
UCATS



UTAH COLLABORATIVE ACTIVE TRANSPORTATION STUDY

OCTOBER 2013



UCATS OVERVIEW

WHY IS UCATS NEEDED?

The Utah Collaborative Active Transportation Study (UCATS) is a response to Utahans along the Wasatch Front calling for more and better transportation options that include active transportation (walking and biking).

WHAT IS UCATS?

The goal of UCATS is to develop a regional alternative transportation resource master plan for infrastructure that enhances and coordinates pedestrian and bicycle connectivity. The study lays the groundwork for an urban network of bicycle routes (UCATS Regional Bicycle Network) throughout the Wasatch Front and makes recommendations for pedestrian connections to transit within one mile of UTA's TRAX and FrontRunner stations. UCATS is managed by the Utah Department of Transportation (UDOT) and the Utah Transit Authority (UTA), in partnership with the Wasatch Front Regional Council (WFRC), Mountainland Association of Governments (MAG), and Salt Lake County.

HOW WILL UCATS HELP?

UCATS is designed to provide active transportation options for people who live and work along the Wasatch Front. The plans generated under UCATS will help to link people who walk and bike to the goods, services and recreational opportunities they need and desire. The project identifies bicycle and pedestrian infrastructure that is usable and accessible to a wide range of people with varying interests and abilities. The study proposes plans for a Regional Bicycle Network that is positioned to grow into a complete active transportation system through the addition of infrastructure planned by local municipalities. UCATS is focused on increasing transit ridership with plans that improve bicycle and pedestrian access to UTA's TRAX and FrontRunner stations.

WHAT IS THE RESULT OF UCATS?

In order to facilitate the eventual construction of the UCATS Regional Bicycle Network and transit connections, UCATS pinpoints 25 project areas on the regional network. Potential bicycle and pedestrian infrastructure and treatments have been identified and evaluated within the 25 project areas. This evaluation has helped to determine construction and environmental challenges, as well as economic and quality of life advantages associated with implementation. Coordination opportunities with upcoming projects and possible funding sources for each project area have also been identified.

ACKNOWLEDGEMENTS

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- Angelo Papastamos, Utah Department of Transportation
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- Jennifer McGrath, Utah Transit Authority
- Jory Johner, Wasatch Front Regional Council
- Jim Price, Mountainland Association of Governments
- George Deneris, Salt Lake County
- Spencer Sanders, Salt Lake County
- Jaime White, Parsons Brinkerhoff
- Active Transportation Committee
- Project Stakeholder Committee

INTRODUCTION

WHAT IS UCATS?

The goal of the Utah Collaborative Active Transportation Study (UCATS) is to develop plans for infrastructure that will improve mobility for bicycles and enhance pedestrian and bicycle connectivity to major transit lines. The study lays the groundwork for an urban network of bicycle routes throughout the Wasatch Front and recommends walking routes within one mile from the Utah Transit Authority (UTA) TRAX and FrontRunner stations.

By mapping and analyzing current and proposed bicycle infrastructure in the metropolitan Wasatch Front -- from Provo to Ogden -- a UCATS Regional Bicycle Network has been identified that links unfinished networks, fills in gaps, overcomes barriers and emphasizes connections to transit. Twenty-five project areas have been singled out and each of those areas has been evaluated to determine the construction and environmental challenges associated with building active transportation infrastructure in those locations. To further promote the eventual build-out of the UCATS Regional Bicycle Network and transit connections, the economic and quality of life advantages have been researched and potential funding sources for the proposed infrastructure have been determined.

WHY IS UCATS NEEDED?

The UCATS project came about in response to requests from state and local agencies, local officials, walking and biking advocates and other stakeholders for more active transportation options and better facilities. UCATS answers those requests by identifying ways to strengthen bicycle and pedestrian infrastructure and devising plans for a bicycle network that is positioned to grow into a complete system. In order to determine and address needs, UCATS has captured a much needed inventory of proposed and existing bicycle facilities within the metropolitan Wasatch Front and addressed gaps in the current bicycle network. The study identifies bicycle and pedestrian projects for construction that are accessible and appealing to a variety of people. In order to increase the value of transit for all users, UCATS focuses on increasing ridership through better bicycle and pedestrian access to UTA's TRAX and FrontRunner stations.

WHO IS INVOLVED WITH UCATS?

The UCATS project is co-managed by the Utah Department of Transportation (UDOT) and the Utah Transit Authority (UTA) in partnership with the Wasatch Front Regional Council (WFRC), the Mountainland Association of Governments (MAG), and Salt Lake County. The project provides opportunities for state agencies, local municipalities, advocacy groups and individual stakeholders to work cooperatively to research and recommend active transportation infrastructure improvements.

This collaboration fosters opportunities for successful implementation of the plans UCATS produces because key agencies are involved in all stages of the process. For example, plans from WFRC, MAG, Salt Lake County and other municipalities were distilled to create the preliminary version of the UCATS Regional Bicycle Network. Staff from each of the three UDOT Regions on the Wasatch Front reviewed the proposed routes and infrastructure and made recommendations. Bike plans for each of

those UDOT Regions have been developed in conjunction with UCATS and are based on the final version of the UCATS Regional Bicycle Network.

WHAT ARE THE BOUNDARIES OF THE UCATS STUDY AREA?

For bicycles, UCATS is focused on the urban areas of the Wasatch Front in Box Elder, Weber, Davis, Salt Lake, and Utah Counties. For pedestrian facilities, UCATS is focused within a one-mile radius of UTA's TRAX and FrontRunner stations in those counties.

Additional active transportation (biking and/or walking) studies, conducted by various state and local agencies, are planned or underway at all times throughout Utah. A collaborative approach that encourages coordination of these studies and the information they generate is nurturing the creation of a complete active transportation system across the state.

GOALS

UCATS MISSION STATEMENT

The Utah Collaborative Active Transportation Study (UCATS) lays the groundwork for a network of bicycle routes throughout the urbanized Wasatch Front for cyclists of all ages and abilities. It proposes facilities that will enhance pedestrian and bicycle connectivity to major transit lines, and demonstrates the economic and quality of life benefits of walkable and bikeable communities through a cooperative research and planning process aimed at improving active transportation options.

UCATS GOALS

- The UCATS process encourages state and local agencies and other stakeholders to work collaboratively to establish needs, priorities and an organized approach that will lead to the development of a system of pedestrian and bicycle infrastructure that connects to active transportation destinations and to mass transit.
 - Determines gaps and opportunities in the current bicycle and pedestrian network
 - Determines and prioritizes appropriate infrastructure projects based on a set of criteria including:
 - Connections to transit
 - Connections to recreation and green space
 - Connections to commercial centers
 - Environmental concerns
 - Constructability
 - Evaluates costs and funding mechanisms for proposed infrastructure projects
 - Creates a system for tracking the development of individual proposed infrastructure projects
- UCATS improves connections to transit:
 - Emphasizes connections to transit by prioritizing bicycle and pedestrian projects
 - Plans for short- and long-term bicycle parking at transit hubs
 - Plans for bicycle and pedestrian infrastructure at transit-oriented development sites

- UCATS develops plans for infrastructure that will improve quality of life by encouraging walking and biking, resulting in fewer vehicles miles traveled, reduced emissions, improved air quality and overall health benefits
- UCATS develops plans for bicycle and pedestrian infrastructure that will boost economic development by creating environments that attract and retain business and increase recreational opportunities.
 - Evaluates existing and proposed infrastructure to establish the benefits provided for businesses
 - Promotes the economic benefits of walking and bicycling to policy makers, chambers of commerce and economic development agencies
- UCATS improves safety with dedicated, well-maintained facilities that meet the specific needs of bicyclists and pedestrians
 - Considers all levels of experience and users when planning, locating, and designing bicycle and pedestrian connections
 - Plans proposed infrastructure with an emphasis on bicycle and pedestrian safety
 - Utilizes innovative designs, where appropriate, to improve safety
 - Considers facilities that are separated from vehicular traffic where possible
 - Plans on-street bicycle and at-grade pedestrian facilities with adequate buffers from automobile and transit traffic

PROCESS

The UCATS process has required extensive collaboration and comprehensive data. The existing bike lanes and trails have been pinpointed and mapped. UTA station area walkability and the key locations for potential bicycling and pedestrian activity have been identified. Public opinion has been sought at every stage of the process through targeted outreach and a continual, interactive online presence (www.ucatsplan.com). All of this work has led to the identification of plans for a UCATS Regional Bicycle Network and connections to transit, along with infrastructure recommendations designed to move the plans forward.

IDENTIFYING WHAT IS ON THE GROUND

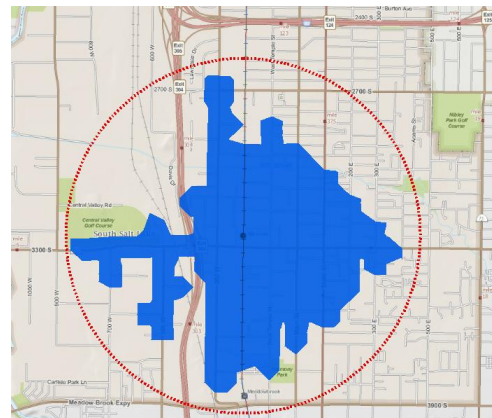
A first step in any planning process is to ascertain what is already on the ground. UCATS focuses on different areas for bicycles and pedestrians. For bicycle facilities, the study comprises the urban areas of the Wasatch Front within Box Elder, Weber, Davis, Salt Lake, and Utah Counties. For pedestrian facilities, the study centers on the areas within one mile of UTA's TRAX and FrontRunner stations.

Creating a map of all existing bicycle facilities within the Wasatch Front is a large undertaking because most available maps were limited to individual cities. However, local cities, counties, and planning organizations have worked collaboratively to help the UCATS team consolidate existing bicycle infrastructure into a single map. More explanation of the mapping process can be found [here](#). [Click here](#) to see the Wasatch Front's existing facilities map.

FACILITY TYPES

There are many ways to say the same thing when it comes to labeling bicycle infrastructure. UCATS uses descriptive categories for bike facilities rather than the traditional "class" designations. This approach is consistent with the guidelines of major transportation policy organizations and is accepted by public agencies, including Salt Lake County, which used these categories in its 2013 Bicycle Best Practices Study. The facility categories include: shared lane, marked shared lane, paved shoulder, bike lane and shared use path.

A shared lane is a wide outside lane that is identified by signs and shared by motorists and bicyclists. A marked shared lane is a lane shared by both motorists and bicyclists that is identified by signs and pavement markings. A paved shoulder is a signed roadway with a shoulder wide enough to accommodate bicyclists. A bike lane is a signed roadway with a painted bike lane and a shared use path is a paved, off-street linear corridor, like a trail, that is generally shared by bicyclists and pedestrians.



The image above shows the walk accessibility of the TRAX station on 3300 South. Notice how I-15 acts as a barrier for land on the west, and how areas with dense street networks on the east are more accessible.

ACCESS TO TRANSIT

A key objective of the UCATS project is to improve active transportation connections to transit, so existing walking access to transit had to be identified. To do this, the project team has analyzed the distance a person living within one mile of a rail station (TRAX or FrontRunner) would need to walk to access that station using existing streets and trails, as compared to a one-mile straight line buffer from the rail station (in other words, as the crow flies). A one-mile distance is used as it is assumed to be the farthest distance someone will walk to access rail transit stations. Comparing the actual walk distance to the “as-the-crow-flies distance” creates a “Walkability Index” that is used to identify areas where it may be difficult for pedestrians to access transit.

WALKABILITY INDEX

The average Walkability Index of TRAX and FrontRunner stations are 46% and 34%, respectively.

On average, the Walkability Index of TRAX and FrontRunner stations is 46 percent and 34 percent, respectively. This means that, on average, 46 percent of the land within a one-mile “as the crow flies” buffer of TRAX stations and 34 percent of the land within that buffer of a FrontRunner station is within a one-mile walking distance of a rail station. TRAX stations tend to be more accessible for pedestrians because they are usually situated near established urban or suburban areas. Many Frontrunner stations are in less developed areas and have been built to accommodate park-and-ride users or bus transit. To see the Walkability Index for all rail stations or learn more about the process used to determine the Walkability Index, [click here](#).

WHERE ARE PEOPLE WALKING AND BICYCLING?

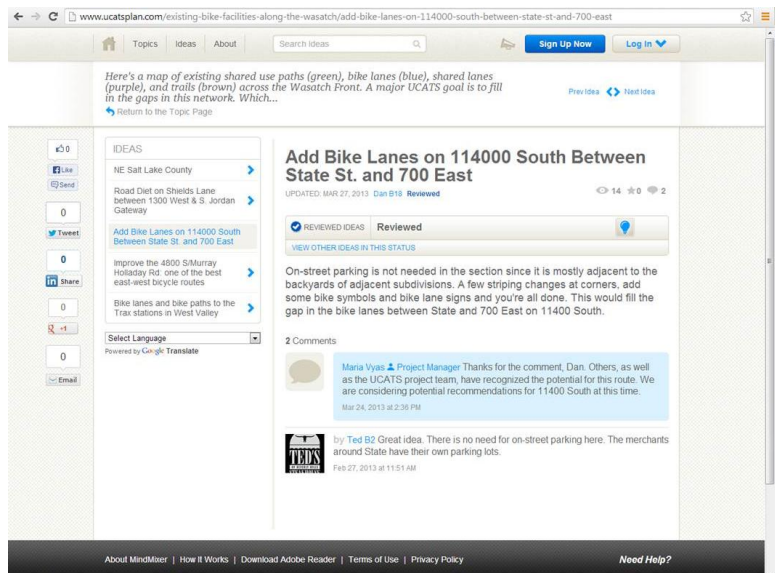
It’s difficult to determine the number of people walking and bicycling throughout the entire Wasatch Front, but a bit easier to determine where one *should expect* to see people walk and bike. A “Latent Demand Index” has been created to estimate pedestrian and bicycling demand (not necessarily usage) in a given area based on land use, demographic, and built environment factors. Latent demand refers to the likelihood that people would walk or bike in a certain location if active transportation (walking and biking) infrastructure existed. This Index is based on research done for the US Environmental Protection Agency (EPA). In short, population and employment densities, proximity to destinations, demographic information, and the accessibility of the street network make up the supporting data in the Index.

The Latent Demand Index has been used to analyze all street segments within the UCATS study area (approximately 101,541 street segments). A higher index score indicates a higher likelihood of pedestrian and bicycling activity. Some key areas of high activity include the downtown areas of Salt Lake City, Provo, and Ogden. Vital streets that serve as a link to a variety of uses and destinations, and also have high employment densities, score particularly well. Those areas include State Street in Salt Lake and Utah Counties; Main Street, South Temple, 700 East, 300 East, 1100 East, 200 South, 400 South, and 2100 South in Salt Lake City; University Avenue, 300 North and 700 East in Provo; and Washington and Harrison Boulevards in Weber County. For detailed maps of the Latent Demand

Index by county, [click here](#). [Click here](#) to read more on the reasons Utahans walk or bike, and how often.

PUBLIC OUTREACH

Previous active transportation planning efforts by project partners (such as UDOT's 2008 Priority Routes Study) included significant outreach on a regional scale. Feedback from those efforts has been reviewed by the UCATS project team to get a more in-depth understanding of the issues. A project website (www.ucatsplan.com) has generated additional feedback from the public and the walking and bicycling community, using a format designed to maximize dialogue and online engagement. Throughout the course of the UCATS process, website visitors have been surveyed on a range of topics, including:



- Favorite types of walking or bicycling facilities
- Places they liked to walk or bike
- Places they felt needed improved walking or bicycling infrastructure
- Concerns about safety for walking or biking
- Feedback on the proposed Regional Bicycle Network and Top 25 project areas

Feedback received through the website has guided development of the proposed UCATS Regional Bicycle Network and the identification of the Top 25 project areas. Website visitors have provided detailed information on the walking and bicycling issues they experience in their daily lives. The project team has summarized this information and it is available for download by clicking [here](#).

The UCATS team has worked closely with the WFRC's Active Transportation Committee, which acts as the project's stakeholder committee. This group has been supplemented with advocates, and agency and local municipality representatives who have provided input throughout the UCATS process. The team would like to thank these individuals for their participation:

- The Active Transportation Committee:
 - Mayor Ralph Becker, Salt Lake City

- Mayor Mike Caldwell, Ogden City Committee Vice-Chair
 - Commissioner Louenda Downs, Davis County, Committee Chair
 - Commissioner Larry Ellertson, Utah County
 - Mayor Heather Jackson, Eagle Mountain City
 - Councilmember Tina Kelley, Morgan County
 - Mayor Brent Marshall, City of Grantsville
 - Mayor Ben McAdams, Salt Lake County
 - Cory Pope, UDOT
 - Matt Sibul, UTA
 - Mayor Todd Stevenson, Fruit Heights City
 - Commissioner Jan Zogmaister, Weber County
 - Scott Lyttle, Bike Utah
 - Justin Anderson, Ogden City
 - George Deneris, Salt Lake County
 - Andrew Gruber, Wasatch Front Regional Council
 - Ned Hacker, Wasatch Front Regional Council
 - Scott Hess, Davis County
 - Robin Hutcheson, Salt Lake City
 - Jory Johner, Wasatch Front Regional Council
 - Max Johnson, Salt Lake County
 - Jim Price, Mountainland Association of Governments
 - Greg Scott, Wasatch Front Regional Council
 - Robert Scott, Weber County
 - Evelyn Tuddenham, UDOT
 - Josh Jones, City of Ogden
- UCATS Stakeholder Committee:

- Roger Borgenicht, Utahans for Better Transportation
- Deborah Burney-Sigman, Breathe Utah
- Fred Doehring, UDOT
- Jesse Glidden, UDOT
- Paul Goodrich, Orem City
- Craig Hancock, UDOT
- Mike Hathorne, Suburban Land Reserve
- Dave Iltis, Cycling Utah
- Vincent Liu, UDOT
- AJ Martine, Salt Lake County Mayors Bicycle Advisory Committee
- Chad Mullins, Bike Utah
- Marjorie Rasmussen, UDOT
- George Shaw, South Jordan City
- Lisa Wilson, UDOT
- Brad Woods, Bike Utah

Materials and minutes from the ATC and UCATS stakeholder meetings can be found by clicking [here](#).

DECISION-MAKING CRITERIA

As established in the UCATS mission statement, the primary purpose of UCATS is to:

- Lay the groundwork for a network of bicycle routes throughout the urbanized Wasatch Front for cyclists of all ages and abilities;
- Propose facilities that will enhance pedestrian and bicycle connectivity to major transit lines; and
- Demonstrate the economic and quality of life benefits of walkable and bikeable communities.

Potential UCATS project areas are ranked using two tiers of criteria. The criteria are organized according to how each one pertains to the overall UCATS goals. Tier One is defined by two primary questions:

- Will bicycle infrastructure in this area help to establish the backbone of an urban bike network by connecting major routes, filling gaps in existing routes, addressing critical spacing and the continuity of cross-valley routes, overcoming major barriers, or providing off-street trail opportunities?
- Will infrastructure in the area enhance bicycle and pedestrian access to transit?

If a potential project area does not meet either of these criteria, it is not considered viable. If a potential infrastructure project area meets one or both of these criteria, it is evaluated based on the Tier Two criteria to determine how it would rate against other potential project areas. Tier Two criteria are identified by asking the following questions:

- Does it score in the top 20 percent on the latent demand model?
- Is it on an existing municipal plan?
- Can it demonstrate an economic benefit by connecting two or more development centers or connecting a development center to a transit station?
- Will it help cyclists overcome barriers such as I-15, the Jordan River, Bangerter Highway, golf courses, or a number of other barriers? Do public comments indicate that improvements are needed on the facility?

TIER ONE

Does a project establish the backbone of an urban bike network?

Does a project enhance active transportation access to transit?

TIER TWO

Does it score well on the latent demand model?

Is it on an existing municipal plan?

Can it demonstrate an economic benefit?

Does it overcome a barrier?

UCATS REGIONAL BICYCLE NETWORK AND TOP 25

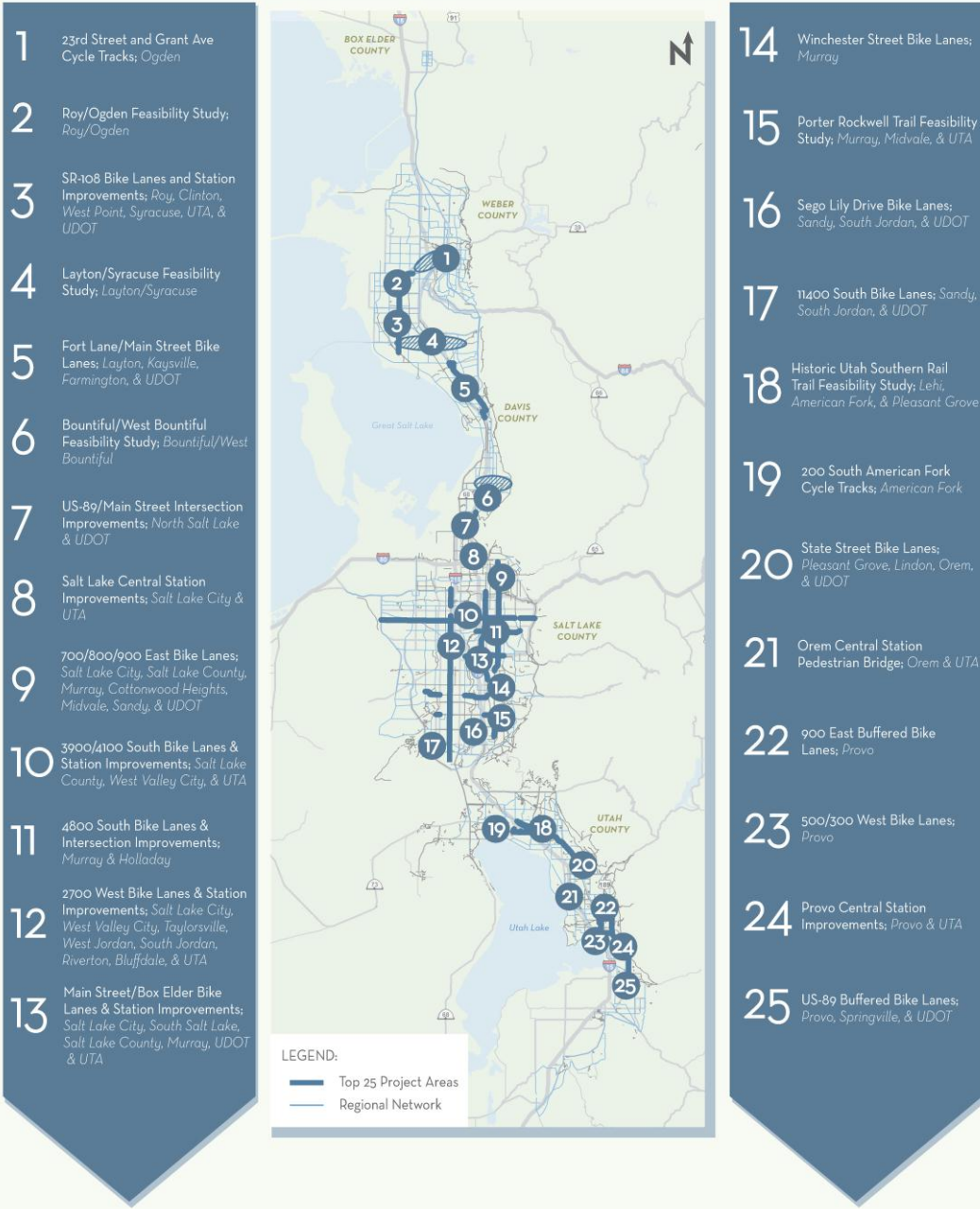
The most important outcome of the UCATS process is the development of a regional network of bicycle facilities and proposed projects that enhance active transportation access to transit. The UCATS Regional Bicycle Network is comprised of bicycle facilities that fill in gaps in existing bicycle networks, paths and routes, particularly those routes that connect to TRAX and FrontRunner transit stations. Many of the regional network facilities are proposed on streets with less traffic and slower speeds than parallel streets. These facilities appeal to people who may be less comfortable biking on high-speed, multi-lane streets. All infrastructure proposed as part of the UCATS Regional Bicycle Network meets one or both of the Tier One criteria by contributing to a regional network of bicycle facilities, and/or enhancing access to transit.

Some routes and infrastructure proposed as part of the Regional Bicycle Network project areas also meet the Tier Two criteria for UCATS projects by helping cyclists cross major barriers, linking locally planned facilities, connecting people to economic centers, and/or scoring high on the latent demand model. Routes and infrastructure that met the Tier One and Tier Two criteria became higher-priority project areas, known as the Top 25. These areas have been analyzed in greater detail and reviewed by UCATS stakeholders.

The UCATS Regional Bicycle Network and Top 25 project areas are available for viewing online. [Click here](#) to see an illustrated map demonstrating all the proposed UCATS projects, including details on the Top 25 project areas (the map works best when viewed in Google Chrome or Mozilla Firefox). An illustration of the Regional Bicycle Network and Top 25 project areas is also provided below.



WHAT ARE THE UCATS PROJECT AREAS?



MAKING THE CASE FOR INVESTMENT

Walking and bicycling are effective ways for people to improve their health and wellbeing. But the benefits of active transportation go beyond the health of the individual. A growing body of research shows that active transportation can also benefit the environment and improve the transportation network. The addition of active transportation infrastructure can even boost economic viability in the places where it is located.

A short summary of UCATS research regarding the benefits of active transportation infrastructure is provided below. [Click here](#) to see a detailed discussion with identified sources.

Air Quality

- Research indicates that transportation accounts for roughly 28 percent of the United States' total greenhouse gas (GHG) emissions (including carbon dioxide, methane, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrous oxide). Of commuting modes, automobiles have the largest impact on air quality. Bicycling and walking have a negligible GHG impact (outside of the production needed in the manufacturing of the bicycle).
- The Rails To Trails Conservancy estimates that bicycling and pedestrian travel can offset between 3 percent and 8 percent of GHG emissions in the United States caused by surface transportation.
- Many state applications for Congestion Mitigation and Air Quality Improvement Program (CMAQ), a federal funding program, ask applicants to estimate the congestion and GHG reduction potential of their bicycle and pedestrian projects. A federal review of CMAQ bicycle and pedestrian projects found CO₂ reductions of up to 38.4 kg emissions reductions each day.

DID YOU KNOW?

According to research conducted in the Portland area, every 1% increase in miles traveled by active transportation instead of by car reduces regional greenhouse gas emissions by 0.4%.

Reduced VMT

- Many trips regularly done by car can be done by bicycle. The national average trip length is 2.25 miles for a one-way bicycling trip. Half of all trips taken in the United States are three miles or less, with 40 percent under two miles. However, 90 percent of trips fewer than three miles are taken by car.
- A study in King County, Seattle, WA found that a 5 percent increase in walkability of a community reduced vehicle miles traveled per capita by 6.5 percent and increased time spent in physically active travel by 32.1 percent.

Congestion Reduction

- A study by the Arizona Department of Transportation found significantly less congestion on roads in older, higher density areas than in new, lower density suburban areas (volume-to-capacity ratios of 0.8 to 0.9 compared to 1.6 to 2.0, respectively). Researchers determined this connection was due to more mixed land uses (particularly more retail in residential areas), more transit and non-motorized travel, and a more connected street grid, which provides more route options and enables more walking and cycling.

MAKING THE CASE

After bike racks were installed on Caltrain (the San Francisco-San Jose commuter rail system), a 4% ridership increase was attributed to bicyclists.

Transit Benefits

- Bike/transit integration supports both transit and bicycle transportation and has proven successful in attracting new transit riders. For example, 30 percent of users of Vancouver's bike lockers at a transit station had not previously used public transit to commute.
- A study on bike access and how bicycle amenities effect mode share at California's BART stations found the Berkeley station increased its bicycle mode share from 7.4 percent to 11.7 percent and the Fruitvale station increased its bike mode share from 4.3 percent to 9.9 percent during the period from 1998-2008.
- After bike racks were installed on Caltrain (the San Francisco-San Jose commuter rail system), a 4 percent ridership increase was attributed to bicyclists.
- Denver's Regional Transportation District (RTD) found that approximately 50 percent of the bike-on-bus riders would not make the trip on transit if it were not for bike racks.

Mode Share Shift

- Each additional mile of bicycle lane per square mile is correlated with an approximate one-percent increase in the share of bike-to-work trips.
- Cities with higher levels of bicycle infrastructure (lanes and paths) also saw higher levels of bicycle commuting.
- The construction of a bicycle and pedestrian bridge in Charleston, South Carolina led to more cycling throughout the City. A survey conducted on trail use showed that 67 percent of users claimed their physical activity had increased since the path opened.

Health Benefits

- Communities with higher rates of bicycling and walking have lower obesity rates than communities with lower levels of active transportation.

- Researchers from Harvard University found that bicycling for as little as five minutes each day can prevent weight gain for middle aged women.
- The National Institutes of Health have shown that people are more likely to consistently ride a bicycle or walk than to maintain a gym-based exercise program.
- Commuters using active transportation modes are happier with their commutes.
- People who use active transportation to commute report fewer days of work missed due to illness than those with non-active commutes.
- A study by the National Institute of Health determined that physically active employees incurred approximately \$250 less in health care costs annually compared to sedentary employees.
- An analysis of health savings generated by Portland, Oregon's bicycle infrastructure shows that completion of their 2030 Plan would help the City save \$800 Million in fuel costs, health care, and the value of reduced mortality.

MAKING THE CASE

An analysis of Portland, Oregon's bicycle infrastructure on health savings shows that completion of their 2030 Plan would help the City save \$800 Million due to fuel cost savings, health care savings, and the value of reduced mortality.

MAKING THE CASE

Bike lanes reduced the risk of fatalities in pedestrian-involved crashes by 40%.

- [Click here for an assessment of potential health benefits or impacts associated with the UCATS Top 25 project areas.](#)

Transportation Safety

- There is safety in numbers. The walking/bicycling crash risk decreases as walking/bicycling rates increase.
- The National Institute of Health found that for every doubling of the number of cyclists, the number of fatalities increases by 25 percent, thus reducing the overall risk of cycling by 37 percent.
- In New York City, the increase in bike lanes reduced the risk of fatalities in pedestrian-involved crashes by 40 percent (controlling for other factors). The installation of bike lanes usually involves a narrowing of the motor vehicle portion of the roadway, which indicates to drivers that they need to watch for other road users. These changes have a traffic calming effect, lowering speeds and increasing driver attention.
- The presence of bike lanes have been shown to reduce the overall crash rate by 18 percent compared to streets without any bicycle facility.

Economic Benefits

- The combined potential value of bicycling in Wisconsin totals nearly \$2 billion yearly.
- It's been estimated that the entire bikeway network of Portland, Oregon was built for less than the cost of constructing one mile of urban freeway.
- Compared to the average US city, people in Portland, Oregon save \$2.6 billion a year thanks to reduced vehicular miles.
- There is a 12.5 percent increase in productivity of employees who exercise as compared to those who do not exercise.
- The Southern Environmental Law Center cites examples of positive effects of pedestrian improvements on retail sales and employment from Mountain Brook, a residential community south of Birmingham, Alabama. As a result of pedestrian-friendly investments, retail sales in the village increased by approximately 25 percent in the past two years.
- A survey of residents along bicycle boulevards indicated that the majority of respondents felt that bicycle boulevards have had a positive impact on home values, quality of life and sense of community, along with reducing noise, improving air quality, and providing convenience for bicyclists. Additionally, 42 percent of respondents said living on a bicycle boulevard makes them more likely to bike.
- Installation of bike lanes and bike racks can have a positive influence on the local economy. Fort Worth, Texas spent \$12,000 to purchase 80 bike racks and \$160,000 on local road diets in one district in town. As a result, local restaurants experienced a 200 percent increase in business.
- In a year of riding transit and using car share programs, a Bay Area bike commuter could save between \$6,677 and \$6,957 per year over owning a car.
- [Click here](#) for an assessment of how infrastructure investments at three UCATS project sites (Ogden Central Station, 3900 South in Salt Lake County, and Provo Central Station) could potentially add economic value to communities.

IMPACTS ON HOME VALUES

- The walkability of an area can directly impact home values. Homes with above average levels of walkability are worth \$4,000 to \$34,000 more than homes with average levels of walkability in the areas studied. Typically, a one point increase in Walk Score was associated with between a \$500 and \$3,000 increase in home value.
- The Urban Land Institute compared four new pedestrian communities to determine the effect of walkability on home prices. They determined that homebuyers were willing to pay \$20,000 more for homes in walkable areas compared to similar homes in surrounding areas.

MAKING THE CASE

The combined potential value of bicycling in Wisconsin totals nearly \$2 billion.

- For developers, walkability translates into direct economic benefits. In Washington, buildings in neighborhoods with good walkability command an average of \$8.88/sq. ft. per year more in office rents and \$6.92/sq. ft. per year higher in retail rents, and generate 80 percent more in retail sales as compared to places with fair walkability, holding household income levels constant. Housing prices and property values are also increased in areas with higher walkability – a place with good walkability, on average, commands \$301.76 per month more in residential rent and has for-sale residential property values of \$81.54/sq. ft. more relative to places with fair walkability, holding household income levels constant.
- On a 100-point scale, a 10 point increase in walkability increases property values by 1-9 percent, depending on property type.
- Adjacency to trails can also have a positive effect on property values. For instance, according to the Rails to Trails Conservancy, lots adjacent to Wisconsin’s Mountain Bay Trail sold for 9 percent more than similar properties not adjacent to the trail.
- In Apex, North Carolina, houses adjacent to a regional greenway sold for \$5,000 more than houses in the same subdivision that were not on the greenway.
- In Virginia, the influence of a trail on local and nonlocal spending was estimated to be \$2.5 million and total output was estimated to be \$1.59 million, supporting 27.4 full-time job equivalents annually.
- In Ohio, analysis on the impact of a trail on property values suggests that each one-foot increase in distance from an existing trail decreases the sale price of a sample property by \$7.05. In other words, being closer a trail facility adds value to the single family residential properties.

MAKING THE CASE

Bicycle projects create 11.4 jobs for every \$1 million invested, while road-only projects create 7.75 jobs per \$1 million.

JOB CREATION

- A national study of employment impacts following the installation of bicycle and pedestrian infrastructure estimated that each \$1 million in bicycle-related projects creates 11.4 jobs from direct, indirect and induced construction spending. Likewise, pedestrian-only projects create about 10 jobs and multi-use path projects create 9.6 jobs per \$1 million of project cost. Projects that combine pedestrian and bicycle facilities with other road improvements create 7.8 jobs per \$1 million. In contrast, road-only projects generated 7.75 jobs per \$1 million. Spillover (indirect) employment adds an additional 3 jobs per \$1 million.
- In Colorado, the bicycling industry has created 513 manufacturing jobs and 700 full-time equivalent retail jobs.
- Bicycling has also shown to be integral in the tourism industry. Half of all summer visitors to Colorado’s ski resorts spent time bicycling and most (70 percent of out of state visitors and 40 percent of local Coloradoans) said they would have chosen an alternative vacation destination if bicycling was not available.

- Similar results have been shown in Wisconsin, where the bicycling industry (consisting of manufacturing, distribution, retail, and other services) contributes \$556 million and 3,418 jobs to the Wisconsin economy.
- Portland's bicycle industry has also contributed significantly to the local economy. In 2008, revenues in the bicycle-related economic sector were found to be nearly \$90 million.
- In North Carolina, the annual economic impact of bicycling tourism is estimated at \$60 million, with 1,400 jobs created and supported per year.

TOURISM

- Research by the Maine Department of Transportation indicates the economic benefits of statewide bicycle tourism reached \$36.3 million in direct spending by over 2 million bicycle tourists annually. Additionally, spending by tourists has a multiplier effect. Taking that into account, the total economic impact of the bicycle tourism market is estimated to be \$66.8 million dollars. This is calculated to include earnings of over \$18.0 million, in wages and salaries, and 1,200 full-time equivalent jobs.
- Over 42,000 Ontarians' jobs were a result of the Trans Canada Trail in Ontario, Canada. The trail was estimated to generate \$2.4 billion dollars in value added income in the province.
- A study of bicycling tourism in Moab, Utah estimated the annual economic impact of bicycling to be \$1.33 Million. Average consumer spending per person was estimated to be \$585.

IMPLEMENTATION OPPORTUNITIES

The challenge of many planning studies lies in implementation: How can we make the project vision become a reality and see the infrastructure identified under the study through to construction? Further complicating the issue is the need for funding and coordination of projects identified under the study. The pool of money available for building bicycle and pedestrian facilities is somewhat limited, with many potential projects competing for the available funds. Agencies that are responsible for building new transportation facilities are more inclined to include planned active transportation elements in their projects if they receive information early in the project's development. This gives them time to incorporate active transportation in the project's scope and budget and design. Active transportation planners in Utah need to be resourceful and collaborative to successfully build a transportation system that effectively includes bicycling and walking.

As part of the UCATS process, each of the UCATS Top 25 project areas has been reviewed to determine whether planned state or local improvement projects might be modified to include UCATS project elements. This effort required coordination with UDOT as well as many local city and county engineers. Project team members have also coordinated with UDOT maintenance staff to learn what is required to maintain the proposed facilities.

Funding for UCATS projects could come from a wide range of sources. MAP-21, the federal transportation bill passed in 2012, reduced some funding programs for active transportation projects but added other new programs. The UCATS funding source matrix identifies programs, such as MAP-21's Transportation Alternatives Program, that can be used to pay for projects, as well as the requirements and qualifications for the programs. [Click here to see the matrix](#)

To provide background information to UCATS stakeholders, project cut sheets on each of the Top 25 project areas have been produced. The cut sheets contain insights on upcoming local government and UDOT construction projects that could potentially incorporate UCATS elements, along with details on the status, and contacts for the projects. Coordination of this sort will increase resources and offer better prospects for implementation. Details can be found in the "Implementation Opportunities" section of each Top 25 cut sheet. [Click here](#) to see the cut sheets for each UCATS Top 25 project area.

Each of the UCATS Top 25 cut sheets also includes an assessment of the degree of environmental clearance that may be needed prior to design and construction in the project areas. Transportation projects that are built using federal dollars must comply with the National Environmental Policy Act, which means that certain types of projects must complete an environmental study prior to construction. The UCATS project team has used UDOT's UPlan Planning and Environmental Linkage (PEL) tool to evaluate the degree of environmental documentation that may be required in each project area, along with the types of environmental impacts that would likely need to be addressed in an environmental document. This information is contained in the "Environmental Clearance" section of each Top 25 sheet.

SUMMARY

Many people rely on walking and biking to get to school, work, transit, shopping and other places they need to or want to access. Many more would walk and bike if adequate opportunities were available. As Utah continues to grow, it becomes more important to provide walking and biking facilities that are safe, comfortable and accessible for a wide range of people. The UCATS project is a partnership among local government and transportation agencies across the Wasatch Front that agree with the idea that active transportation is important to healthy and vibrant communities. UCATS has developed a Regional Bicycle Network with links to transit and identified 25 project areas where adding bicycle and/or pedestrian treatments will kick-start the implementation of the plans developed under the project. These plans will act as a foundation for creating a network of connections that will eventually grow into a complete active transportation system for the Wasatch Front.