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Robert Grow
Envision Utah

Evan Curtis
State Planning Coordinator

Andrew Gruber
Executive Director

May 10, 2018

Members of the Regional Growth Committee and Other Interested Persons:

A meeting of the Regional Growth Committee will be held on **Thursday, May 17, 2018 at 9:30 a.m. in the Wasatch Front Regional Council offices located at 295 North Jimmy Doolittle Road, in Salt Lake City.** The agenda will be as follows:

Welcome and Introductions

1. **Action:** Minutes from the March 15, 2018 meeting
2. **Opportunity for Public Comment**
3. **Chair Report**
4. **Action:** Endorse Wasatch Choice 2050 Vision
5. Access to Opportunity: Informing Transportation Project Decisions
6. Point of the Mountain Commission update
7. **Action:** RTP 2015-2040 Amendment #6 - release for public comment
8. **Other Business**

Next Meeting: August 16, 2018

Note: Informational materials can be located on WFRC's website at www.wfrc.org

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Minutes
Regional Growth Committee
Meeting of March 15, 2018

A meeting of the Regional Growth Committee was held on Thursday, March 15, 2018 in the offices of the Wasatch Front Regional Council, 295 North Jimmy Doolittle Road, Salt Lake City, Utah.

Welcome and Introductions [Recording 00:00]

Councilmember Tina Cannon, Morgan County, chaired the meeting on behalf of Mayor Ben McAdams. She called the meeting to order at 9:32 a.m. Councilmember Cannon welcomed committee members and guests, and introductions were made. The following were in attendance:

RGC Members and Alternates Present

IN ATTENDANCE	2018 RGC MEMBERS
	BOX ELDER COUNTY
	Member: Jeff Scott (Box Elder)
	Alternate: Kenneth Braegger (Willard)
	DAVIS COUNTY
	WFRC Appointments
x	Member: Len Arave (North Salt Lake)
x	Alternate: Mike Gailey (Syracuse)
	COG Appointments
x	Member: Jim Talbot (Farmington)
x	Member: Katie Witt (Kaysville)
	MORGAN COUNTY
	COG Appointments
	Member: John Barber (<i>Vice-chair</i>) (Morgan County)
x	Alternate: Tina Cannon (Morgan County)
	SALT LAKE COUNTY
	WFRC Appointments
	Member: Ben McAdams (<i>Chair</i>) (Salt Lake County)
x	Alternate: Ron Bigelow (West Valley City)
	COG Appointments
	Member: Dawn Ramsey (South Jordan)
x	Member: Aimee Winder Newton (Salt Lake County)
x	Member: Jim Riding (West Jordan)
	Alternate: Jackie Biskupski (Salt Lake City)
	Alternate: Cherie Wood (South Salt Lake)
	Alternate: Troy Walker (Draper)
x	Alternate: Kurt Bradburn (Sandy)
	TOOELE COUNTY
	COG Appointments
x	Member: Wade Bitner (Tooele County)
	Alternate: Dave McCall (Tooele City)
	WEBER COUNTY
	WFRC Appointments
	Member: Mark Allen (Washington Terrace)
x	Alternate: Norm Searle (Riverdale)
	COG Appointments
x	Member: Jim Harvey (Weber County)
x	Alternate: Robert Dandoy (Roy)
	OTHER APPOINTMENTS
	Utah Transportation Commission
	Member: Meghan Holbrook
	Alternate: Dannie McConkie
	UTA Board
	Member: Charles Henderson
	Alternate: Necia Christensen
	Utah Air Quality Board
	Member: Erin Mendenhall
	Envision Utah
	Member: Robert Grow
x	Alternate: Ari Bruening
	NON-VOTING MEMBERS
	UDOT Representative
	Member: Nathan Lee
x	Alternate: Jeff Harris
	UTA Representative
x	Member: Laura Hanson
	Alternate: GJ LaBonty
	Air Quality Board, DAQ Staff Representative
	Member: Bryce Bird
	FHWA - UTAH Division Representative
	Member: Ivan Marrero
	Alternate: Steve Call
	Utah League of Cities & Towns Rep
x	Member: Gary Uresk

	Utah Association of Counties Representative
	Member: Wilf Sommerkorn (Salt Lake County)
	Mountainland Association of Governments
	Member: Steve Leifson (Spanish Fork)
	WFRC Appointments from other organizations:
	Member: Christine Richman (Utah Urban Land Institute)
	Member: Evan Curtis (GOMB)
	Member: Abby Osborne (Utah Transportation Coalition)
x	Member: Reid Ewing (University of Utah)

RGC Representatives and Others Present

Julie Bjornstad	WFRC
Carlton Christensen	Salt Lake County
LaNiece Davenport	WFRC
Bergen Eskildsen	WFRC
Evelyn Everton	Sandy City
Russ Fox	Draper City
Katie Gerard	WFRC
Jared Gerber	Sandy City
Bert Granberg	WFRC
Andrew Gruber	WFRC
Ned Hacker	WFRC
Scott Hess	WFRC
Jory Johner	WFRC
Linda Johnson	Breathe Utah
Sam Klemm	Salt Lake County
Ted Knowlton	WFRC
Heather McLaughlin-Kolb	WFRC
Jim McNulty	Murray City
Callie New	WFRC
Melinda Seager	South Jordan City
Glade Sowards	UDAQ
Megan Townsend	WFRC
Russell Robertson	FHWA
Russell Weeks	SLC Council
Will Wright	Clinton City

Action: Approval of Minutes [Recording 05:40]

Councilmember Cannon entertained a motion to approve the minutes of the Regional Growth Committee meeting held January 18, 2018. Mayor Mike Gailey, Syracuse, motioned to approve these minutes, and it was seconded by Mayor Len Arave, North Salt Lake. The minutes were unanimously approved.

Opportunity for Public Comment [Recording 04:38]

Linda Johnson, Breathe Utah, commented on a newspaper article that discussed the developments of highways in Salt Lake City. She shared her thoughts on this with the committee.

Chair Report [Recording 05:30]

Councilmember Cannon said that there have been several relevant changes for local government in the new US Tax Bill. She turned the time over to Callie New, Wasatch Front Regional Council, to provide the committee with an update.

Ms. New discussed the new Opportunity Zones Program. This is a program that was established from the tax cuts and jobs active 2017 under the Trump Administration. It established a new economic development program called Opportunity Zones which has been designed to encourage long-term, private investment in low-income communities. This program uses low-income community census tracks as a principal basis for determining areas for eligibility for opportunity funds. She explained that opportunity funds are private investment vehicles for angel investors or private equity funds, etc. to channel their capital in the form of unrealized capital gains in opportunity zones. Opportunity zones are designated by the Governor, and the state has until March 31, 2018 to designate up to 25% of Utah's low-income census tracks into opportunity zones. She commented that the state is requesting an extension for that deadline, to be moved to April 22, 2018. Ms. New said that it is expected that the state will receive the extension, and that WFRC has been working with cities and counties to designate 25% of their tracks within the county to be nominated for opportunity zones and to be considered by the Governor for designation. Those nominations should come to WFRC by April 2,

2018. Lastly, she explained that there are 181 eligible census tracts in the state of Utah, 98 of which are in the WFRC AOG area, and that there are 20 communities who can utilize the program.

There was a short discussion held among the committee.

Information/Discussion: Legislative Session Wrap Up [Recording 09:40]

LaNiece Davenport, WFRC, explained that this year was another big year for transportation during the legislative session, mainly due to the passing of Senate Bill 136. This is a significant, positive step forward for the future of our region and state. SB136 authorizes funding for transit and local needs, and enhances the coordination of transportation, land use, and economic development.

Some key highlights of this bill include:

- UTA governance: renames UTA to “Transit District of Utah” and changes the UTA Board from 16 part-time members to three full-time members (nominated by counties, appointed by the Governor, and confirmed by the Senate), and creates a nine-member local advisory board.
- Requiring UDOT to have two (rather than one) Deputy Directors: a deputy director of engineering and operations, and a deputy director of planning and investment (whose responsibilities will include coordinating with MPOs and local governments, corridor and area planning, asset management, programming and prioritizing projects.)
- Creates a Planning and Investment Division within UDOT with responsibility for:
 - Creating and managing an intermodal terminal facility.
 - Promoting development of an intermodal inland port.
 - Overseeing public-private partnerships.
- Requires UDOT to implement a road usage charge mileage-based revenue system demonstration program, including full implementation of such a program for alternative fuel vehicles by January 1, 2020. Owners of AV vehicles who participate in the program will be exempted from increased vehicle registration fees.
- Requires Transportation Commission to determine priorities and funding levels of projects in the state transportation systems and capital development of new public transit facilities.
- Creates new fund with UDOT for statewide transit capital projects. The Legislature may appropriate revenue into the fund. Also, beginning July 1, 2019, state sales taxes will be transferred into the Transit Transportation Investment Fund (TTIF) in an amount equal to 35% of the revenue generated from motor fuel taxes above 29.4 cents per gallon. This is estimated to generate approximately \$5M in FY2019, and with the indexing of motor fuel taxes to CPI under current law, grow over time.
- Creates a 13-member Transportation and Tax Review Task Force. Membership includes:
 - 4 members of the Senate, with 1 member from the minority party, appointed by Senate President
 - 6 members of the House, with 1 member from the minority party, appointed by the House Speaker
 - 3 members of the Executive Branch appointed by the Governor

Ms. Davenport discussed Senate Bill 71 which is one approach to Utah’s ongoing issues related to population growth within a limited geography and the pressures this places on our transportation infrastructure and limited funds for transportation. This also allows UDOT to toll existing, new or expanding roads with approval from Utah’s Transportation Commission.

Lastly, she discussed House Joint Resolution 20. This is a result of the Legislature and Our Schools Now coming together to increase revenue for our public education system and local roads. The resolution directs the Lieutenant Governor to present an opinion question to voters at the 2018 regular general election on November 6, 2018, to see if voters support a 10-cents per gallon tax increase. The tax would generate approximately \$170M in the first year, an estimated \$48 per year for the average driver.

There was discussion held among the committee regarding these bills.

Councilmember Cannon thanked Ms. Davenport for her Legislative update emails that were sent out weekly.

Information/Discussion: Wasatch Choice 2050: Addressing Disruptions and Uncertainties [Recording 47:56]

Julie Bjornstad, WFRC, reminded the committee that with our partners, we took the draft preferred scenario to the communities through ten vision workshops that were held over the last six weeks. At these workshops, we discussed the growth that this region is expected to have over the next 30 years, and we also presented on how the region is currently performing based on our goals, and what we might expect the future to look like if we keep on the same path as we are today.

The purpose of these meetings is to refine the vision based on comments that we received, allow for another review by your planners in April, and ultimately adopt the preferred scenario in May. She commented that we are working towards phasing the preferred scenario and are working with UDOT and UTA in finalizing those criteria and reviewing data.

There are a lot of emerging trends and technologies that may have a big impact on the way our communities grow, our urban design and land use, and how we travel. These trends include:

- Decline of brick-and-mortar retail
- Decline of retail
- Sharing economy
- Electric vehicles and e-bikes
- Connected and autonomous vehicles

Ms. Bjornstad explained that we are exploring what technologies may impact our transportation networks and what the range of the impact might be. We are also exploring how trip generation, mode choice, and land use might change, and how our analytical tools, like our travel demand model, may react to those changes. She commented that we are beginning to reach out to our partners to help us assess the impacts of disruptive technologies and what this means for the projects that are in our plan. She said that we need to remain flexible because there are so many possible ways that changing technology could affect Utah's long-term transportation needs.

There was discussion held among the committee on how these trends may affect the communities.

Information/Discussion: Transportation and Land Use Connection 2018 Project Awards [Recording 1:12:20]

Megan Townsend, Wasatch Front Regional Council, shared that this is an exciting time of year for the Transportation and Land Use Connection (TLC) program, as we are announcing the 2018 awards. The TLC is a partnership between UDOT, UTA, Salt Lake County, and WFRC. This program supports local governments in their planning efforts, implementing the Wasatch Choice Vision. She stated that the program goals include:

- Maximizing the value of investment in public infrastructure.
- Enhancing access to opportunity.
- Increasing travel options to optimize mobility.
- Creating communities with opportunities to live, work, and play.

Ms. Townsend explained that this year, \$904,922 TLC funds were awarded, with a local match of \$281,525. A total of 13 awards were given this year; seven in the Salt Lake Urbanized Area, five in the Ogden/Layton Urbanized Area, one in Tooele County, with three of these projects being multi-jurisdictional. These awards include:

- City Wide Projects
 - Salt Lake City Street Typologies plan
 - \$120,000 Budget
 - Roy City General Plan and Ordinance Update

- \$130,000 Budget
 - Grantsville City General Plan Update
 - \$72,000 Budget
- Center Plans
 - Millcreek Town Center Plan
 - \$70,000 Budget
 - West Jordan Center Station Area Plan
 - \$100,000 Budget
 - Woods Cross Station Area Plan
 - \$85,000 Budget
 - Ogden Railyard Master Plan Study
 - \$30,000 Budget
- Active Transportation & Trails Plans
 - South Jordan + West Jordan Active Transportation Plan
 - \$97,447 Budget
 - Holladay Canal Trails Study
 - \$75,000 Budget
 - West Valley Active Transportation Plan
 - \$100,000 Budget
 - Plain City Transportation and Trails Master Plan
 - \$15,000 + TLC Technical Assistance
 - South Davis (North Salt Lake, Centerville, Bountiful) Active Transportation Plan
 - \$112,000 Budget
- Region-Wide Plan
 - Salt Lake County + Jordan River Commission Blueprint Jordan River Plan Update
 - \$180,000 Budget

Information/Discussion: Active Transportation in the Wasatch Front: Key 2018 Activities [Recording 1:20:57]

Scott Hess, WFRC, discussed what Gil Penalosa, founder of the non-profit, 80 cities, presented on during the Bike Summit, and that is preparing and planning for the most vulnerable citizens in your community. This includes those who are eight years old, and those that are 80. If you can facilitate those age groups to get around your community effectively, you make the community better for everyone. Mr. Hess reminded the committee of the 2018 Active Transportation Goals:

1. Update shared Regional Priority Bicycle Routes Plan/Map
2. Cities and counties adopt Local Active Transportation Plans
3. Fund and construct priority projects
4. Build support for AT through effective engagement and outreach

There was discussion on each one of these goals.

Mr. Hess invited the committee to attend the upcoming Golden Spoke event on Saturday, June 2, 2018 to celebrate the completion of over 100 miles of connected pathways from Weber County to Utah County. More information on the event will be forthcoming

Other Business [Recording 1:35:18]

Utah State law requires that elected officials serving on committees such as those of the Regional Growth Committee receive training regarding the Utah Open and Public Meetings Act. An 11-minute training video was presented.

Councilmember Cannon entertained a motion to adjourn the meeting after the Utah Open and Public Meetings Act video is complete. Reid Ewing, University of Utah, motioned to adjourn the meeting, and this was seconded by Commissioner Bitner, Tooele County. The meeting was adjourned.

The next meeting of the Regional Growth Committee will be held on Thursday, May 17, 2018 at 9:30 a.m.

A recording of this meeting may be found on the WFRC website at, under Committees, Regional Growth Committee, 2018 meetings.

DATE: May 10, 2018
AGENDA ITEM: 4
SUBJECT: **Action:** Endorse the Wasatch Choice 2050 Vision
PREPARED BY: Ted Knowlton

On May 17th, the Regional Growth Committee will be asked to recommend endorsement to the Council of the Wasatch Choice 2050 Vision.

BACKGROUND:

Wasatch Choice 2050 (WC2050) provides a coordinated, long-range plan for regional transportation that dovetails with local visions for growth and economic development.

The Vision has been developed in collaboration with member communities and transportation partners over more than two years of open process. Most recently communities refined the draft Vision map through vision workshops and via consultation with RGC Technical Advisory Committees. All told, the Vision has been built through extensive engagement with local governments, stakeholders and the public.

The Wasatch Choice 2050 Vision is the foundation for the 2019-2050 Regional Transportation Plan (RTP), the 2019 Comprehensive Economic Development Strategy (CEDS), and will be considered for local land use and economic development implementation. Before we all turn our attention to preparation of the details of the RTP and CEDS we are looking for an endorsement from RGC and the Council of the Wasatch Choice 2050 Vision.

Here are the components of the Wasatch Choice 2050 Vision:

- A) 10 [Regional Goals](#) (previously adopted by WFRC)
- B) Vision Map, which articulates regional transportation, regional land use, and regional open space and how they work together.
- C) Key Strategies, which articulate the overarching strategies represented in the map and which help achieve the regional goals. The Key Strategies are:
 - 1. Provide Transportation Choices
 - 2. Support Housing Options
 - 3. Preserve Open Space
 - 4. Link Economic Development with Transportation and Housing Decisions

At the RGC meeting, the committee will discuss the Wasatch Choice 2050 Vision.

RECOMMENDATION:

Suggested Motion: I move that the RGC recommend to the WFRC Council endorsement of the Wasatch Choice 2050 Vision.

CONTACT PERSON:

Ted Knowlton, 801-363-4250 x1201, ted@wfr.org

DATE: May 10, 2018
AGENDA ITEM: 5
SUBJECT: Access to Opportunity: Informing Transportation Project Decisions
PREPARED BY: Julie Bjornstad

The WFRC Council adopted new regional goals in October 2016. One of the 10 goals is “access to economic and educational opportunities” (or ATO for short). ATO - the number of destinations people can get to within a reasonable time window – can be improved either by how land is developed as well as by the speed and location of transportation infrastructure. At the May RGC meeting, RGC will discuss the efforts WFRC is taking to ensure ATO is being applied to individual project decisions, including project phasing in the Regional Transportation Plan, and the programming of transportation funds. There are a number of initiatives in which ATO is being discussed as a potential measure to inform decision-making. UDOT will highlight its recent research initiative that also explores ways to quantify ATO across transportation modes.

BACKGROUND:

Access to Opportunity measures potential transportation plans and projects to see how well they advance the fundamental purpose of transportation – the ability to help people easily interact economically and socially. In using ATO, WFRC looks at both residents’ access to jobs (as in “how many jobs and educational opportunities can a resident access within 30 minutes?”) and firms’ access to workforce/ patrons (as in “how many workers or customers can a business access within 30 minutes?”).

In previous RGC meetings, RGC discussed the concept of ATO and also looked at how it might be applied to vulnerable communities.

“Access to Opportunity” can be improved either by transportation infrastructure (like a new bus route, new or reduced congestion) or by land development (like locating jobs, education, and services nearer existing homes). ATO is holistic because it measures the ability to interact and can be affected with a broad variety of strategies.

In addition to being an adopted WFRC goal, ATO is being utilized by all of Utah’s regional and state transportation agencies for long-range transportation planning as part of Utah’s Unified Transportation Plan.

At the RGC meeting, the committee will discuss the use of ATO in decision making. UDOT will highlight its recent research initiative that also explores ways to quantify ATO across transportation modes.

RECOMMENDATION:

This item is for discussion and no action is required.

CONTACT PERSON:

Julie Bjornstad, 801-363-4250 x1105, julieb@wfrc.org

DATE: May 10, 2018
AGENDA ITEM: 6
SUBJECT: Point of the Mountain Commission update
PREPARED BY: Alex Roy

The Point of the Mountain Development Commission released their regional vision that consisted of 12 signature elements. Envision Utah, the lead consultant for the Commission, will offer an overview of the project at the RGC meeting. The transportation agencies have been coordinating with the Commission throughout the process and considering how to include the transportation vision in the long-range planning process. A brief update on the ongoing transportation agency process will also be provided.

BACKGROUND:

The Point of the Mountain area, extending from Sandy to Lehi, is well situated to become an economic powerhouse for a growing high-tech economy. Already home to many high-tech firms, the area is located midway between the University of Utah and Brigham Young University.

Much of this potential exists even with the Utah State Prison in place, but the anticipated relocation of the prison opens land that could be used to catalyze the growth of the entire area. The value of the prison site is largely dependent on the economic success of the entire surrounding area, and the economic success of the surrounding area is dependent on a forward-looking plan for the prison site.

In 2016, the Utah State Legislature formed the Point of the Mountain Commission to oversee development of a multi-agency Vision for growth, infrastructure, and economic development. Envision Utah was selected by the Commission to facilitate the process. The Commission and the Vision are unique in approach for the State of Utah and the implications are very significant for the metropolitan area's overall quality of life.

<https://pointofthemountainfuture.org/>

RECOMMENDATION:

This item is for information only and no action is required.

CONTACT PERSON:

Alex Roy, 801-363-4250 x1126, aroy@wfrc.org

DATE: May 10, 2018
AGENDA ITEM: 7
SUBJECT: **Action:** 2015-2040 RTP Amendment #6 - release for public comment
PREPARED BY: Jory Johner

At the Regional Growth Committee (RGC) meeting, the Wasatch Front Regional Council (WFRC) staff will present proposed Amendment Number 6 to the current 2015-2040 Regional Transportation Plan (2015 RTP). The projects within this amendment were presented to their respective Technical Advisory Committees and will be presented to the Salt Lake and Weber County Councils of Governments. At the May 17, 2018 meeting, the RGC will be asked to release Amendment 6 for a 30-day public comment period.

BACKGROUND:

Every four years the WFRC prepares and adopts a regional transportation plan (RTP). The WFRC adopted the current 2015-2040 RTP in May 2015. While the RTP receives considerable review before being formally adopted, the identification of new funding sources, the determination of the final environmental impact statements, or the rapid development of certain projects may warrant a change to the RTP. A process has been reviewed by the RGC and formally adopted by WFRC to consider periodic revisions and amendments to the RTP and this process was last updated in March 2016.

At the August 2017 RGC meeting, the RGC explored additional information to help inform decisions on RTP amendments. A number of technical considerations have been developed to assist RGC members in making a determination on each amendment project. These technical considerations will be part of the review and screening for each project and the results will be presented to the RGC.

Recently, the WFRC received a total of six requests, one each from UDOT, West Valley City and Kearns, Bluffdale City, Salt Lake City, Hooper City, and Plain City. The UDOT project will utilize Transportation Improvement Funds (TIF), while the other five projects will rely on potentially receiving WFRC-administered Surface Transportation Program (STP) funds, local money, grant revenues, and funding from other partners. Two of the six projects are designed to help improve capacity and all six projects are requested to be placed in Phase 1 of the 2015 RTP.

PROCESS:

The WFRC staff has discussed each of the six amendment requests with their respective sponsors, analyzed the scope of the project, potential technical considerations, and financial implications of these projects. The technical considerations include safety, vehicle hours traveled and connectivity, project readiness, support for existing clusters and future Wasatch Choice 2050 Centers, access to opportunity, multimodal considerations, impact or benefits to vulnerable communities, and air quality. Staff has determined that the RTP is able to maintain its overall fiscal constraint while accommodating potential construction of these projects in Phase 1.

A formal 30-day public review and comment period for these projects will take place from June 30 through August 4, 2018, in coordination with the public review period for WFRC's Transportation Improvement Program (TIP). The WFRC staff presented these amendments to both the RGC's Ogden-Layton Technical Advisory Committee and the Salt Lake County PlanTAC on April 18, 2018. Both RGC TACs recommended these projects to be released for public comment. The RGC will review all comments during its meeting scheduled for August

16, 2018 and will make a final recommendation to the WFRC for approval on August 23, 2018.

RECOMMENDATION:

The WFRC staff recommends the Regional Growth Committee release all projects in Amendment 6, along with the Draft Air Quality Memorandum 38, for public review and comment.

Suggested motion language: I make a motion to release for public comment the proposed 2015-2040 RTP Amendments and the air quality conformity determination as found in Draft Air Quality Memorandum 38 as presented.

CONTACT PERSON:

Jory Johner, 801-363-4250 x1110 or jjohner@wfr.org

ATTACHMENT:

Amendment Number 6 Project Overviews
Draft Air Quality Memorandum 38

AMENDMENT NUMBER 6 PROJECT OVERVIEWS

UTAH DEPARTMENT OF TRANSPORTATION

Cost: \$135 Million

1. Widening on I-15

This request is for the widening of one additional lane northbound on I-15 from Bangerter Highway to I-215. This additional lane is needed to ensure the safe movement of autos as they change lanes along I-15. The additional lane is also part of the planned I-15 connector / distributor system. This I-15 improvement project is funded through the Transportation Investment Fund (TIF) and is a new Phase 1 project.

WEST VALLEY CITY AND KEARNS

Cost: \$15 Million

2. Widening of 4700 South

West Valley City is requesting an amendment to the 2015 RTP that would allow for the widening of 4700 South to five lanes from 4000 West to 5600 West. This project allows for capacity improvements for east / west traffic flow. The street profile would include two travel lanes in both directions with a center turn lane, uniform geometrics and horizontal geometry, a four-foot shoulder, and the addition of bicycles lanes. This project is multi-jurisdictional with possible funding provided by STP and local sources. This amendment would move this project from Phase 2 to Phase 1 in the RTP.

BLUFFDALE CITY

Cost: \$6.12 Million

3. Operational Improvements on 14600 South

This project calls for operational improvements on 14600 South from Redwood Road to Porter Rockwell Blvd. The amendment redefines the project from widening to operation improvements and the new construction of a roadway segment near Redwood Road. This major collector connects Redwood Road to I-15 at the 14600 South interchange. In addition to operational improvements, such as a center turn lanes and upgrades to existing roadway geometrics, this project also includes bicycle and pedestrian elements. It will help link communities with recreational trails, such as the Jordan River Parkway. This amendment modifies the scope of a project and moves an unfunded project to Phase 1 with possible funding sources from Salt Lake County corridor preservation money, STP, and local funds.

SALT LAKE CITY

Cost: \$21.3 Million

4. New Construction of the 700 South and a new Railroad Bridge

Salt Lake City is requesting an amendment that will allow for the new construction of 700 South from 5600 West to approximately 5300 West. This project also includes an upgrade to the existing Union Pacific railroad bridge on 700 South near 4800 West. The new bridge will improve safety for autos and trains. The realignment of 700 South will move the intersection approximately 400 feet to the north, which will improve sight lines and safety. Funding sources include possible Union Pacific money, Salt Lake City funds, Salt Lake County funds, or other grants. This Phase 1 project is new to the RTP.

HOOPER CITY

Cost: \$3.9 Million

5. Operation Improvements on 5500 West

This proposed amendment calls for operational improvements on 5500 West from 3500 South to 5500 South, along with a functional classification change to a major collector.

The widening of a narrow two-lane roadway will include 12-foot lanes, paved shoulders, curb, gutter and sidewalk, and will address near and future traffic and safety concerns in a growing community. Potential funding sources include STP and local money. This is a new Phase 1 RTP project.

PLAIN CITY

Cost: \$7.4 Million

6. Operation Improvements on 2800 North / North Plain City Road

A request to amend the RTP from Plain City is asking for operational improvements on 2800 North and North Plain City Road from 4200 West to SR-126. Also requested is a change in functional classification to a Minor Collector. This project will provide for increased safety with the addition of a shoulder and the reconfiguration of the street cross-section. The project is being developed in close cooperation with Farr West City. Funding for these improvements includes possible STP and local sources. This Phase 1 project is new to the RTP.

Air Quality Memorandum

REPORT NO. 38 - DRAFT

DATE April 10, 2018

SUBJECT CONFORMITY ANALYSIS FOR AMENDMENT #6 OF THE WFRC 2015-2040 REGIONAL TRANSPORTATION PLAN.

ABSTRACT The FAST Act and the Clean Air Act Amendments (CAAA) require that all regionally significant highway and transit projects in air quality non-attainment and maintenance areas be derived from a “conforming” Regional Transportation Plan and Transportation Improvement Program. A conforming Plan or Program is one that has been analyzed for emissions of controlled air pollutants and found to be within emission limits established in the State Implementation Plan (SIP) or within guidelines established by the Environmental Protection Agency (EPA) until such time that a SIP is approved. This conformity analysis is made by the Wasatch Front Regional Council (WFRC), as the Metropolitan Planning Organization for the Salt Lake- West Valley and Ogden-Layton Urbanized Areas, and submitted to the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) for their concurrence. This conformity analysis is being prepared according to the transportation conformity rulemakings promulgated by the EPA as of March 2010 and according to FHWA final rulemakings found in the FAST legislation. The EPA approved MOVES model for estimating vehicle emissions was used for this conformity analysis.

This conformity analysis addresses the emissions impact of the November 2017 amendments to 2015-2040 RTP which are described in detail in Appendix 4. The projected vehicle activity is based on Version 8.1 of the WFRC travel demand model and the 2012 Household Travel Survey of trip making activity. For a detailed description of projects included in the 2040 RTP, see http://www.wfrc.org/new_wfrc/index.php/projects/project-lists and select the link for “Highway Projects List” or “Transit Projects List”. Refer to Appendices 2 and 3 of this document for projects in Box Elder and Tooele Counties.

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Based on the analysis presented in this document, the amended WFRC 2015-2040 RTP conforms to the State Implementation Plan or the Environmental Protection Agency interim conformity guidelines for all pollutants in applicable non-attainment or maintenance areas. Therefore, all transportation projects in Box Elder, Weber, Davis, Salt Lake, and Tooele Counties included in the amended 2015-2040 RTP are found to conform.

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A. Conformity Requirements

Conformity Process

Since the commencement of the federal transportation planning requirements in the late 1960s, further requirements (most recently the 2015 Fixing America’s Surface Transportation Act (FAST) and the 1990 Clean Air Act Amendments) have added to the responsibilities and the decision making powers of local governments through the Metropolitan Planning Organization. The Wasatch Front Regional Council (WFRC) is the Metropolitan Planning Organization for the Salt Lake/West Valley and Ogden / Layton Urbanized Areas. This report summarizes WFRC’s conformity analysis of the 2015-2040 RTP with the Division of Air Quality’s State Implementation Plan (SIP) and the Environmental Protection Agency’s interim conformity guidelines. This conformity analysis is subject to public and agency review, and requires the concurrence of the Federal Highway Administration and Federal Transit Administration.

In November, 1993, the Environmental Protection Agency and the U.S. Department of Transportation issued rules establishing the procedures to be used to show that transportation plans and programs conform to the SIP. The conformity rules establish that federal funds may not be used for transportation projects that add capacity in areas designated as “non-attainment (or maintenance) with respect to the National Ambient Air Quality Standards”, until and unless a regional emissions analysis of the Plan and TIP demonstrates that the projects conform to the SIP. This restriction also applies to “regionally significant” transportation projects sponsored by recipients of federal funds even if the regionally significant transportation project uses local funds exclusively.

Davis and Salt Lake Counties, Salt Lake City, Ogden City and portions of Weber, Box Elder and Tooele Counties are designated as non-attainment (or maintenance) for one or more air pollutants. Specifically, there are four areas in the Wasatch Front region for which the conformity rules apply. These areas are listed in Table 1 below.

**Table 1
Wasatch Front Region Non-attainment Designations**

Area	Designation	Pollutant
Salt Lake City	Maintenance Area	Carbon Monoxide (CO)
Ogden City	Maintenance Area	Carbon Monoxide (CO)
	Moderate Non-Attainment Area	Particulate Matter (PM ₁₀)
Salt Lake County	Moderate Non-Attainment Area	Particulate Matter (PM ₁₀)
Salt Lake (including Davis, Salt Lake, and portions of Weber, Box Elder, and Tooele Counties)	Serious Non-Attainment Area	Particulate Matter (PM _{2.5})

The CAAA established requirements for conformity. These requirements are outlined in 40 CFR 93.109 and include the following:

- Latest planning assumptions
- Transportation Control Measures (TCM)
- Emissions budget
- Project from a conforming plan and TIP
- PM₁₀ control measures
- Latest emissions model
- Consultation
- Currently conforming plan and TIP
- CO and PM₁₀ “hot spots”

Each of these requirements will be discussed in the following paragraphs.

Latest Planning Assumptions

Current travel models are based on socioeconomic data and forecasts from local building permits, the Utah Division of Workforce Services, and the Governor’s Office of Management and Budget (GOMB). Base year socioeconomic data are for calendar year 2011. Forecasts of population and employment by traffic analysis zone were developed by WFRC in 2013 and are controlled to county-level forecasts published by GOMB in October, 2012.

Latest Emissions Model

The conformity analysis presented in this document is based on EPA mobile source emissions models: MOVES2014a for tailpipe emissions and AP-42 section 13.2.1 for paved road dust emissions. The application of these models will be discussed in greater detail in the Emissions Model section of this document.

Consultation Process

Section 105 of 40 CFR Part 93 (Conformity Rule) requires, among other things, interagency consultation in the development of conformity determinations. To satisfy this requirement, the State Division of Air Quality (DAQ) prepared a Conformity SIP to outline the consultation procedures to be used in air quality and transportation planning. The Conformity SIP also defines the membership of the Interagency Consultation Team (ICT) as representatives from DAQ, WFRC, Mountainland Association of Governments, Utah Department of Transportation, Utah Transit Authority, EPA, FHWA, and the FTA. The Conformity SIP has been approved by EPA. WFRC followed the consultation procedures as outlined in the Conformity SIP in the preparation of this conformity analysis. As part of the public involvement procedures referenced in the Conformity SIP, WFRC presented this report to the Regional Growth Committee for review and comment. The TransCom committee includes a member of the Utah Air Quality Board as well as representatives of UDOT, UTA, and FHWA. Management level staff members from the Utah Division of Air Quality are notified of meetings and agendas of the above committees. The Utah Division of Air Quality and other members of the ICT were also provided with a copy of this report during the public comment period for the 2015-2040 RTP.

This Conformity Analysis for the 2015-2040 RTP was made available for public inspection and comment for a 30-day period in accordance with EPA conformity regulations. This analysis was also posted on the WFRC website during the comment period. Notification of the comment period was sent by electronic mail to interested stakeholders. In addition, public comment was taken during various committee meetings of the Wasatch Front Regional Council.

TCM Implementation

A conformity analysis for the 2015-2040 RTP must certify that the RTP does not interfere with the implementation of any Transportation Control Measure (TCM) identified in the applicable State Implementation Plan (SIP). There is one TCM from the original SIP section for the 1-hour ozone standard which has been carried forward to the current ozone maintenance plan, even though the 1-hour ozone standard has been revoked. This TCM, the employer-based trip reduction program, applies to local, state, and federal government employers. The program emphasizes measures to reduce the drive-alone rate such as subsidized bus passes, carpooling, telecommuting, and flexible work schedules. UTA has in place the ECO pass discount for a number of large employers including the University of Utah and Weber State University. Ridesharing, telecommuting, and flexible work schedules are programs currently managed, promoted, or operated by UTA Rideshare and the UDOT Travelwise program. Congestion Mitigation and Air Quality (CMAQ) funds and other transportation funds are used to support these ongoing programs.

Emissions Budget

A comparison of mobile source emission estimates to emission budgets defined in the SIP is outlined in this document in Section D - Conformity Determination.

Currently Conforming Plan and TIP

The existing 2040 RTP for the Wasatch Front Area conforms to State air quality goals and objectives as noted in a letter from FHWA and FTA dated March 7, 2018. The existing 2018-2023 TIP for the Wasatch Front Area was also found to conform and this was noted in a letter from FHWA and FTA dated September 11, 2017.

Projects from a Conforming Plan and TIP

TIP Time Frame - All projects which must be started no later than 2023 in order to achieve the transportation system envisioned by the 2015-2040 RTP are included in the 2018-2023 TIP. The TIP is fiscally constrained, meaning that only those projects with an identified source of funds are included in the TIP. Estimated funding availability is based on current funding levels and reasonable assumptions that these funds will continue to be available. Conformity for the 2018-2023 TIP is addressed separately in Air Quality Memorandum 36a.

Regionally Significant

All regionally significant projects, regardless of funding source (federal, state, or local) are included in the RTP. All regionally significant projects are also included in the regional emissions analysis of the RTP. Regionally significant projects are identified as those projects functionally classified as a principal arterial or higher order facility, and certain minor arterials as identified through the interagency consultation process (see Appendix 1 for a complete definition of regionally significant projects). The latest Utah Department of Transportation Functional Classification map is used to identify functional classification. Interstate highways, freeways, expressways, principal arterials, certain minor arterials, light rail, and commuter rail are treated as regionally significant projects.

Because of their relative impact on air quality, all regionally significant projects regardless of funding source must be included in the regional emissions analysis, and any significant change in the

design or scope of a regionally significant project must also be reflected in the analysis. All regionally significant projects have been included in the regional emissions analysis, and the modeling parameters used for these projects are consistent with the design and scope of these projects as defined in the RTP. In order to improve the quality of the travel model, minor arterials and collectors, as well as local transit service, are also included in the regional travel model (and thus the regional emissions analysis) but these facilities are not considered regionally significant since they do not serve regional transportation needs as defined by EPA. For a list of projects included in this conformity analysis, see http://www.wfrc.org/new_wfrc/index.php/projects/project-lists and select the link for “Highway Projects List” or “Transit Projects List”. Refer to Appendices 2 and 3 of this document for projects in Box Elder and Tooele Counties.

CO, PM₁₀ and PM_{2.5} “Hot Spot” Analysis

In addition to the regional emissions conformity analysis presented in this document, specific projects within carbon monoxide (CO) and particulate matter (PM₁₀ and PM_{2.5}) non-attainment areas are required to prepare a “hot spot” analysis of emissions. The “hot spot” analysis serves to verify whether localized emissions from a specific project will meet air quality standards. This requirement is addressed during the NEPA phase of project development before FHWA or FTA can issue final project approval.

FHWA has issued guidance on quantitative PM₁₀ and PM_{2.5} “hot spot” analysis to be used for the NEPA process. This guidance can be found at:

<http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm>.

PM₁₀ Control Measures

Construction-related Fugitive Dust - Construction-related dust is not identified in the Utah SIP as a contributor to the PM₁₀ non-attainment area. Therefore, there is no conformity requirement for construction dust. Section 93.122(d) (1) of 40 CFR reads as follows:

“For areas in which the implementation plan does not identify construction-related fugitive PM₁₀ as a contributor to the non-attainment problem, the fugitive PM₁₀ emissions associated with highway and transit project construction are not required to be considered in the regional emissions analysis.”

In the Utah PM₁₀ SIP, construction-related PM₁₀ is not included in the inventory, nor is it included in the attainment demonstration or control strategies. Control of construction-related PM₁₀ emissions are mentioned in qualitative terms in Section IX.A.7 of the SIP as a maintenance measure to preserve attainment of the PM₁₀ standard achieved by application of the control strategies identified in the SIP. Section IX.A.7.d of the SIP requires UDOT and local planning agencies to cooperate and review all proposed construction projects for impacts on the PM₁₀ standard. This SIP requirement is satisfied through the Utah State Air Quality Rules. R307-309-4 requires that sponsors of any construction activity file a dust control plan with the State Division of Air Quality.

Other Conformity Requirements

Transit Fares - Transit fares have increased periodically and will continue to increase in response to rising operating costs. The RTP assumes that transit fare revenues will cover a constant percentage of all transit operating cost, so future fare increases are consistent with the Plan. With any price increase some market reaction is expected. While there have been some short term fluctuations in transit patronage in response to fare increases, the implementation of light rail service and other transit improvements has retained and increased transit patronage consistent with the levels anticipated by the RTP.

Plans to expand light rail service, to increase and enhance bus service, and to extend commuter rail operations are moving forward. These transit projects are envisioned in the Plan and the steps necessary to implement these projects are moving forward including various voter approved sales tax increases for transit funding.

B. Transportation Modeling

Improvement to the WFRC travel demand model practice and procedure is an ongoing process. This conformity analysis is based on the latest version (8.1) of the travel demand model. Version 8.1 of the travel demand model updates the former 2007 base year with socio-economic data and transportation networks for the new 2011 base year. The new model also incorporates the results of the 2012 Household Travel Survey conducted by WFRC. Version 8.1 of the model adds more traffic analysis zones, and the transit mode choice portion of the model has been enhanced. Details of Version 8.1 of the travel model are documented in a report titled “WFRC/MAG Version 8.1 Travel Demand Model Documentation” which is available upon request.

Planning Process

Federal funding for transportation improvements in urban areas requires that these improvements be developed through a comprehensive, coordinated, and continuous planning process involving all affected local governments and transportation planning agencies. The planning process is certified annually by the Regional Council and reported to the Federal Highway Administration and Federal Transit Administration. Every four years FHWA and FTA conduct a comprehensive certification review. The certification review of August 2013 found that the WFRC planning process meets federal requirements. Recommendations were made to improve WFRC’s planning process and these are being addressed.

The documentation of the planning process includes at a minimum, a twenty-year Regional Transportation Plan updated at least every four years; and a four-year Transportation Improvement Program (capital improvement program) updated and adopted at least every four years. The planning process includes the involvement of local elected officials, state agencies, and the general public.

Travel Characteristics

The WFRC travel model is used to estimate and forecast highway Vehicle Miles Traveled (VMT) and vehicle speeds for Weber, Davis, and Salt Lake Counties. A separate travel model is used to estimate VMT and speed in Tooele County. For VMT and speed estimates in Box Elder County, WFRC relied on forecasts provided by the Utah Department of Transportation. The WFRC travel demand model is based on the latest available planning assumptions and a computerized representation of the transportation network of highways and transit service. The base data for the travel demand model is reviewed regularly for accuracy and updates. The travel model files used for this conformity analysis are available upon request.

Shown below in Table 2 is a summary of weekday VMT for the cities and counties in designated non-attainment areas. Totals for VMT are given for various air quality analysis years from 2019 to 2040. Note that the VMT values for Box Elder and Tooele Counties are not for the entire county but only that portion of the county designated as non-attainment for a criteria pollutant.

Table 2

Vehicle Miles Traveled (HPMS Adjusted Average Winter Weekday)

	2019	2024	2034	2040
Salt Lake City	6,958,685	7,406,200	8,301,230	8,732,972
Ogden City	1,524,886	1,645,496	1,838,034	1,955,595
Salt Lake County	31,323,413	33,380,866	38,670,273	41,666,107
Davis County	8,109,488	8,841,503	9,872,390	10,401,947
Weber County	5,459,687	5,760,571	6,775,625	7,274,467
Box Elder County*	2,582,199	2,846,983	3,378,619	3,738,885
Tooele County*	2,336,172	2,621,722	3,379,647	4,158,310

**non-attainment portion of the county*

Peak and Off-Peak Trip Distribution

The modeled VMT and the modeled vehicle speed depend on the number of vehicle trips assigned for each time period (AM, midday, PM, and evening) defined in the travel demand model. The percentage of trips by purpose varies for each time period. The percentages in Table 3 and Table 4 below are based on data from the 2012 Household Travel Survey.

Table 3
Percent of Trips by Time of Day

Trip Purpose	AM	Mid Day	PM	Evening	Grand Total
Home Based - Other	11%	27%	24%	37%	100%
Home Based - Personal Business	9%	50%	25%	16%	100%
Home Based - School	40%	29%	26%	5%	100%
Home Based - Shopping	2%	43%	26%	29%	100%
Home Based - Work	35%	18%	28%	19%	100%
Non-home Based - Non-work	6%	46%	25%	23%	100%
Non-home Based - Work	13%	49%	29%	9%	100%
Grand Total	15%	34%	26%	25%	100%

Table 4
Percent of Trips by Purpose

Trip Purpose	AM	Mid Day	PM	Evening	Grand Total
Home Based - Other	25%	26%	31%	50%	33%
Home Based - Personal Business	3%	8%	5%	4%	5%
Home Based - School	19%	6%	7%	1%	7%
Home Based - Shopping	1%	13%	10%	12%	10%
Home Based - Work	37%	8%	17%	12%	16%
Non-home Based - Non-work	7%	25%	18%	18%	19%
Non-home Based - Work	8%	13%	11%	3%	9%
Grand Total	100%	100%	100%	100%	100%

Comparison of Modeled Speeds with Observed Data

WFRC continues to adjust modeled speeds to improve consistency with samples of observed speeds. Observed speed data were collected in 2013 through a FHWA program known as “Here Data” that uses cell phone signals to track vehicle movements. The observed speeds for freeways and arterials during AM and PM periods of congestion were compared to speeds estimated using the WFRC travel demand model for the 2011 base year. A review of median speeds for the three-county WFRC model area is shown in Table 5. WFRC area modeled speeds are within -3.2% to 3.1% of observed Here Data speeds.

**Table 5
WFRC Planning Area Modeled Speeds Compared to Observed Speeds**

	Arterial		Freeway	
	AM Peak	PM Peak	AM Peak	PM Peak
2011 Modeled Speeds (mph)	33	30	66	63
2013 Observed Speeds (mph)	32	31	64	64
Percent Difference	3.1%	-3.2%	3.1%	-1.6%

C. Emission Modeling

I/M Programs

Assumptions for the input files for EPA’s MOVES vehicle emissions model include I/M programs in Salt Lake, Davis, and Weber Counties. Box Elder and Tooele Counties do not presently have I/M programs.

VMT Mix

The VMT mix describes how much a particular vehicle type is used in the transportation network. While no longer a required input for the MOVES model as it was for MOBILE6.2, VMT mix is used in several instances to generate the input files required to run the MOVES model. The national default VMT mix found in the MOVES database was used to disaggregate local vehicle type data collected in 2014. The local vehicle type data is collected by UDOT as part of the federal HPMS data collection system and is based on automated counters which classify vehicles based on vehicle length. The UDOT classification is used to calculate control percentages for light duty (LD) vehicles and heavy duty (HD) vehicles for each facility type. The EPA default VMT mix is then applied to disaggregate the two UDOT control percentages into detailed percentages for the thirteen vehicle classes used in MOVES.

Vehicle Weights

Facility specific VMT mix data described above was also used to estimate the average vehicle weight on each facility type. Since vehicle weight affects the rate of re-entrained road dust emissions estimated using the AP-42 method, vehicle weight variations on different facilities will affect the amount of fugitive dust created. The VMT mix for each facility type was used to estimate an average vehicle weight for each facility type with the following results:

<u>Facility</u>	<u>Average Vehicle Weight</u>
Urban - Freeway	6,500 lbs, or 3.25 tons
Urban - Arterial	6,100 lbs, or 3.05 tons
Urban - Local	3,900 lbs, or 1.95 tons

Post Model Adjustments

For conformity analyses prior to 2000, the WFRC applied post model adjustments to vehicle emission estimates. Emission credits for work trips were modeled for reductions in single occupant vehicle rates based primarily on increased investments in transit service and rideshare programs, and the projected increase in telecommuting. Other less significant post model adjustments were also estimated for incident management, pavement re-striping, and signal coordination. Additional emission reducing programs and projects supported by CMAQ funds such as park and ride lots, bicycle facilities, transit vehicles, intelligent transportation systems (ITS), and intersection improvements have also been implemented.

WFRC believes that these programs have a positive effect in reducing vehicle emissions. In practice, however, WFRC has found that documenting the air quality benefits of these programs can be challenging. WFRC will continue to support these emission reduction programs, but credits from these programs have not been included in this conformity analysis.

MOVES Inputs

The MOVES model is a very data intensive computer program based on the MySQL database software. Through the interagency consultation process the required MOVES inputs reflecting local conditions have been established.

Data files defining local conditions by county and year are required inputs to the MOVES model including vehicle population, emission testing programs, fuel supply, fuel formulation, meteorological conditions, and vehicle age. Vehicle population estimates are based on 2014 registration data by county and the estimated VMT for the same year. This vehicle population to VMT ratio is then applied to model projections of VMT to estimate future year vehicle population. By estimating vehicle population in this way the calculation considers the effects of human population and employment projections, as well as mode choice options that are included in the travel demand model.

Vehicle activity input files for the MOVES model are generated by the WFRC travel demand model using a customized in-house program for this purpose. The MOVES input files required include data for ramp fractions, road distribution, speed distribution, and VMT by vehicle type for each county (Box Elder, Davis, Salt Lake, Tooele, and Weber) and analysis year (PM_{2.5} base year for interim conformity 2008, 2019, 2024, 2034, and 2040) as required for operating the MOVES model.

The input files listed above are read into the MOVES program as database files. The input database folders in Table 6 below contain the database files used for each county and year modeled using MOVES2014a for this conformity analysis. The results of the MOVES model are stored in the output database “Conf17_out” for each county and analysis year identified in Table 6.

Table 6
MOVES Data – Input Database Folders

Box Elder	Weber	Davis	Salt Lake	Tooele	Salt Lake City	Ogden
conf17_be_2008w_IN	conf17_we_2008w_IN	conf17_da_2008w_IN	conf17_sl_2008w_IN	conf17_to_2008w_IN		
conf17_be_2019w_IN	conf17_we_2019w_IN	conf17_da_2019w_IN	conf17_sl_2019w_IN	conf17_to_2019w_IN	conf17_sc_2019w_IN	conf17_og_2019w_IN
Conf17_be_2024w_IN	Conf18_we_2024wa_IN	Conf18_da_2024w_IN	Conf18_sl_2024w_IN	Conf18_to_2024w_IN	Conf18_sc_2024w_IN	Conf18_og_2024w_IN
Conf17_be_2034w_IN	Conf18_we_2034w_IN	Conf18_da_2034w_IN	Conf18_sl_2034w_IN	Conf18_to_2034w_IN	Conf18_sc_2034w_IN	Conf18_og_2034w_IN
Conf17_be_2040w_IN	Conf18_we_2040w_IN	Conf18_da_2040w_IN	Conf18_sl_2040w_IN	Conf18_to_2040w_IN	Conf18_sc_2040w_IN	Conf18_og_2040w_IN

Road Dust Estimates

In January 2011, the EPA released new guidance for estimating dust emissions from paved roads. These guidelines are published in Chapter 13.2.1 of the AP-42 document. The new formula is

$$E = k (sL)^{0.91} \times (W)^{1.02}$$

where: E = particulate emission factor (grams/mile),
 k = particle size multiplier for particle size range and units of interest (for PM₁₀, k=1.0 and for PM_{2.5} k=0.25),
 sL = road surface silt loading (grams per square meter - g/m²), and
 W = average weight (tons) of the vehicles traveling the road.

Based on vehicle type counts on roads in the WFRC region, average vehicle weights for local roads, arterials, and freeways are 1.95, 3.05, and 3.25 tons respectively. The silt load (sL) factor varies by highway functional class and by traffic volume. The default silt load factors found in Table 13.2.1-2 of the AP-42 document are summarized below.

Traffic Volume	Functional Class	Silt Load (grams/meter²)
500-5,000	local roads	0.200
5,000-10,000	arterial roads	0.060
limited access	freeways	0.015

A precipitation reduction factor is also applied to the above equation using the following expression:

$$(1 - P/4N)$$

Where: P = number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period, and
 N = number of days in the averaging period (e.g., 365 for annual, 91 for seasonal, 30 for monthly).

The AP-42 guidance recommends a value of 90 precipitation days per year for the Wasatch Front region. Using these values, the precipitation reduction factor yields a value of 0.9384. Combined with the basic road dust emission rate, the net PM_{2.5} and PM₁₀ road dust factors by highway functional class are as follows:

Functional Class	PM₁₀ Road Dust Rate (grams/mile)	PM_{2.5} Road Dust Rate (grams/mile)
local roads	0.429	0.107
arterials	0.226	0.057
freeways	0.068	0.017

D. Conformity Determination

The following conformity findings for the 2015-2040 Regional Transportation Plan for the Wasatch Front are based on the transportation systems and planning assumptions described in this report and the EPA approved vehicle emissions model (MOVES2014).

Salt Lake City CO Conformity

The carbon monoxide maintenance plan for Salt Lake City was approved by EPA effective September 30, 2005 as recorded in the Federal Register (Vol. 70, No. 146, August 1, 2005). The maintenance plan defines a motor vehicle emission budget for the years 2005 and 2019 of 278.62 tons/day. Table 7 below demonstrates that projected mobile source emissions are within the emission budget defined in the maintenance plan for the 2019 budget year. The other years listed in Table 7 are in accordance with requirements of the Conformity Rule (40 CFR Part 93) as noted in the table.

From this demonstration it is concluded that the Amended RTP conforms to the applicable controls and goals of the State Implementation Plan (Maintenance Plan) for Carbon Monoxide in Salt Lake City.

Table 7

Salt Lake City - CO Conformity Determination

Year	<i>b</i>	<i>b</i>	<i>c</i>	<i>c</i>
Year	2019	2024	2034	2040
Budget# (tons/day)	278.62	278.62	278.62	278.62
<i>emission rate (grams/mile)</i>	5.30	4.86	2.19	1.76
<i>seasonal VMT</i>	6,958,685	7,406,200	8,301,230	8,732,972
Projection* (tons/day)	40.67	39.68	20.08	16.98
Conformity (Projection < Budget?)	Pass	Pass	Pass	Pass

a - attainment year, *b* - budget year, *c* - 10-year rule, *d* - no budget 5-year rule, *e* - last year of Plan,

Federal Register Vol. 70 No. 146, August 1, 2005, Table V-2.

* Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.

Ogden CO Conformity

The carbon monoxide maintenance plan for Ogden City was approved by EPA effective November 14, 2005 as recorded in the Federal Register (Vol. 70, No. 177, September 14, 2005). The maintenance plan defines a motor vehicle emission budget for the years 2005 and 2021 of 75.36 and 73.02 tons/day respectively. Table 8 below demonstrates that projected mobile source emissions are within the emission budget defined in the maintenance plan for the 2021 budget year. The other years listed in Table 8 are in accordance with requirements of the Conformity Rule (40 CFR Part 93) as noted in the table.

From this demonstration it is concluded that the 2015-2040 RTP conforms to the applicable controls and goals of the State Implementation Plan (Maintenance Plan) for Carbon Monoxide in Ogden City.

Table 8
Ogden City - CO
Conformity Determination

	<i>c</i>	<i>b</i>	<i>c</i>	<i>c</i>	<i>e</i>
Year	2019	2021	2024	2034	2040
Budget# (tons/day)	75.36	73.02	73.02	73.02	73.02
<i>emission rate (grams/mile)</i>	<i>6.01</i>	<i>5.40</i>	<i>4.55</i>	<i>2.43</i>	<i>1.88</i>
<i>seasonal VMT</i>	<i>1,524,886</i>	<i>1,573,130</i>	<i>1,645,496</i>	<i>1,838,034</i>	<i>1,955,595</i>
Projection* (tons/day)	10.10	9.36	8.25	4.92	4.06
Conformity (Projection < Budget?)	Pass	Pass	Pass	Pass	Pass

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan,

Federal Register Vol. 70 No. 177, September 14, 2005, Table V-2.

** Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.*

Ogden PM10 Conformity

Ogden City was designated as a PM₁₀ non-attainment area in August of 1995 based on PM₁₀ violations in 1993 or earlier. Since a PM₁₀ SIP for Ogden has not yet been approved by EPA, it must be demonstrated that Ogden PM₁₀ emissions are either less than 1990 emissions or less than “no-build” emissions. The analysis years 2019, 2024, 2034, and 2040 were selected in accordance with the requirements of 40 CFR Section 93.119(e).

PM₁₀ emissions are present in two varieties referred to as primary and secondary PM₁₀. Primary PM₁₀ consists mostly of fugitive road dust but also includes particles from brake wear and tire wear and some “soot” particles emitted directly from the vehicle tailpipe. The methods defined in the January 2011 version of the EPA publication known as “AP-42” were used to estimate dust from paved roads. Secondary PM₁₀ consists of gaseous tailpipe emissions that take on a particulate form through subsequent chemical reactions in the atmosphere. Nitrogen oxides are the main component of secondary PM₁₀ emissions with sulfur oxides a distant second.

As summarized in Tables 9a and 9b, emission estimates for the 2015-2040 RTP satisfy the “Build < 1990” test for secondary PM₁₀ (NO_x precursors) and primary PM₁₀ (direct tailpipe particulates, brake wear, tire wear, and road dust) in Ogden City. The 1990 emission estimates based on the Mobile6.2 vehicle emissions model for the 2003 conformity analysis have been updated for this conformity analysis using the MOVES model and the January 2011 AP-42 road dust methodology for consistency with current emission modeling requirements. Specifically, the NO_x precursor budget (1990 emission estimate) changes from 4.57 tons/day to 6.92 tons/day, and the direct PM₁₀ budget (1990 estimate) changes from 2.28 tons/day to 1.28 tons/day. The 1990 primary PM₁₀ estimate for Ogden City includes emissions from the unpaved access road to the Ogden landfill which was closed in 1998.

For projections of primary PM₁₀ emissions, no credit was taken for a number of programs adopted since Ogden City last violated the PM₁₀ standard. These particulate reducing programs include covered load ordinances, increased frequency of street sweeping, and reduced application of deicing and skid resistant materials (salt and sand). Documentation of these programs has been provided by Ogden City but the actual benefits of these programs are not included in the emission projections below. Other areas that have estimated the benefit of these programs have found a silt load reduction of over 30% for effective street sweeping programs and a 5% silt load reduction when limiting the amount of sand and salt applied to the roads. Ogden City has also implemented a number of specific projects that have a positive effect in reducing particulate emissions including park and ride lots, storm water improvements, shoulder widening and edge striping, and addition of curb and gutter on several projects.

From this demonstration it is concluded that the 2015-2040 RTP conforms under the Emission Reductions Criteria for areas without motor vehicle emissions budgets for PM₁₀ in Ogden City.

Table 9a

**Ogden City - PM10 (NO_x Precursor)
Conformity Determination**

	<i>d</i>	<i>c</i>	<i>c</i>	<i>e</i>
Year	2019	2024	2034	2040
1990 Emissions (tons/day)	6.92	6.92	6.92	6.92
<i>emission rate (grams/mile)</i>	<i>0.93</i>	<i>0.54</i>	<i>0.26</i>	<i>0.21</i>
<i>seasonal VMT</i>	<i>1,524,886</i>	<i>1,645,496</i>	<i>1,838,034</i>	<i>1,955,595</i>
Projection* (tons/day)	1.57	0.97	0.52	0.46
Conformity (Projection < 1990 Emissions?)	Pass	Pass	Pass	Pass

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan,

** Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.*

Table 9b

Ogden City - PM10 (Primary Particulates) Conformity Determination**

	<i>d</i>	<i>c</i>	<i>c</i>	<i>e</i>
Year	2019	2024	2034	2040
1990 Emissions (tons/day)	1.28	1.28	1.28	1.28
<i>emission rates (grams/mile)</i>				
<i>total exhaust particulates</i>	<i>0.0335</i>	<i>0.0180</i>	<i>0.0090</i>	<i>0.0079</i>
<i>brake particulates</i>	<i>0.0605</i>	<i>0.0614</i>	<i>0.0620</i>	<i>0.0628</i>
<i>tire particulates</i>	<i>0.0131</i>	<i>0.0127</i>	<i>0.0128</i>	<i>0.0128</i>
<i>road dust particulates</i>	<i>0.2618</i>	<i>0.2619</i>	<i>0.2578</i>	<i>0.2569</i>
<i>seasonal VMT</i>	<i>1,524,886</i>	<i>1,645,496</i>	<i>1,838,034</i>	<i>1,955,595</i>
Projection* (tons/day)	0.62	0.64	0.69	0.73
Conformity (Projection < 1990 Emissions?)	Pass	Pass	Pass	Pass

** Includes total PM10 exhaust particulates, road dust, tire wear, and brake wear.

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan,

* Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.

Salt Lake County PM10 Conformity

The PM₁₀ SIP for Salt Lake County does not define a budget beyond the year 2003. Therefore, conformity tests are required only for analysis years which are identified in accordance with 40 CFR 93.118. All analysis years after 2003 must meet the 2003 budgets for primary particulates and secondary particulates (see the discussion above under Ogden PM₁₀ Conformity for an explanation of primary and secondary PM₁₀ emissions). The State air quality rule R307-310 allows a portion of the surplus primary PM₁₀ budget to be applied to the secondary PM₁₀ budget for conformity purposes. However, for the analysis years 2019, 2024, 2034, and 2040, no budget adjustments were necessary.

Table 10
Salt Lake County - PM10 Budgets
Direct (Dust) and Precursor (NOx) PM10 Emission Budgets
 (tons/day)

Year	2019	2024	2034	2040
Total PM10 Budget[#]	72.60	72.60	72.60	72.60
<i>Direct PM10 Budget to be Traded</i>	0.00	0.00	0.00	0.00
Direct PM10 Budget	40.30	40.30	40.30	40.30
NOx Precursor PM10 Budget	32.30	32.30	32.30	32.30

Table 11a and Table 11b below demonstrate that projected mobile source emissions are within the emission budget defined in the SIP. The years listed in Table 10a and Table 10b are in accordance with requirements of the Conformity Rule (40 CFR Part 93) as noted in the tables.

From this demonstration it is concluded that the 2015-2040 RTP conforms to the applicable controls and goals of the State Implementation Plan for PM₁₀ in Salt Lake County.

Table 11a
Salt Lake County - PM10 (NOx Precursor)
Conformity Determination

Year	^c 2019	^c 2024	^c 2034	^e 2040
Budget[#] (tons/day)	32.30	32.30	32.30	32.30
<i>emission rate (grams/mile)</i>	0.66	0.47	0.24	0.20
<i>seasonal VMT</i>	31,323,413	33,380,866	38,670,273	41,666,107
Projection* (tons/day)	22.77	17.16	10.26	9.40
Conformity (Projection < Budget?)	Pass	Pass	Pass	Pass

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan,

[#] WFRC Memo to Jeff Houk of EPA, April 15, 1994.

* Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.

Table 11b
Salt Lake County - PM10 (Primary Particulates)**
Conformity Determination

Year	<i>c</i>	<i>c</i>	<i>c</i>	<i>e</i>
2019	2019	2024	2034	2040
Budget# (tons/day)	40.30	40.30	40.30	40.30
<i>emission rates (grams/mile)</i>				
<i>total exhaust particulates</i>	0.0304	0.0202	0.0099	0.0088
<i>brake particulates</i>	0.0446	0.0493	0.0514	0.0508
<i>tire particulates</i>	0.0112	0.0115	0.0117	0.0116
<i>road dust particulates</i>	0.2101	0.2053	0.2008	0.1971
<i>seasonal VMT</i>	31,323,413	33,380,866	38,670,273	41,666,107
Projection* (tons/day)	10.23	10.54	11.67	12.32
Conformity (Projection < Budget?)	Pass	Pass	Pass	Pass

** Includes total PM10 exhaust particulates, road dust, tire wear, and brake wear.

WFRM Memo to Jeff Houk of EPA, April 15, 1994.

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan.

* Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.

Salt Lake PM_{2.5} Conformity

Davis, Salt Lake, and portions of Weber, Tooele, and Box Elder Counties have been designated as a non-attainment area under the new PM_{2.5} standard (35 µg/m³) that was established in 2006. Work has begun on a PM_{2.5} section of the State Implementation Plan which will establish a motor vehicle emission budget for emissions associated with PM_{2.5}. Until the PM_{2.5} SIP is completed and approved by EPA, PM_{2.5} interim conformity requirements apply. EPA interim conformity for PM_{2.5} emissions requires that future NOx emissions (a precursor to PM_{2.5}) and primary particulate emissions not exceed 2008 levels.

Table 12a below demonstrates that projected mobile source emissions of NOx (a precursor to PM_{2.5} emissions) in the five-county PM_{2.5} non-attainment area are less than 2008 NOx emissions. Table 12b below demonstrates that projected mobile source emissions of VOC (also a precursor to PM_{2.5} emissions) in the five-county PM_{2.5} non-attainment area are less than 2008 VOC emissions. Table 12c below demonstrates that direct particle emissions of PM_{2.5} in the five-county PM_{2.5} non-attainment area are also less than 2008 direct particle emissions. Direct particle emissions include exhaust emissions of elemental carbon, organic carbon, and sulfates (SO₄); and mechanical emissions from brake wear and tire wear.

From this demonstration it is concluded that the RTP conforms under the interim conformity guidelines for PM_{2.5} areas without an approved motor vehicle emissions budget for the Salt Lake PM_{2.5} non-attainment area.

Table 12a

**Salt Lake Area[#] - PM2.5 (NO_x Precursor)
Conformity Determination**

Year	<i>c</i> 2019	<i>c</i> 2024	<i>c</i> 2034	<i>e</i> 2040
2008 Emissions (tons/day)	97.98	97.98	97.98	97.98
<i>emission rate (grams/mile)</i>	0.75	0.50	0.26	0.22
<i>seasonal VMT</i>	49,810,959	53,451,645	62,076,554	67,239,716
Projection* (tons/day)	41.44	29.70	17.78	16.56
Conformity (Projection < Budget?)	Pass	Pass	Pass	Pass

Salt Lake PM2.5 Non-Attainment Area includes: Davis, Salt Lake, and portions of Weber, Box Elder and Tooele Counties.

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan,

* Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.

Table 12b

**Salt Lake Area[#] - PM2.5 (VOC Precursor)
Conformity Determination**

Year	<i>c</i> 2019	<i>c</i> 2024	<i>c</i> 2034	<i>e</i> 2040
2008 Emissions (tons/day)	61.35	61.35	61.35	61.35
<i>emission rate (grams/mile)</i>	0.54	0.41	0.27	0.25
<i>seasonal VMT</i>	49,810,959	53,451,645	62,076,554	67,239,716
Projection* (tons/day)	29.42	23.86	18.75	18.35
Conformity (Projection < Budget?)	Pass	Pass	Pass	Pass

Salt Lake PM2.5 Non-Attainment Area includes: Davis, Salt Lake, and portions of Weber, Box Elder and Tooele Counties.

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan,

* Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.

Table 12c
Salt Lake Area[#] - PM2.5 (Direct PM Emissions^{})**
Conformity Determination

Year	<i>c</i> 2019	<i>c</i> 2024	<i>c</i> 2034	<i>e</i> 2040
2008 Emissions (tons/day)	7.33	7.33	7.33	7.33
<i>emission rate (grams/mile)</i>	0.09	0.08	0.07	0.07
<i>seasonal VMT</i>	49,810,959	53,451,645	62,076,554	67,239,716
Projection* (tons/day)	4.94	4.60	4.63	4.84
Conformity (Projection < Budget?)	Pass	Pass	Pass	Pass

Salt Lake PM2.5 Non-Attainment Area includes: Weber, Davis, Salt Lake, and portions of Box Elder and Tooele Counties.

a - attainment year, b - budget year, c - 10-year rule, d - no budget 5-year rule, e - last year of Plan,

** Projection = Emission Rate x Seasonal VMT / 453.6 grams per pound / 2,000 pounds per ton.*

*** Direct PM for interim conformity includes total PM2.5 exhaust particulates, brake wear, tire wear, and road dust.*

Salt Lake and Davis County Ozone Conformity

The 1-hour ozone standard was revoked on June 19, 2005. Therefore, a conformity analysis under the 1-hour ozone standard in Salt Lake and Davis Counties is no longer required.

The previous 8-hour ozone standard was 75 ppb. All counties within the Wasatch Front area are in attainment of the previous 8-hour ozone standard.

A new ozone standard of 70 ppb was approved October 2015. Areas of non-attainment for the new ozone standard will be designated by EPA in May 2018. Any designated non-attainment areas will be required to demonstrate conformity for ozone precursor emissions beginning October 2018.

Appendix – 1

Definition of Regionally Significant Projects

**Process for Determining Regionally Significant Facilities
for Purposes of Regional Emissions Analysis (see CFR 93.105.2.c.1.ii)**

Background: 40 FR 93.101 defines “regionally significant project” and associated facilities for the purpose of transportation conformity. The federal definition does not specifically include minor arterials. The following definitions and processes will be used by the Wasatch Front Regional Council (WFRC) and Mountainlands Association of Governments (MAG) in consultation with DAQ, UDOT, UTA, FHWA, FTA, and EPA to determine which facilities shall be considered regionally significant for purposes of regional emissions analysis. It is the practice of the MPO to include minor arterials and collectors in the travel model for the purpose of accurately modeling regional VMT and associated vehicle emissions. The inclusion of minor arterials and collectors in the travel model, however, does not identify these facilities as regionally significant.

1. Any new or existing facility with a functional classification of principal arterial or higher on the latest UDOT Functional Classification Map shall be considered regionally significant (see <http://www.dot.utah.gov/index.php/m=c/tid=1228>).
2. Any fixed guide-way transit service including light rail, commuter rail, or portions of bus rapid transit that involve exclusive right-of-way shall be considered regionally significant.
3. As traffic conditions change in the future, the MPO’s - in consultation with DAQ, UDOT, FHWA, and EPA (and UTA and FTA in cases involving transit facilities) - will consider 1) the relative importance of minor arterials serving major activity centers, and 2) the absence of principal arterials in the vicinity to determine if any minor arterials in addition to those listed in Exhibit A should be considered as regionally significant for purposes of regional emissions analysis.

Exhibit A
Minor Arterials Determined to be Regionally Significant
for Purposes of Regional Emissions Analysis

40 FR 93.105(c)(ii), “Consultation – Interagency consultation procedures: Specific processes” specifies that Interagency Consultation shall include a process to identify which minor arterials should be considered as “regionally significant” for the purpose of regional emissions analysis. In consultation with DAQ, UDOT, FHWA, and EPA; and based on inspection and engineering judgment of current traffic conditions; and based on application of the “Process for Determining Regionally Significant Facilities for Purposes of Regional Emissions Analysis” agreed upon by the aforementioned agencies; the WFRC designated eight minor arterials as regionally significant.

Since 2015, all but one of the minor arterials referenced above have been reclassified with the functional type of principal arterial and are therefore by definition regionally significant. The remaining minor arterial to be considered as regionally significant for emissions analysis is listed below. It should also be noted that all collectors, minor arterials, and principal arterials are included in the highway network used in the WFRC travel demand model.

Davis County

none

Salt Lake County

none

Weber County

SR-79 (Hinckley Drive): SR-108 to I-15

**Process for Determining Significant Change in Design Concept and Scope
for Purposes of Regional Emissions Analysis (see CFR 93.105.2.c.1.ii)**

Changes to regionally significant projects may or may not necessitate a new regional emissions analysis. The following definitions and processes will be used to determine what changes to project concept and scope are to be considered significant or not for purposes of regional emissions analysis.

1. Adding or extending freeway auxiliary lanes or weaving lanes between interchanges is not considered a significant change in concept and scope since these lanes are not normally included in the travel model.
2. Adding or extending freeway auxiliary/weaving lanes from one interchange to a point beyond the next interchange is considered a significant change in concept and scope.
3. A change to a regionally significant project defined in the Regional Transportation Plan that does not change how the project is defined in the travel model is not considered a significant change in concept and scope. These changes include but are not limited to lane or shoulder widening, cross section (other than the number of through lanes), alignment, interchange configuration, intersection traffic control, turn lanes, continuous or center turn lanes, and storage lanes.
4. A change to a regionally significant project defined in the Regional Transportation Plan that does alter the number of through lanes, lane capacity, or speed classification as defined in the travel model is considered a significant change in concept and scope.
5. Advancing or delaying the planned implementation of a regionally significant project that does not result in a change in the transportation network described in the travel model for any horizon year (as defined in CFR 93.101) is not considered a significant change in concept and scope.
6. Advancing or delaying the planned implementation of a regionally significant project that does result in a change in the transportation network described in the travel model for any horizon year (as defined in CFR 93.101) is considered a significant change in concept and scope.
7. Project changes not addressed in the above statements will be decided on a case by case basis through consultation by representatives from DAQ, WFRC, MAG, UDOT, UTA, FHWA, FTA, and EPA.

Appendix-2

Box Elder County Highway and Transit Projects 2040 RTP

Box Elder County

Box Elder County Regionally Significant Project List – January 2015

Line	Source	County	Need Phase	Constrained Phase	Capacity Need	Priority Score	Improvement Type	Project Name	Project Description	Cost 2014	Route	Begin	End
1	LRP	Box Elder/Cache	STIP 2016	1	Before 2012	44	Passing Lane	SR-30 MP 97 to MP 101	Add one travel lane in each direction	\$5,000,000	0030	97.00	101.34
9	LRP	Box Elder/Cache	3	2	begin by Phase 1	27	Widening	SR 30 MP 95.1 to MP 102.3, SR 38 to SR 23	Add one travel lane in each direction	\$32,040,000	0030	95.10	102.30
10	LRP	Box Elder	4	2		36	Passing Lane	I 84 Widen WB from MP 17.3 to MP 19.9	Add one travel lane in WB direction	\$7,150,000	0084	17.30	19.90
11	LRP	Box Elder	4	2		43	Passing Lane	I 84 Widen EB from MP 6.8 to MP 17.7	Add one travel lane in EB direction	\$29,975,000	0084	6.80	17.70
13	LRP	Box Elder	2	2	before 2012	28	Widening	SR 30 MP 90.7 to MP 95.1, I 15 to SR 38 (Collinston)	Add one travel lane in each direction	\$19,580,000	0030	90.70	95.10
14	Model	Box Elder	3	3		25	Widening	I 15 Widen from MP 365.7 to MP 372.6, SR 13 to Honeyville (WFRC boundary from MP 365.7 to 368.3)	Add one travel lane in each direction	\$22,145,000	0015	368.30	372.60
15	LRP	Box Elder	4	3		43	Passing Lane	I 84 Widen WB from MP 29.3 to MP 32.3	Add one travel lane in WB direction	\$8,250,000	0084	29.30	32.30
16	LRP	Box Elder	4	3		37	Passing Lane	I 84 Widen EB from MP 25.3 to MP 29.7	Add one travel lane in EB direction	\$12,100,000	0084	25.30	29.70
17	LRP	Box Elder	4	3		46	Passing Lane	I 84 Widen WB from MP 33.5 to MP 35.6	Add one travel lane in WB direction	\$5,775,000	0084	33.50	35.60
22	Model	Box Elder	4	4		37	Widening	I 15 Widen from MP 372.6 to MP 379.5, Honeyville to Tremonton	Add one travel lane in each direction	\$35,535,000	0015	372.60	379.50

Appendix-3
Highway and Transit Projects
2040 RTP
Tooele County

Tooele Valley RPO Long Range Plan Highway Projects February 9, 2015

Phase 1 (To be built by 2025)

Main Street (SR-138) in Grantsville (West St – Center St, and Bowery St – SR-112)
Widen from 1 lane to 2 lanes per direction

SR-36 (Stockton Town – Skyline Drive)
Widen from 1 lane to 2 lanes per direction

Tooele Parkway (SR-112 – Droubay Road)
New collector, 1 lane per direction

Midvalley Highway (SR-138 – I-80)
New freeway, 2 lanes per direction

Midvalley Highway (SR-36 – Utah Avenue)
New principal arterial, 2 lanes per direction

SR-112 (Sheep Lane - Utah Ave)
Widen from 1 lane to 2 lanes per direction

Sheep Lane (SR-112 – SR-138)
Widen from 1 lane to 2 lanes per direction

SR-138 (SR-112 – Midvalley Highway)
Widen from 1 lane to 2 lanes per direction

I-80 (SR-36 – SR-201)
Widen from 2 lanes to 3 lanes per direction

SR-112 (SR-138 – Sheep Lane)
Widen from 1 lane to 2 lanes per direction

400 West (2000 North – Village Blvd)
New collector, 1 lane per direction

1000 North (SR-36 – Droubay Road)
Widen from 1 lane to 2 lanes per direction

Tooele Boulevard (SR-36 – Vine St)
New collector, 1 lane per direction

Bates Canyon Road (1200 West – 400 West)
New collector, 1 lane per direction

Village Boulevard (SR-138 – current western terminus)
New collector, 1 lane per direction

Appendix-4

RTP Amendments

2015 – 2040 Regional Transportation Plan WFRC Proposed 2040 RTP Amendment #6

Capacity Changes

- **UDOT** – Phase 1, Widening of one additional general purpose lane northbound on I-15 from Bangerter Hwy. to I-215. (New project to RTP). Level 3.
- **Bluffdale** – Phase 1, Operational Improvement on 14600 South from Redwood Road (realign straight to Redwood Road – see map) to Porter Rockwell. (Re-define project from widening to operations and change termini). Level 2.
- **Salt Lake City** – Phase 1, New Construction of 700 South grade-separated railroad bridge near 4800 West. Phase 1, New Construction of 700 South from 5600 West to approximately 5300 West (see map). (New projects to RTP). Level 2.
- **Hooper** – Phase 1, Operational Improvement on 5500 West from 3500 South to 5500 South, and functional classification change to Major Collector. (New project to RTP). Level 2.
- **Multijurisdictional (West Valley/Kearns)** - Phase 1, Widening to 5 lanes on 4700 South from 5600 West to 4000 West. (Phase 2 to phase 1). Level 3.
- **Plain City** – Phase 1, Operational on 2800 North/North Plain City Road from 4200 West to SR-126 and functional classification change. (New project to RTP). Level 2.

2015 – 2040 Regional Transportation Plan WFRC Proposed 2040 RTP Amendment #5

1. **Needs Conformity** - 5600 W BRT may be considered a "fixed guideway" so removing it from Phase 1 would be a significant change in scope.
 - a. 5600 West Transit (Salt Lake County)
 - i. Remove Phase 1 BRT from 6200 South to 2700 South
 - ii. Add Phase 1 Express Bus/Core Route from Old Bingham LRT Station to the International Center to the SLCIA to downtown SLC (latest discussion was this part on North Temple). Ivan Hooper, Avenue Consultants will have frequency, hours of operation, station location, etc...
2. **Does NOT need Conformity** - 7200 W is not a principal arterial
 - a. 7200 West (Salt Lake County)
 - i. Add Phase 2 New Construction from 700 North to SR-201 as a 3 lane facility
3. **Does NOT need Conformity** - 700 N is not a principal arterial
 - a. 700 North/7200 West/1400 North (Salt Lake County)
 - i. Add Phase 1 New Construction on 700 North from 5600 West to 7200 West, 7200 West from 700 North to 1400 North, and 1400 North from 7200 West to 8000 West as a 3 lane facilities
4. **Does NOT need Conformity** - 8000 W is not a principal arterial
 - a. 8000 West (Salt Lake County)
 - i. Add Phase 1 New Construction from 1400 North to the north I-80 Frontage Road
5. **Needs Conformity** - Wasatch Blvd. is a principal arterial so moving from Phase 2 to Phase 1 would be a significant change in scope.
 - a. Wasatch Blvd. (Cottonwood Heights) (this project may be removed if funding hasn't been allocated yet)
 - i. Change from Phase 2 to Phase 1 from Bengal Blvd to 9600 South
6. **Does NOT need Conformity** - 1100 N is not a principal arterial
 - a. 1100 North (Harrisville City)
 - i. Add Phase 1 New Construction from 140 West to 140 East as a 3 lane facility
7. **Does NOT need Conformity** - 3600 W is not a principal arterial
 - a. 3600 West (Plain City)
 - i. Add Phase 1 Operational from 2600 North to 1975 North
8. **Does NOT need Conformity** - Depot Drive is not a principal arterial
 - a. Depot Drive (Weber County)
 - i. Add Phase 1 New Construction from 12th Street to the Weber County Sheriff Office and Juvenile Multi-Use Facility as a 2 lane facility

AMENDMENT NUMBER 4 PROJECT OVERVIEWS

PROJECTS GUIDED BY STATE REQUIREMENTS FOR INCLUSION IN THE REGIONAL TRANSPORTATION PLAN (RTP)

Projects Seeking Corridor Preservation Funding

The following amendment requests are based on the State requirement that community applicants who are interested in utilizing local Corridor Preservation Funds must first have their project as part of the WFRC's RTP. Funding for these amendment projects has not yet been determined, but amendment into the RTP is the first step to allow communities to pursue local corridor preservation funds to finance these improvements.

HERRIMAN CITY

- 1. Operational Improvements on 6000 West** **Cost: \$2.5 Million**
This project calls for a new Phase 2 operational improvement along 6000 West from Herriman Parkway to Herriman Main Street. Benefits of this amendment would include the completion of the road cross-section, including curb, gutter, sidewalks, and storm drain improvements.
- 2. Operational Improvements on 6400 West** **Cost: \$1.9 Million**
This request is for a new Phase 1 operational improvement project on 6400 West from Herriman Main Street to 13400 South to help reduce traffic congestion and complete the road's cross-section, including curb, gutter, sidewalks, and storm drain improvements.
- 3. Operational Improvements on 7300 West** **Cost: \$2.5 Million**
This is a new Phase 3 operational improvement project on 7300 West from Herriman Main Street and Rose Canyon Road. Operational improvements would help complete the road cross-section, including curb, gutter, sidewalks, and storm drainage.

SOUTH JORDAN CITY

- 4. Widening of Riverfront Parkway** **Cost: \$1.8 Million**
This request is for a new Phase 1 widening project on Riverfront Parkway between 11050 South and 11400 South from three to five lanes. Benefits of this amendment include a consistent cross-section to 11400 South, along with accommodating increased traffic volumes along Riverfront Parkway.
- 5. Operation Improvements on 2700 West** **Cost: \$4 Million**
This request is for a new Phase 1 operational improvement on 2700 West from 9800 South to 11400 South. The widening of 2700 West will allow for a center turn lane to be added to the road's cross-section. This, in turn, will improve traffic flow which adding needed curb, gutter, sidewalks, and storm drainage improvements.

COTTONWOOD HEIGHTS

- 6. Operational Improvements on Bengal Boulevard** **Cost: \$2.6 Million**
This request is for a new Phase 1 operational improvement on Bengal Boulevard from Highland Drive to 2325 East. This would include a roundabout joining both 2300 East and 2325 East.

Benefits would include improved traffic safety and flow, especially for pedestrians traveling to and from a nearby school. This project would complete the road's cross-section with curb, gutter, sidewalks, and storm drain improvements.

7. Widening of Fort Union Boulevard

Cost: \$3.6 Million

This request is for a new Phase 1 widening project on Fort Union Boulevard between 3000 East and Wasatch Boulevard from two to four lanes. Benefits of this amendment include a consistent cross-section on Fort Union to Wasatch Boulevard, along with addressing increased traffic volumes along Fort Union Boulevard.

MURRAY CITY

8. Widening of Vine Street

Cost: \$10 Million

This project calls for the widening of Vine Street in Murray City between 900 East and the Van Winkle Expressway as a new, Phase 1 project. Benefits of this amendment include a consistent cross-section on Vine Street, along with addressing increased traffic volumes and the completion of the road cross-section, including curb, gutter, sidewalks, and storm drain improvements.

CLEARFIELD CITY

9. New Construction of Depot Street

Cost: \$2 Million

This request is for the extension of Depot Street from SR-193 (700 South) to the Clearfield FrontRunner Station (approximately 1250 South). This new Phase 1 project would be a three lane major collector facility providing improved street connectivity, better connection to the transit via the FrontRunner Station and would serve a planned major economic development project creating hundreds of new jobs.

SALT LAKE COUNTY

10. Operational Improvements on 8000 West

Cost: \$2 Million

This is a new Phase 1 project that would widen 8000 West between SR-201 and 3100 South. The project would realign the intersection at 2700 South, resulting safety and traffic congestion improvements, along with improving local street connectivity.

Projects Seeking Weber County Sales Tax Funding

The following amendment request is based on the State requirement that community applicants who are interested in utilizing 3rd quarter local sales tax funds must first have their project as part of the WFRC's Regional Transportation Plan. Funding for this amendment project has not yet been determined, but this first step will allow communities to pursue this avenue of possible revenues to finance these improvements.

CITY OF MARRIOTT-SLATERVILLE

11. Operation Improvement on 1200 West

Cost: \$5.6 Million

This request is for an extension of a current Phase 1 operational improvement on 1200 West in the City of Marriott-Slaterville from 1200 South to 2700 North. The amendment would provide better traffic flow along 1200 West and would deliver a consistent cross-section including curb, gutter, sidewalks, and storm drain improvements.

MAJOR CAPACITY PROJECTS

Projects Seeking STP Funding

The following amendment requests are major capacity projects that must be included in Phase 1 of the RTP in order to be eligible for Urban Surface Transportation Program (STP) funding administered by the Wasatch Front Regional Council. Funding for these amendment projects has not yet been determined, but this first step will allow communities to pursue this avenue of possible revenues to finance these improvements.

DRAPER CITY

12. Widening of Lone Peak Parkway

Cost: \$6 Million

This request is to move the widening project on Lone Peak Parkway from 12300 South to 12650 South from three to five lanes from Phase 2 to Phase 1. The widening and realignment will provide a consistent cross-section to Bangerter Highway, provide better traffic flow along Lone Peak Parkway, and will support a direct connection to the FrontRunner Station.

TAYLORSVILLE CITY

13. New Construction of I-215 Frontage Road

Cost: \$14.5 Million

This request is to move the new southbound I-215 Frontage Road between 4100 South and 4700 South from Phase 2 to Phase 1. This facility would provide congestion and safety improvement on both 4700 South and 2700 West, along with providing improved access to development between 2700 West and I-215.

KAYSVILLE AND LAYTON CITY

14. Widening of Main Street

Cost: \$3.1 Million

This request is for the widening of Main Street from three to five lanes from 300 West in Kaysville City to Layton Parkway in Layton City. The amendment would be for a new Phase 1 project that would provide a consistent cross-section. The project would address increased traffic volumes along Main Street.

Projects to Utilize TIF Funding

The following amendment requests are major capacity projects that must be included in Phase 1 of the RTP in order to be eligible for the Transportation Investment Fund (TIF) Program administered by the Utah Department of Transportation (UDOT).

UTAH DEPARTMENT OF TRANSPORTATION

15. Bangerter Highway Interchange at 4700 South

Cost: \$44.3 Million

The Utah Department of Transportation is requesting that the current intersection at Bangerter Highway and 4700 South be replaced with a freeway interchange and moved from Unfunded to Phase 1. This improvement will provide a continuous freeway cross-section from 4700 South to I-15. East and West traffic flow will improve, along with an increase in safety.

16. Bangerter Highway Interchange at 13400 South

Cost: \$43.2 Million

The Utah Department of Transportation is requesting that the current intersection at Bangerter Highway and 13400 South be replaced with a freeway interchange and moved from Phase 2 to Phase 1. This improvement will provide a continuous freeway cross-section from 4700 South to I-15. East and West traffic flow will improve, along with an increase in safety.

17. Widening of US Highway 89

Cost: Currently Funded

This request from the Utah Department of Transportation is to extend the currently funded US-89 project from Farmington City to Antelope Drive to now extend to I-84. The amendment would include the widening from four to six lanes and move this project from the unfunded portion of the RTP to Phase 1. Benefits of this improvement would help traffic flow along this major arterial, increase safety, and is part of an overall plan to upgrade this facility to a north / south freeway.

For Information Only

Finally, two additional UDOT projects may be funded with the TIF. Neither project requires amendment into the 2015-2040 RTP; both are included for information only.

UTAH DEPARTMENT OF TRANSPORTATION

18. Construction of Interstate 15 Braided Ramp

Cost: \$130 Million

The Utah Department of Transportation anticipates the new construction of a northbound braided ramp on I-15 between 9000 South and I-215. An existing operational project is already in the 2015-2040 RTP making an amendment unnecessary. However, the project details are provided for member information. This type of improvement will provide better traffic flow and helps to address increased northbound traffic volumes along I-15. This project will also provide relief to congestion at the 7200 South and 9000 South interchanges.

19. Construction of SR-201 Extension

Cost: \$100 Million

This request is outside the geographic purview of the WFRC Regional Transportation Plan, but is included for information to WFRC members due to its interaction with the 2015-2040 RTP. The project calls for extending and new construction of SR-201 from the SR-201/I-80 connection to the I-80/SR-36 connection. This project is a parallel facility alongside of I-80 and would allow for an emergency bypass, provide better traffic flow, and addresses increased traffic volumes on I-80.

2015 – 2040 Regional Transportation Plan Amendment Number 3 – November 2016

Amendment #3 proposed projects changes for the 2015-2040 RTP

- S-140 - Bangerter Highway Interchange @ 6200 South - Move from Phase 3 to Phase 1
- S-147 - Bangerter Highway Interchange @ 12600 South - Move from Phase 2 to Phase 1
- S-144 - Bangerter Highway Interchange @ 9800 South - Move from Phase 2 to Phase 1
- S-5 - I-80 from I-215 (East) to Lambs Canyon - Move from Phase 1 to Phase 2

2015 – 2040 Regional Transportation Plan Amendment Number 2 – May 2016

UTAH DEPARTMENT OF TRANSPORTATION

1. SR-209, 9000 South; From I-15 to 700 East - This project is currently in Phase 1 and is listed as an “operational” project. The proposed change is to make it a “widening” project.
2. SR-68, Redwood Road – There are two proposed changes:
 - From 9000 South to 11400 South - This project is an operational project and is currently in Phase 2. The proposed change would be to move the project forward to Phase 1
 - From 9000 South to Bangerter Highway - This project is a widening of the road and is currently in Phase 3. The proposed change would move the project forward to Phase 1

OGDEN CITY

3. Valley Drive; From 20th Street to SR-39 - Since funding is being sought through the local option sales tax, this proposed change would be to include this new project in the current RTP.
4. 2nd Street; From Washington Blvd. to Monroe Street - Since funding is being sought through the local option sales tax, this proposed change would be to include this new project in the current RTP.
5. 17th Street; From Wall Avenue to Washington Blvd. - Since funding is being sought through the local option sales tax, this proposed change would be to include this new project in the current RTP.
6. 26th Street; From Wall Avenue to Washington Blvd. - Since funding is being sought through the local option sales tax, this proposed change would be to include this new project in the current RTP.

NORTH OGDEN CITY

7. 2600 North; From Washington Blvd. to approximately Fruitland Drive - This is a new widening project, and since funding is being sought, this proposed change would be to include this project in the current RTP.

HARRISVILLE CITY

8. Wall Avenue Extension; North from Larsen Lane. This request is for this project to be removed from the current RTP.

BLUFFDALE CITY

9. 14000 South Road; From 2700 West to 3600 West - Since funding is being sought, this proposed change would be to include this new project in the current RTP.

2015-2040 Regional Transportation Plan Amendment Number 1 - October 2015

BACKGROUND:

Every four years the Wasatch Front Regional Council (WFRC) prepares and adopts a regional transportation plan (RTP) to identify and implement needed transportation improvements. The WFRC adopted the current RTP in May 2015. While the RTP receives considerable review before being formally adopted, the identification of new funding sources, the determination of the final environmental impact statements, or the rapid development of certain projects, may warrant a change to the RTP. A process has been formally adopted by WFRC to consider periodic revisions.

Recently, the WFRC received requests from the Utah Department of Transportation (UDOT), the Utah Transit Authority (UTA), and Layton City to amend the 2015-2040 RTP to consider the changes listed below.

WFRC staff has analyzed the potential financial implications of including these projects in Phase 1 and determined that there are adequate resources available and potential cost savings from a reprioritization of projects. The plan is able to maintain its fiscal constraint while accommodating construction of these projects in phase I. WFRC is reviewing the air quality impacts to ensure that all applicable air quality conformity requirements are met; results will be provided at the meeting.

The formal public comment period will take place from November 2 to December 1. The WFRC staff, UDOT, UTA, and Layton City representatives will present these amendments to the Regional Growth Committee's Ogden-Layton Technical Advisory Committee and the Salt Lake County PlanTac on December 16, 2015. The Regional Growth Committee and the Regional Council will review all comments and make a final recommendation in January 2016.

UDOT PROPOSED MODIFICATIONS TO THE 2015-2040 RTP

US-89 Improvements

Total Cost: \$275 million

The Utah Department of Transportation is making a request to amend the current 2015-2040 RTP for (1) construction of new interchanges at Antelope Drive, Gordon Avenue, Oak Hills Drive and 400 North, (2) construction of frontage roads from Oak Hills Drive to Eagle Way, (3) construction of two overpasses at Crestwood Road and Nicholls Road, (4) potential widening of US-89 from 4 to 6 lanes from just north of the US-89/I-15 interchange in Farmington to Antelope Drive. The 2015-2040 RTP includes the Interchange at 400 North, the overpass at Nicholls Road, and frontage roads from Oak Hills Drive to Nicholls Road in Phase 1. The proposed amendment includes the following modifications to the RTP.

- 1. New Construction of US-89 Interchange @ Antelope Drive**
This project will be moved from Phase 2 to Phase 1.
- 2. New Construction of US-89 Interchange @ Gordon Avenue**
This project will be moved from Phase 2 to Phase 1.
- 3. New Construction of US-89 Interchange @ Oak Hills Drive**
This project will be moved from Phase 2 to Phase 1.
- 4. Widening of US-89 from Antelope Drive to I-15 (Farmington)**
This project will be moved from Phase 3 to Phase 1.

5. New Construction of US-89 Frontage from Eagle Way to Oak Hills Drive

The frontage road project limits will be extended to Eagle Way in the south. This project is currently in Phase 1.

6. New Construction of Crestwood Road Overpass @ US-89

This new project provides connectivity for pedestrians, bicycles, and vehicular traffic across US-89 and is requested to be included in Phase 1.

While these elements are presented as separate projects in the current RTP and proposed amendment, they are part of the preferred alternative developed for the US-89 Environmental Impact Statement (EIS) completed in 1996. Since the completion of the EIS, UDOT has worked to construct elements of the preferred alternative. With this project, there is an opportunity to complete most of the remaining elements of the preferred alternative. The priority components include the construction of the interchanges, the overpasses, and the frontage roads. The widening project is included in the amendment because UDOT believes a favorable bidding climate could result in enough project savings to complete the widening from Antelope Drive to I-15 in Farmington. The widening from 4 to 6 lanes from I-84 to Antelope Drive is not part of this project. The current cost estimate for the US-89 project is \$275 million and is funded from UDOT's Transportation Improvement Fund (TIF).

Project benefits include costs savings due to project efficiencies and future inflation costs, improved traffic flow, delay reductions from the elimination of at-grade intersections, and improved access and connectivity with the development of the frontage road system and overpasses.

UTA PROPOSED MODIFICATIONS TO THE 2015-2040 RTP

7. Ogden-Weber State University Corridor - Transit Project 11

Cost: \$ 41.0 million

The Utah Transit Authority is making a request to amend the current 2015-2040 RTP to include 25th Street as the approved alignment in Ogden City with the project mode as a modern Bus Rapid Transit (BRT) system in mixed flow traffic and with exclusive lanes. Currently, the RTP indicates that 30th Street would be the preferred alignment, with the mode undetermined. On July 28, 2015, the Ogden City Council and Mayor adopted Resolution #2015-24 approving a locally preferred alternative (LPA) for the Ogden/WSU Transit Project Study. This project is in Phase 1 of the RTP and the Environmental Assessment is expecting to be completed in 2016/2017.

Layton City PROPOSED MODIFICATIONS TO THE 2015-2040 RTP

8. Gordon Avenue from 1600 East to US-89

Cost: \$ 28.7 million

Layton City is coordinating with UDOT on the US-89 improvements from Antelope Drive to I-15 in Farmington. As part of the US-89 project, an interchange at Gordon Avenue will be constructed. This project is a new facility and will connect US-89 with the existing Gordon Avenue at 1600 East in Layton. The construction of Gordon Avenue is a vital component of the US-89 improvement project and will improve safety, connectivity and accessibility for state and local emergency services, citizens and pedestrians and bicyclist. The project is currently in Phase 2, and Layton City is requesting this project be moved to Phase 1 due to the change in the US-89 project. Layton City does not have full funds for this project but is planning on utilizing impact fees and pursuing alternative sources.

PROPOSED ADDITIONS TO THE 2015-2040 RTP

9. I-15 Improvements

Total Cost: \$250 million

The entire I-15 project includes the (1) construction of southbound auxiliary lanes from SR-201 to SR-71 (12300 South), (2) construction of an additional southbound general purpose lane from SR-201 to 12300 South (SR-71), (3) upgrade of the I-215/I-15 Interchange, and (4) construction of Managed Motorways along the corridor. The 2015-2040 RTP includes an operational project on I-15 throughout Salt Lake County and an Interchange upgrade at I-215/I-15 in Phase 1. The proposed amendment calls for an additional southbound general purpose lane in Phase 1 from SR-201 to 12300 South (SR-71).

This project was originally programmed for construction in FY 2015-2016. UDOT put the project on hold to evaluate additional alternatives, including advanced ramp metering (Managed Motorways), freeway to freeway ramp meeting, whether to include a GP lane and whether to extend the project to 12300 South (SR-71) from its original terminus of 9000 South (SR-209). The evaluation concluded that the project should move forward with the components outlined above. The current cost estimate for the Salt Lake County I-15 project as outlined above is \$250 million and is funded from UDOT's Transportation Improvement Fund (TIF).

Project benefits include congestion/delay reduction, safety improvements, the elimination of physical choke points, and improved main-line capacity to handle traffic inflow from adjacent facilities including I-80, SR-201, and I-215.

10. I-15 Operational Projects in Weber County

Total Cost: \$80 million

11. I-15 Operational Projects in Davis County

Operational improvements can include a variety of different project types including axillary lanes, ramp extensions and technology enhancements. One technology enhancement UDOT is evaluating is the concept of Managed Motorways. Managed Motorways are smart freeways that prevent congestion by continuously monitoring traffic flows and controlling access to the freeway with state-of-the-art ramp metering signal technologies that are more precise and sophisticated than other applications currently in use. Current project estimates for managed motorways in Davis and Weber Counties in \$80 million. Project benefits include improved facility capacity, travel reliability and safety performance during heavy traffic demand periods by effectively preventing congestion. Preliminary analysis indicates that freeway facilities with these improvements could see a 20% increase vehicle carrying capacity and a 30% reduction in crashes. UDOT requests that this project be included in Phase 1.