2017-2022 TIP
Board Modification #8

Trans Com
June 15, 2017

Ben Wuthrich
Wasatch Front Regional Council
### 2017-2022 Transportation Improvement Program (TIP) (Amendment Eight)

#### Board Modification

## Funding Exchange

<table>
<thead>
<tr>
<th>Salt Lake/ West Valley Urban Area</th>
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<table>
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<tr>
<th>County</th>
<th>Sponsor</th>
<th>Facility</th>
<th>PIN</th>
<th>Project Location</th>
<th>Concept/ Type of Improvement</th>
<th>Funding Source</th>
<th>Project Estimated Cost</th>
<th>Currently Funded Amount</th>
<th>Action</th>
<th>Funding Amount</th>
<th>Year</th>
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<tr>
<td>Salt Lake</td>
<td>Herriman</td>
<td>Herriman Parkway</td>
<td>14937</td>
<td>Herriman Parkway; 6400 West to 6800 West</td>
<td>New Construction - 5-lane facility with shoulders, curb, gutter, and sidewalks</td>
<td>STP_URB_SL (STP - Urban Area Salt Lake/ West Valley (WFRC))</td>
<td>$5,364,600</td>
<td>$2,000,000</td>
<td>Exchanged Funding</td>
<td>$1,700,000</td>
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This project will construct the next section of the 5-lane facility with shoulders, curb, gutter, park strips, and sidewalks. By exchanging the $1,700,000 of State funds for the $2,000,000 of Urban Surface Transportation Program (STP) federal funds, Herriman will be able to advance the project and utilize other city and local resources without federalizing all participating funding and components of the new facility and surrounding infrastructure.
Herriman Parkway; 6400 West to 6800 West
New Construction – 5-Lane Facility

Project Cost – $5,364,600
Funds Request – $2,000,000

This project is the Westward extension of 12600 S (principal arterial) and initially will be the only transportation route connecting new development currently in planning.

To Be Constructed in 2016-2017

Requested Project

Estimated Cost

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<th>Request for Funding Exchange</th>
<th>Estimated Cost</th>
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<td>$5,364,600</td>
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<tr>
<td>Federal Funding</td>
<td>$2,000,000</td>
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<tr>
<td>Exchanged Funding</td>
<td>$1,700,000</td>
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The Transportation Improvement Program
Transportation Improvement Program is . . .

1. Six Year Program of Highway & Transit
   • Four Years Funded - Two Years Concept

2. In the Urban Areas
   • Salt Lake/ West Valley - Ogden/ Layton

3. Funded by
   • Federal, State, & Local Programs

4. For All Cities, Counties, UDOT & UTA
Transportation Improvement Program will . . .

1. Implement the Long Range Plans
   • Highway/Transit Projects for the Region

2. Help Meet the Short Range Needs
   • Of the Wasatch Front Area

3. Provide for the Maintenance
   • Of the Existing Transportation System
Transportation Improvement Program
Contains . . .

• Lists of Projects
• Including;
  • New Construction
  • Rehab & Maintenance
  • Safety/ ITS
  • Transit, O & M
  • Pedestrian & Bike
Projects in the TIP:

• Represent $ Millions
• Thousands of Jobs
• Economic Growth & Development
• Mobility/ Access
• Preservation of Life
• And Promote the Quality Of Life
Federal Law Requires:

• Financially Constrained
• Conform To Air Quality
• Reviewed By the Public
• Approved by Regional Council
Davis County – Layton I-15 Crossing; SR-126 (Main Street) & Hill Field Road
New Construction

Total Project Estimated Cost
$ 22,000,000
Salt Lake County – I-15; I-15 Northbound & 10600 South Interchange Improvements

• Project will construct a crossing under 10600 South that connects the I-15 northbound off-ramp to Monroe Street.

• Reduce off-ramp congestion and increase safety for vehicles using the off-ramp to access eastbound 10600 South.

• Project will also rehab the bridge deck to preserve the life of the structure.

Total Project Estimated Cost
$ 23,879,030
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<tr>
<th>PIN</th>
<th>Transportation Investment Fund Projects</th>
<th>Current Amount</th>
<th>Est FY18</th>
<th>Est FY19</th>
<th>Est FY20</th>
<th>Est FY21</th>
<th>Est FY22</th>
<th>Est FY23</th>
<th>Est FY24</th>
<th>Est FY25</th>
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<td>2019</td>
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<td>13921</td>
<td>US-89: Farmington to I-84</td>
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<td>14412</td>
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<td>SR-172; 6600 W. to Railroad Crossing</td>
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<td>2020</td>
<td>26.000</td>
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Transportation Investment Fund (TIF) – Existing Projects

I-15; 12300 S. to SR-201 SB
- Cost - $169 M
- Funding Available – 2018-2020

9000 So (SR-209); Redwood Rd. to I-15
- Cost - $37 M
- Funding Available – 2020-2022

SR-193; 2000 West to 3000 West
- Cost - $9 M
- Funding Available – 2017

5600 West Railroad Separation
- Cost - $26 M
- Funding Available – 2020

I-15; SR-232 to I-84
- Cost - $158 M
- Funding Available – 2018 & 2020

*** Projects were Accelerated
<table>
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<tr>
<th>Project ID</th>
<th>Description</th>
<th>Year</th>
<th>Cost</th>
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<td>I-15 NB; 9000 South to I-215</td>
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<td>15680</td>
<td>SR-108; 300 North to 1800 North North</td>
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<td>15681</td>
<td>SR-30; SR-23 to SR-252</td>
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<td>11268</td>
<td>West Davis Highway</td>
<td>2020</td>
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<td>15670</td>
<td>Porter Rockwell (Bridge)</td>
<td>2020</td>
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<td>14415</td>
<td>Bangerter Highway @ 6200 South</td>
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<td>64.00</td>
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<td>14416</td>
<td>Bangerter Highway @ 10400 South</td>
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<td>15731</td>
<td>US-189; Wallsburg to Charleston</td>
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<td>US-89; Various Passing Lanes</td>
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<td>SR-7 (Southern Parkway); Sand Hollow to SR-9</td>
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Riverton City – 4150 West – New Construction  
Project Type – Capacity  
12600 South to 13400 South

Construction of 4150 West from 12600 S to 13400 S, with a 4-lane concrete street, center running TRAX corridor, bike lanes, pedestrian trails, or sidewalks, and traffic signals. This roadway will provide the north/south connection of 4150 West from 12600 South to 13400 South. Please see attached Traffic Study for the area.

Project Cost – $17,712,800  
Funds Request – $6,615,485

Salt Lake County – Magna – Intersection Realignment  
Project Type – Operations  
2810 South at 8000 West

This project will realign an offset intersection to improve safety and connectivity between Magna and West Valley. The project will also remove run off roadway and improve the operations.

Project Cost – $2,000,900  
Funds Request – $1,865,439

Plain City – 3600 West – Reconstruct/ Minor Widening  
Project Type – Reconstruct  
2600 North to 1750 North

This project will widen 3600 West between 2600 North and 1750 North, add shoulders, and reconstruct the existing asphalt street section. This project includes safety improvements by improving access conditions and adding a center turn-lane at intersections for improved mobility.

Project Cost – $3,111,400  
Funds Request – $2,900,758

Sandy City – Sego Lily Drive Intersection  
Project Type – Intersections & Signals  
Sego Lily Drive and State Street Intersection

State St. and 10000 S. is a choke point for bicycle traffic. This project will allow for bike lanes on 10000 South by widening the north side of the intersection. A right turn pocket will also be added for WB traffic. 10000 South is identified by UCATS, WFRC, Salt Lake County, and Sandy City as a priority bicycle route.

Project Cost – $1,591,000  
Funds Request – $1,389,127
The Ogden/WSU Transit Study LPA is now aligning the alignment has been selected. WSU, UTA to know where the transit line will run through partners determined that a campus internal easy transfers between local bus routes, the UTA facilities, pedestrians, and cars.

The project proposes to connect the Ogden Intermodal HUB with WSU and McKay Dee Hospital with a reliable, efficient and modern bus rapid transit system.

Sugarhouse Streetcar Double Track
New Construction

Project Cost – $4,073,900
Funds Request – $3,075,700

U of U campus is well served by UTA local bus routes, TRAX, and other alternative modes. Lacking though, is a place that welcomes transit users to the campus in a centralized location where transfers between TRAX, local buses, campus shuttles, bike facilities, and car share can easily occur. A Intermodal Center is needed.
Riverdale – Bicycle & Pedestrian Safety Enhancements
Project Type – Capital Improvement
Various Locations throughout the City

Installation of right of way striping and signage throughout Riverdale City as per the City’s 2014 adopted Bicycle and Pedestrian Transportation Plan

Project Cost – $69,200
Funds Request – $65,000

Salt Lake City – Bike Share Program
Project Type – Capital Improvement
600 West to 700 East/North Temple to 900 South

The Bike share program provides high-quality bicycles for commuters to link local destinations with regional transit. A network of bike share stations within a dense urban area provides a fast, flexible, and affordable transit option for the last mile of regional transit trips.

Project Cost – $800,800
Funds Request – $746,586

Clinton City – D&RGW Trail Street Crossings
Project Type – Capital Improvement
1300 North to 2300 North

The D&RGW trail intersects 2300 North and 1300 North east of the intersections. Some trail users cross at unmarked midblock crossings to avoid going to the intersection. These improvement would stop the midblock crossing and require trail users to cross at the intersection crosswalks.

Project Cost – $111,100
Funds Request – $103,576

Ogden City – Bike Share Program
Project Type - Transit
Various Areas in the Ogden Central Business District (CBD)

Ogden bikeshare would be an option to resolve the "first/last mile" transit quandary while bolstering economic activity in the CBD area of the City. A bikeshare program will also promote physical activity all while offering a zero emission transportation option to visitors and citizens.

Project Cost – $484,686
Funds Request – $451,873
The Wasatch Front Regional Council builds consensus and enhances quality of life by developing and implementing visions and plans for a well-functioning multi-modal transportation system, livable communities, a strong economy, and a healthy environment.
Active Transportation Plan Standards

Trans Com Meeting – June 15, 2017
Active Transportation Goals - 2017

1. Update shared Regional Priority Bicycle Routes Plan/Map

2. Cities and counties adopt Local Active Transportation Plans [that align with Regional Priority Plan/Map]

3. Fund and construct priority projects

4. Build support for AT through effective engagement and outreach
How did this concept come about?

- Wasatch Bike Plan
- Network development
- Engaging the health community

Partners:
UDOT, WFRC, MAG, Bike Utah, Alta Planning + Design, and Fehr & Peers
Why do we need a set of standards?

• Template for interested communities
• Standard for funding of AT Plans (TAP, TLC, etc.)
• GIS consistency between plans at all levels
• Identifying communities in need of an active transportation nudge
Introduction & Process

This set of standards has been compiled to create a more comprehensive network of active transportation (bicycling and walking) facilities in Utah that can be implemented more easily and effectively. Additionally, these standards provide a sample scope for communities desiring to hire outside help. Whether the active transportation plan is being completed internally or by a consultant, it must include the following requirements and may include recommended elements (gray, dotted boxes). The process, however, is the most important element. By including a broad representation of the community and appropriate partners, the active transportation plan will:

- Addresses community needs
- Meets the needs of the partners
- Can be implemented successfully
- Is broadly supported
Standards

1. Partner Engagement
Involving internal and external partners in the planning process, as well as identifying and empowering community champions, creates an opportunity for comprehensive input and buy-in. Their unique perspectives will generate support for the plan as many of these partners will be critical to successful implementation.
- Include at least one of the following public officials: Mayor, City Manager, Planning Commissioner, City Council Member
- Include all of the following municipal departments: Planning, Engineering, Public Works/Streets, Parks
- Identify, engage, and empower “champions”, those community members or staff who can and are willing to expend time, energy, and political will in order to implement the pieces of the plan
- UDOT region representative
- MPO, RPO, or AOG representative
  - Recommended: Transit agency; neighboring cities; health department; school district; Department of Public Safety/Utah Highway Patrol; police department; public lands agencies; major employers and work sites

2. Public Engagement
At least two distinct methods of engagement and data collection must be utilized during all phases of the process in order to gather input from diverse community members:
- Open houses or charrettes
- Online survey
- Opportunities to comment on plans or maps online or in-person
- Intercept surveys
- Pop-up meetings and attending existing events
- Walk and bicycle audit
- Stakeholder interviews or events at major work sites
3. Set the Vision, Goals, & Objectives

The vision, goals, and objectives of an active transportation plan create the framework and guide all policy, project, and program recommendations.

- Completed during the first stages of the planning process
- Vision expresses aspirations for bicycling and walking, whether it be related to network, culture, programs, or outcomes
- Goals are broader statements describing desired results; objectives are specific, measurable initiatives that bolster the goals
- Recommended: Reflects the vision or purpose of the community's and/or region's existing plans
4. Existing or Current Conditions

Creating a clear image of what the community is now enables a meaningful comparison with what the community wants to be in the future. The analysis should use words, photos, maps, and data to describe:

- Existing on and off-street bicycling and walking network and facility types
- Identification of network barriers and gaps
- Demographics
- Crash and safety data
- Integration with local and regional plans, including other active transportation plans
- Connections to transit and community destinations (e.g. parks, schools)

- Recommended: Existing counts (if available)
- Recommended: Geological, hydraulic, or other physical characteristics and constraints
5. **Recommendations**

This task involves recommending new infrastructure, supportive programs, and policies in order to promote better accommodation of people walking and bicycling.

**A. Projects.** These most crucial recommendations should encourage active transportation use, regardless of age or ability, by design. Each recommended facility must include (at least):

- Route and facility type identification
- GIS schema consistent with state and regional standards
- Recommended projects connected to regionally-significant existing or planned routes

**B. Programs.** Education, encouragement, evaluation, enforcement, and equity programs support the effectiveness of infrastructure (engineering) projects (5.A).

- Programming associated with existing and recommended facilities with an emphasis on the 5 Es
- Local context-specific Safe Routes to School programming
- Maintenance plan (i.e. snow removal, restriping, weed removal)
  - Recommended: Wayfinding plan compliant with national and local standards

**C. Policies.** Policies, departmental procedures, design standards and guidelines that promote active transportation usage and safety should be recommended.

- Walking and bicycling friendly design standards and land use policies
  - Recommended: Complete Streets Policy or Ordinance
6. Implementation Strategy
Creating an implementation strategy is a critical step in the active transportation planning process so that momentum and public support do not stall when the plan is finished. It should be detailed, yet easy to use. The plan should include:

- Prioritized and/or phased list of actions and recommendations
- Funding opportunities
- Capital and maintenance cost estimates and budget
- Recommended: Annual work plan calendar
- Recommended: Agencies or persons responsible for realization of recommendations

7. Performance Measures
Performance measures are effective ways to evaluate progress and the effectiveness of the implementation of recommendations. Measures should at least include:

- Walking and bicycling mode share (% of trips done by walking or bicycling)
- Regular bicycling and walking counts and reporting at several high profile locations
- Health indicators; crash and safety figures
Next Steps

• Review of local AT and General Plans to determine which communities need a plan or an updated plan
• Begin outreach to these communities
• Direct local communities toward funding mechanisms
Questions?

Scott Hess
Active Transportation Planner
shess@wfrc.org
801-643-3337

If you have questions about how to start or where to look for planning and funding assistance, please refer to the following contacts:

| Communities in Salt Lake, Davis, Weber, Tooele, Morgan, and Box Elder Counties | Scott Hess, Wasatch Front Regional Council (WFRC) Active Transportation Planner [shess@wfrc.org] |
| Communities in Utah, Wasatch, and Summit Counties | Jim Price, Mountainland Association of Governments (MAG) Active Transportation Project Manager [jprice@mountainland.org] |
| All Other Utah Communities | Heidi Goedhart, UDOT Active Transportation Manager [hgoedhart@utah.gov] or Phil Sarnoff, Bike Utah Executive Director [phil@bikeutah.org] |
UDOT AUTOMATED TRAFFIC SIGNAL PERFORMANCE MEASURES

Mark Taylor, P.E., PTOE
Utah Department of Transportation
Traffic Signal Operations Engineer
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Opportunity from UDOT Executive Leaders (2011)

“What would it take for UDOT’s traffic signals to be world class?”

“What’s the trend – are signal operations improving, staying the same or getting worse?”

“What are our areas of most need?”

Quality Improvement Team
Automated Traffic Signal Performance Measures (ATSPM) Basic Concept

Automated Data Collection
- Signal controller
- Probe source

Useful Information about Performance
- Signal
- Corridor
- System

Why Model what you can Measure?
Traffic Signals in Utah

2218 Traffic Signals

- Partner Agencies: 42%
- UDOT: 58%

83% Connected

- Partner Agencies: 31%
- UDOT: 52%
UDOT’s ATSPM Website: http://udottraffic.utah.gov/ATSPM
Various Performance Measures for Intersections

- Percent of Vehicles Arriving on Green and Red
- Measuring the amount of green time used at the intersection
- Pedestrian delay (pushbutton pressed to start of “walk” interval)
- Number of pedestrian activations crossing the traffic signal
- Number of queues of vehicles not clearing during green
Various Performance Measures for Intersections

• Average and 85\textsuperscript{th} Percentile Speeds of Vehicles
• Traffic Volumes (left, through, right) at intersections
• Yellow & Red Actuations into the Intersection
• Corridor & system wide trends (still developing)
2013 Purdue Coordination Diagrams

- Foothill Boulevard
- Sunnyside Avenue
- Corridor Midday Arrival on Green

Initial Percent Arrival on Green
Increase in Percent Arrival on Green
Decrease in Percent Arrival on Green

2013 Purdue Coordination Diagrams
2015
Purdue Link Pivot

Initial Percent Arrival on Green
Increase in Percent Arrival on Green
 Decrease in Percent Arrival on Green
Pedestrian Delay

West Leg of Intersection: 500 South & Guardsman Way – Tuesday June 13, 2017
Pedestrian Delay

North Leg of Intersection: 8890 South (Newcastle) & Highland—Tuesday June 13, 2017

Ped Actuations (PA) = 20; Min Delay = 00:00; Max Delay = 01:39; Average Delay (AD) = 00:29
Active Transportation
Turning Movement Counts

US-89 Main Street (American Fork) SIG#6023
Tuesday, October 22, 2013 12:00 AM - Tuesday, October 22, 2013 11:59 PM

Eastbound Thru

TV: 8076 PH: 5:00 PM - 6:00 PM PHV: 757 VPH
PHF: 0.95 fLU: 0.74

Volume (VPH)

Time of Day

Total Volume  Lane 1  Lane 2  Thru Right

Metric: Turning Movement Counts
Detection Requirements: Stop Bar Counters
Metric: Approach Volume

![Graph showing volume over time for Northbound and Southbound traffic, including Northbound D-Factor and Southbound D-Factor.](image)
Yellow & Red Actuations

Wednesday, June 14, 2017 - 5600 West at 2700 South – Westbound Through
Monitoring Trends (In Development)
(Riverdale Rd – 11 intersections)

Percent of Vehicles Arriving on Green - Riverdale Rd
10:00 AM to 2:00 PM Monday through Friday

Retiming Project
Real-Time Monitoring of Traffic Signals

• Benefits to Local Governments & UDOT
  • Improved Signal Operations
  • Improved Safety at Signals
  • Daily notifications with detection (vehicle & pedestrians) malfunctions
  • Measured Data for Better Planning (vehicles and pedestrians)
  • Better Reporting to Others

• Salt Lake County Traffic Signal Project (WFRC) – $2.5 M
  • 85 intersections getting vehicle detection and other upgrades for improved performance measure monitoring.
UDOT Signal Timing Focus Group (July 2014)

- How do you feel about UDOT?
- How do traffic signals make you feel?
Focus Group Key Findings (July 2014)

• UDOT is perceived positively, with innovation as the primary driver of positive impressions.

• Drivers believe traffic signal synchronization is improving.

• Drivers feel UDOT should be open about its accomplishments in a way that protects its credibility.