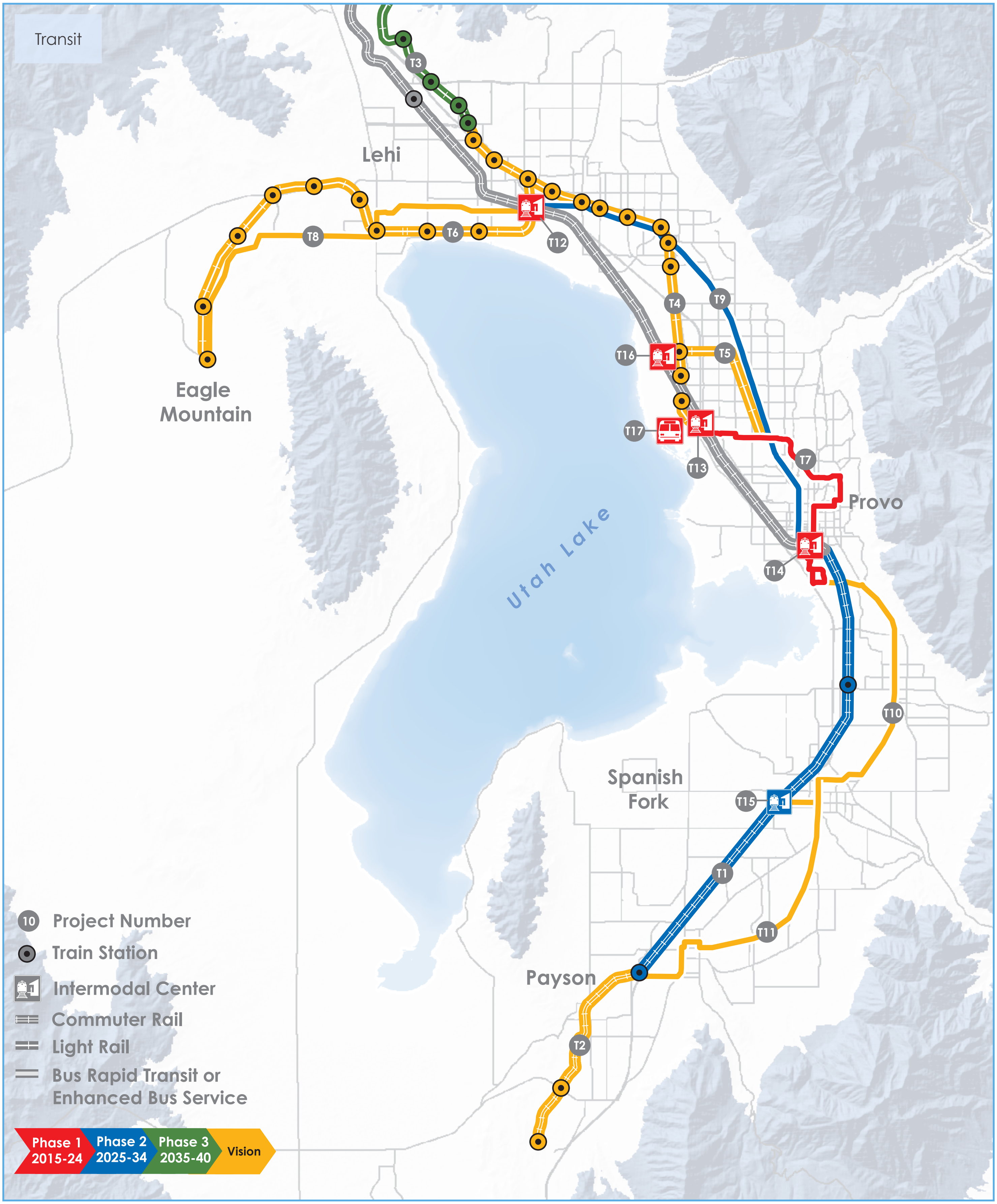

Mountainland MPO certifies that transportation planning in the Provo/Orem Transportation Management Area is done in accordance with all applicable Federal requirements including: i) 23USC 134, 49USC 5303 and 23CFR Part 450; ii) Sections 174, 176(c) and 176(d) of the Clean Air Act as amended (42USC 7504, 7506(c), 7506(d)), and 40CFR Part 93; iii) Title VI of the Civil Rights Act as amended (42USC 2000d-1) and 49CFR Part 21; iv) 49USC 5332 regarding discrimination based on race, religion, national origin, gender or age; v) TEA-21 Section 1101(b) and 49CFR Part 26 regarding disadvantaged business enterprises; vi) 23CFR Part 230 regarding equal employment opportunity; vii) The Americans with Disabilities Act of 1990 (42USC 12100 et seq) and 49CFR Parts 27, 37 and 38; viii) The Older Americans Act as amended (42USC 6101); ix) 23USC 324 regarding gender discrimination; and x) The Rehabilitation Act of 1973 (29USC 794) and 49CFR Parts 27 regarding discrimination against persons with disabilities.

The MPO further certifies that transportation planning in the Provo/Orem Transportation Management Area is done in accordance with the requirements of the Mountainland MPO 2040 Regional Transportation Conformity Plan.

The preparation of this report has been financed in part through grant(s) from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the Metropolitan Planning Program, Section 104(f) of Title 23, U.S. Code. The contents of this document does not necessarily reflect the official views or policy of the U.S. Department of Transportation.