



MAG

Expert Resources. Enriching Lives.

TransPlan50

REGIONAL TRANSPORTATION PLAN

Active Transportation Network

Appendix E



BICYCLE AND PEDESTRIAN IMPROVEMENTS (ACTIVE TRANSPORTATION)

Utah County leaders have embraced non-motorized transportation as integral to improving air quality, reducing congestion, and lowering travel costs. Feedback from local leaders during the MAG Transportation Summits of 2018 indicated that while great strides have been made, we should accelerate our efforts to build out the planned system.

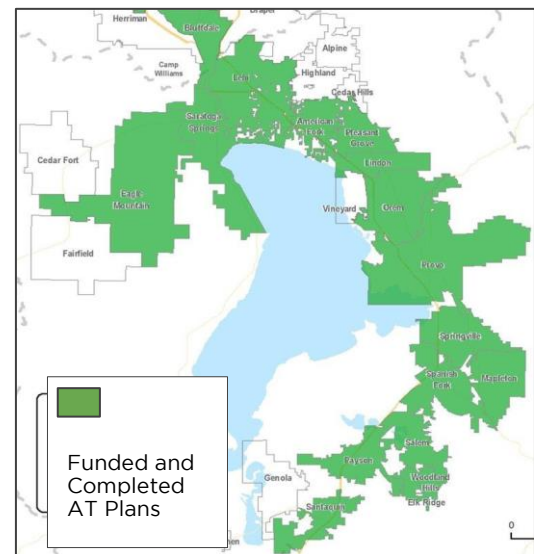
While major highway and transit facility construction consumes the vast majority of transportation dollars, Active Transportation (AT) facilities are low-cost and low-impact improvements to a truly multi-modal transportation system. Initial construction costs, especially where facilities are included in the design and construction of highway projects, is very low, at 5-10% of project costs.

The goal of the bicycle/pedestrian system is to reduce vehicle trips and mitigate traffic congestion. As Utah Valley continues to grow and urbanize so 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. TransPlan50 identifies AT facilities that are needed to better integrate AT and transit.

ACTIVE TRANSPORTATION PROJECT SELECTION

Inclusion in Locally Adopted Plans: Beginning in 2009, MAG has worked closely with its constituent cities to help create comprehensive local AT plans. As of early 2019, AT plans covering most area residents have either been completed or are underway. Provo, Orem, Lindon, Pleasant Grove, American Fork, Lehi, Eagle Mountain, and Saratoga Springs have adopted their plans. The South County Active

Map E1 | Municipalities with AT Plans



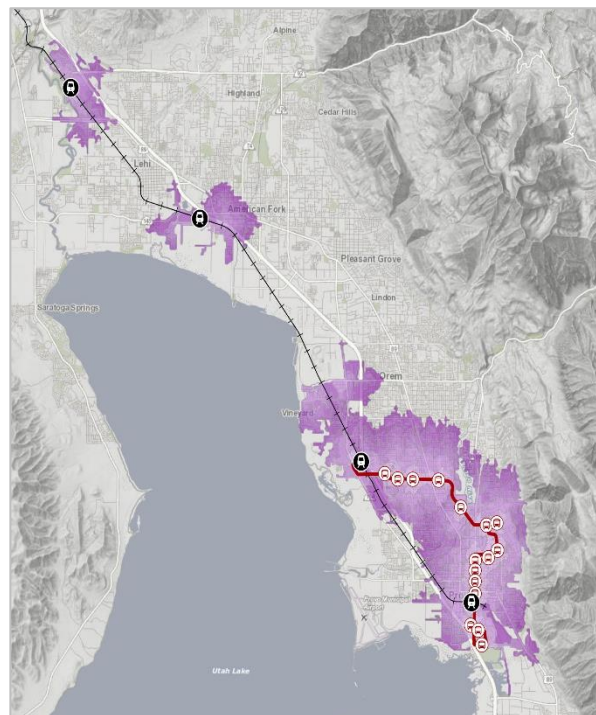


Transportation Plan from 2015 covered the communities of Elk Ridge, Mapleton, Payson, Salem, Santaquin, Spanish Fork, Springville, Woodland Hills and the southern portion of unincorporated Utah County. TransPlan50 draws on these plans for most of the proposed projects.

Projects that Extend the Regionally Significant Network: Utah Valley enjoys a large, connected bikeway network including over 200 miles of paved off-street pathways, on-street bike lanes and signed shared roadways. TransPlan50 projects are those that broaden the geographic reach and continuity of the AT system, such as those that cross jurisdictional boundaries or provide access to a regional destination.

Integration with Transit Network: The completion of Utah Valley Express and its high ridership presents new opportunities for more tightly integrating active transportation with transit. doing so improves the efficiency and effectiveness of both modes. For AT especially, transit provides opportunities to travel much longer distances - commuting by bike from Orem to Downtown Salt Lake City is becoming more common. Staff mapped Bicycle and Pedestrian travel sheds (Map 1) for each of the five FrontRunner and sixteen UVX stations. Priority AT projects to link the travel sheds and stations were determined using a mix of sidewalk, multi-use pathway, and on-street bike facilities as called for in local AT plans.

Map E2 | Station Bike/Ped Travel Shed

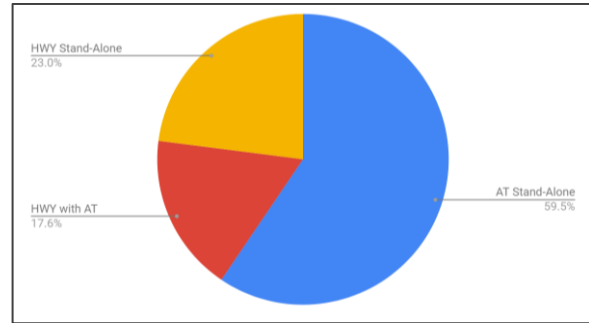


Economic Efficiency: MAG has, for many years, advocated for the inclusion of appropriate AT facilities as part of the construction or reconstruction of new and



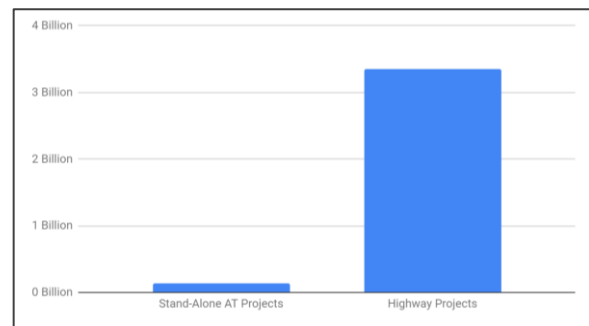
existing roads. Doing so minimizes the impacts and reduces the cost of building the AT network and takes advantage of all existing transportation funding. Over 20% of TransPlan50 Phase 1 Active Transportation projects are included as part of planned roadway improvements. Although stand-alone AT projects account for over half of total projects (including new roads and trails, road widening, intersection improvements, and interchange additions) they make up 3.7% of the Highway plus Active Transportation budget for Phase 1.

Chart E1 | Active Transportation and HWY Projects



The major impedance to implementing the region-wide, interconnected bike/ped system as envisioned in the Plan, is funding. Estimated costs to implement the plan’s phase one projects are \$100 million. MAG can expect to receive \$80 million for AT in the next 10 years based on historic funding, leaving a \$20 million shortfall for phase one projects. Continued steady efforts for integration with roadway projects and proper use of available funds will make biking and walking increasingly viable.

Chart E2 | Active Transportation vs. HWY Funding



SYSTEM STRENGTHS

One of the greatest system strengths is the quality of Active Transportation Plans adopted by every city with a population over 2,000 except Cedar Hills, Alpine, Highland, and Vineyard, though those cities have a trails element in their General Plans. Along with AT support from most cities, a number of local advocacy groups and nonprofits have been created, including the Provo Bicycle Collective, BikeWalk Provo (formerly the Provo Mayor’s Bicycle Committee), Orem Bike Coalition, Hobble Creek Bicycle Association, Utah Valley Trails Alliance, Orem Youth Cycling



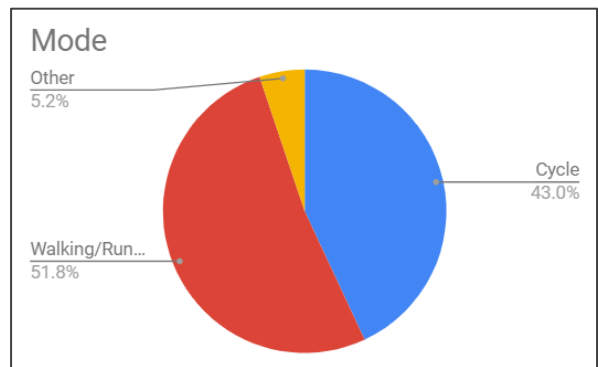
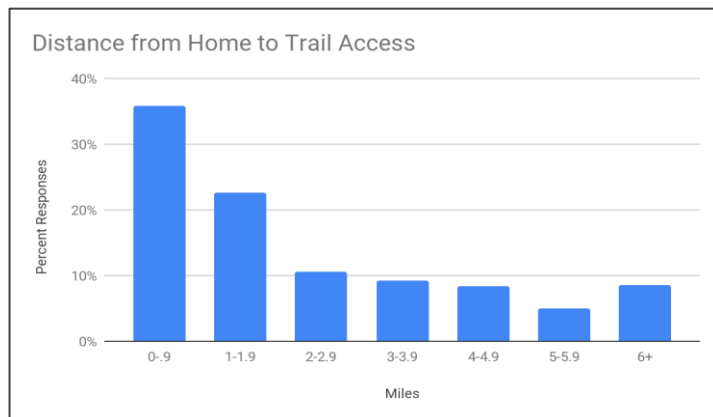
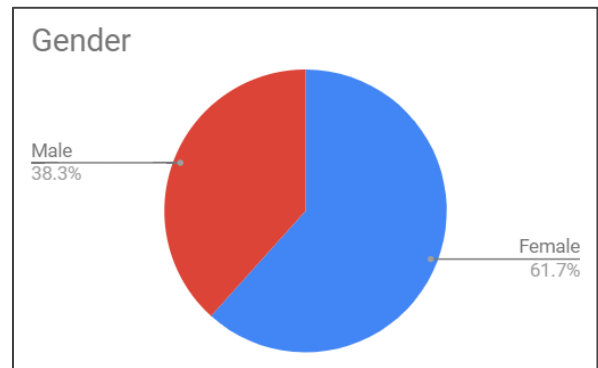
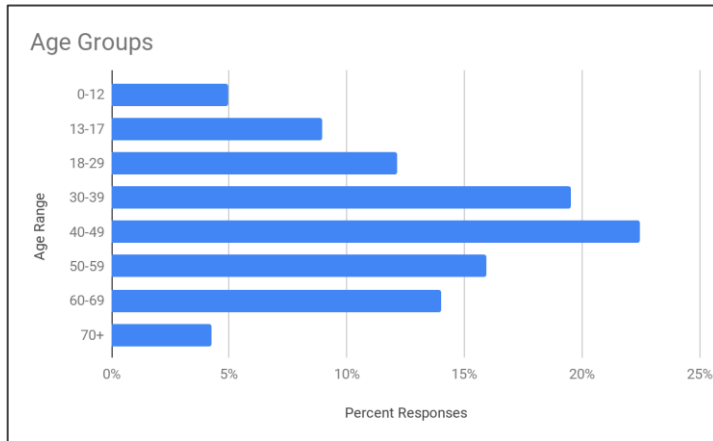
Association, and various clubs and cycling groups. These citizen-led groups provide valuable support for their cities and the region as a whole as they recommend active transportation improvements, organize and participate in projects, and promote a biking and walking culture. Groups like these should be included in the planning process wherever possible, especially as cities develop their plans. For example. The Provo Bike Committee worked with the city to carry out a temporary project on 500 N including buffered bike lanes, painted crosswalks, bulb-outs, and artistic intersections with hundreds of volunteers and educational materials.

User Satisfaction: Intercept surveys on major multi-use paths indicate overall satisfaction with paths and a desire to build more. In the summer of 2018 MAG staff handed out 347 intercept surveys at six locations along the Spanish Fork, Provo River, Murdock Canal, and Jordan River Trails. Following are combined results from the four trails:





Chart E3 | Trail Survey Information



The age distribution of trail users does not follow the distribution of the general population. Those age 30 and older have greater representation than people under age 30, particularly children. Gender split was almost 50/50 in previous surveys, but in general the presence of females is indicative of a safe, healthy outdoor facility. The “user-shed” for trails is generally 3 miles or less from door to trail. The closer people live to the trail the more likely they are to use it. People on foot and on wheel (bike, rollerblade, wheelchair, scooter, etc.) are fairly evenly split, speaking to the trails’ overall appeal and the need to keep both forms of transportation in mind throughout design, management, and regulation. Wheeled users may require more even surfaces and the ability to cross streets without coming to a complete stop while those on foot need more rest areas and greater crossing time.



Notable exceptions: Spanish Fork users were 88% female and more of those surveyed lived 1-1.9 miles from the trail than 0-0.9 miles, perhaps due to the survey location near an informal trailhead in farmlands where homes are more than a mile away, illustrating the need for AT connection from neighborhoods to trails.

95% Feel safe while using the trail

9% Use the trail to commute

The Murdock Trail’s user demographic is significantly older than other trails, with 21% age 50 and over. Many retirees living on the mountainside prefer lower-impact sports like biking. 17% of Murdock and 15% of Jordan River Trail users were commuters. The survey location on the Jordan River Trail in particular was relatively close to employment centers at the Point of the Mountain. Two people surveyed on the Provo River Trail commute daily via wheelchair to get to the hospital, emphasizing the need for trails to accommodate those who cannot drive themselves.

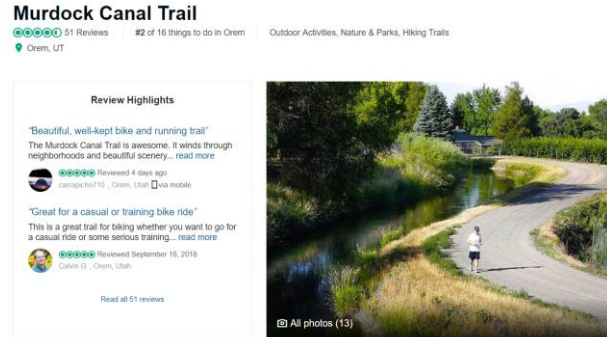
Though not surveyed, a group of minors with disabilities and others who cannot drive frequent the trail as well.

Utah County also boasts regionally renowned trails such as the Murdock Canal Trail to be emulated. The *Economic Impacts of Active Transportation: Utah Active Transportation Benefits Study* prepared for UTA in 2017 by Urban Design 4 Health, Inc. and Fehr and Peers performed an analysis of the Murdock Trail. They found that, “Spending on equipment and service by more than 848,000 users results in an additional \$2.22 million in output every year. Health impacts for nearly 170,000 users (20% of total) who are assumed to be newly active generate \$700,000 in output from diverted healthcare spending and \$500,000 in total economic impacts from increased productivity (due to fewer sick days). “Trail facilities are not only part of the transportation system, but also contribute positively to economic and health outcomes.

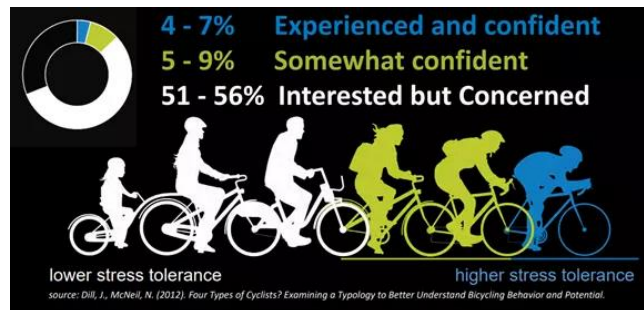


SYSTEM WEAKNESSES

Active Transportation has great potential to serve not only those desiring a more active lifestyle, but also those who cannot drive or do not have access to a vehicle; in particular the young, the elderly, minority and low-income residents. Currently, most on-road infrastructure consists of bike lanes, which appeal to less than 10% of riders according to various studies, due to the high level of user discomfort. Designing with the comfort and safety of people walking and biking as a priority will make active transportation more appealing and therefore more effective as a travel mode. Safe, convenient, and well-designed facilities are MAG’s highest priority.



Another 40-50% of people would be more likely to bike if they felt comfortable and safe. Multi-use paths completely separate from vehicular traffic are one way to serve those “Interested but Concerned” (see graphic above). Building more comfortable on-road facilities usually requires physical separation between people riding and people driving. Bike Utah clarifies “family friendly” facilities as those that increase separation with increasing speeds (see graphic).

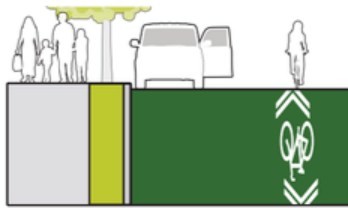




Paved Infrastructure

0 – 25 mph

Neighborhood Bikeway;
No Separation but requires signage/markings designating space as bicycle friendly with appropriate road treatments to reinforce speed limit



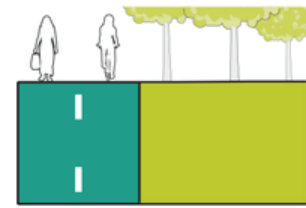
26 - 44 mph

Physically Protected Lane;
curbs, vehicles, etc. may be used as physical protection for cyclists



45+ mph

Multi-Use;
Path separated by at least a median or grade separation



Images sourced from Salt Lake County Regional Planning & Transportation; Bikeway Design

Buffered and Protected bike lanes are strongly encouraged by MAG and the first physically separated (protected) bike lanes on Bulldog Avenue in Provo should provide a positive example for the rest of the region. UDOT Region 3 has also added striped buffers to bike lanes on major state routes like University Avenue (US 189), State Street (US 89) and Redwood Road (SR 68).

Another system weakness is quality access to economic cores. The Latent Demand Model used in TransPlan40 found that people biking and walking generally want to go where people driving want to go. Studies indicate that those biking and walking make more frequent, smaller trips to stores but spend more over the course of a month than those driving (Currans, Christopher D. Muhs, Chloe Ritter, Sara Morrissey, and Collin Roughton. "Consumer Behavior and Travel Mode Choices." Oregon Transportation Research and Education Consortium. Presented at the 92nd Transportation Research Board Annual Meeting, Washington, DC: 2013.) Cities have traditionally been designed to prioritize vehicular access, especially when it comes to economic cores. Those streets can be expensive and difficult to retrofit, but



improved access for non-vehicular traffic is necessary to accommodate the growth coming to Utah County and create sustainable, multi-modal systems.

PROJECT SELECTION PROCESS

MAG staff consults with the MPO municipalities, Utah County, UDOT, and UTA in creating a list of proposed AT projects and associated project cost estimates. A final project list is forwarded to the Technical Advisory Committee for vetting and submission to the Regional Planning Committee for final approval.

FUTURE CONSIDERATIONS

Growth at the Point of the Mountain and redevelopment of the Draper prison site are opportunities to improve regional connectivity along the Wasatch Front. MAG and WFRC coordinate to create AT corridors through that narrow space, including facilities along Mountain View Corridor, Redwood Road, the existing Jordan River Parkway Trail, and an extension of the Porter Rockwell Trail on the east side of I-15.

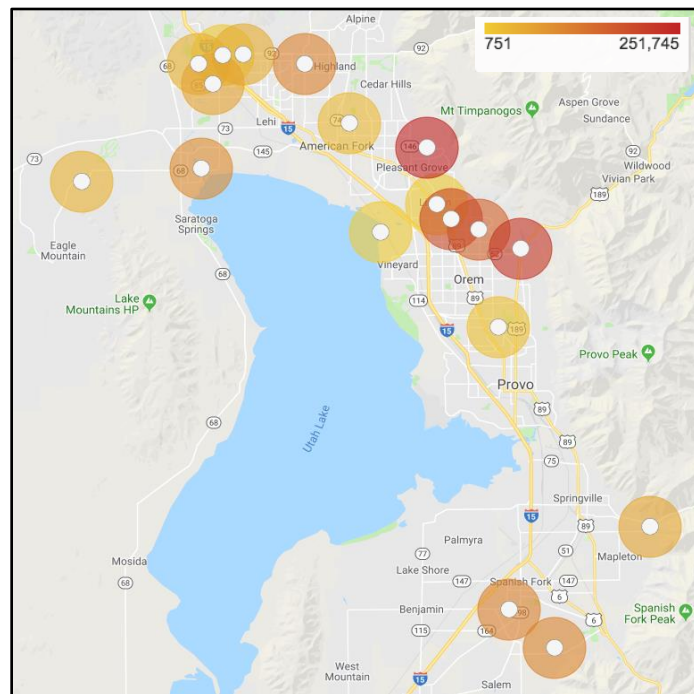


Emerging Systems: New technologies and systems have the potential to benefit Active Transportation. MAG should be aware of emerging issues and plan flexibly to allow those with staying power to be integrated into the planning process. MAG works with cities to create AT-friendly policies for Electric Assist bicycles and other micro-transit. MAG participates in discussions on bike-share programs, though no city in Utah County has adopted one yet.

USE OF STRAVA AND ECO-COUNTER DATA TO MODEL NETWORK

Performance-based planning and programming have a foundation in high quality data. Ongoing data collection, and processes for analyzing and managing transportation data, can support planning and prioritization, programming and future funding decisions. MAG has 18 continuous counters on multi-use paths throughout the county as well as 2 in-road counters on University Ave in Provo.

MAP E3 | Counter Locations with 2018 Totals



MAG, with WFRC, UDOT, and UTA, has acquired STRAVA data for the past two years. STRAVA is a social media/training app that records physical activity (both cycling and on foot) while connecting users. STRAVA counts with in-field counts (including the eco-counters) are the basis for developing an AT data management program and create a system for collecting and publishing data that can be used by the public and by public agencies. This program should inform an Active Transportation model that will be in use by next plan.



Table E1 | Counter Location Data

Site	Year Total	Daily Average	Peak Month	Peak Count (Day)
Murdock - Wade Springs	251,745	690	June	2,072
Provo River - Cyn Mouth	225,536	618	June	2,733
Murdock - Lindon	194,545	533	June	1,682
Murdock - Orem 1600 N	156,478	429	August	3,507
Murdock - Highland	110,054	302	May	1,269
Spanish Fork - Sports Park	109,770	392	June	987
Spanish Fork - Poplar Ln	108,499	387	June	1,273
Jordan River - Model Airplane Park	96,872	265	June	2,997
Jordan River - Lehi 2100 N	61,019	167	June	1,850
Provo River - 1300 W	59,415	371	May	838
Mapleton Canal - Bartholomew Park	57,987	165	June	1,277
Murdock - Lehi 1200 W	50,222	195	June	531
Murdock/Jordan River Connector	37,621	103	June	2,787
Eagle Mountain - Hidden Hollow Elem	35,878	122	May	828
American Fork River Trail	26,368	72	June	1,138
College Connector Trail	17,485	51	June	399