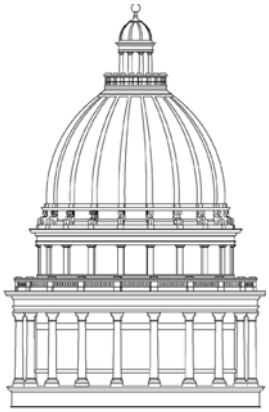

Office of
LEGISLATIVE AUDITOR GENERAL
State of Utah

REPORT NUMBER ILR 2007-F

A Review of the Transportation Prioritization Process

In 2006, the Legislature approved H.B. 4001 authorizing counties to impose an additional .25 percent sales tax to help fund transportation projects.

When the 2006 Legislature authorized counties to impose an additional .25 percent sales and use tax (subject to voter approval), they intended that the funds be used for the road and transit projects deemed most essential for congestion relief. To help accomplish that goal, the legislation authorizing the tax required local officials to follow an objective process for ranking and prioritizing projects.

However, we found that the process used by local officials in Salt Lake County did not produce the intended results. The use of the prioritization process was flawed. First, the rankings of the transportation projects presented to the Salt Lake County Council of Governments (COG) were incorrect due to a calculation error. Second, instead of providing funding for both road and transit projects which are essential to congestion relief, Salt Lake County used almost all of the funds for transit projects. Finally, this report identifies some changes that may help future prioritization processes better achieve legislative intent.

The prioritization process discussed in this report only applies to the optional tax levy permitted by Part 17 of the sales and use tax code. Parts 5, 10, and 15 of ***Utah Code*** 59-12 also provide options for levying sales and use taxes to fund transportation but do not require a prioritization process. Only Part 17 of the sales and use tax code, which was enacted by

the 2006 Legislature and is sometimes referred to as the "third quarter," is the subject of this report.

Audit Scope and Objectives

During the UTA audit, staff became aware of problems with the prioritization process developed for Salt Lake County.

The Office of the Legislative Auditor General began reviewing the process used to prioritize road and transit projects during a broader audit of the Utah Transit Authority (UTA). During the UTA audit, staff became aware of problems with the prioritization process that had been used by the Salt Lake County COG. A separate audit was initiated to review the prioritization by the Salt Lake County COG. The specific objectives included in this report are:

1. Review the purpose of the transportation prioritization process required by statute.

2. Review the development and use of the prioritization process by the Salt Lake County COG.

3. Identify possible improvements for future use of the transportation prioritization process.

To address these objectives, we reviewed the Salt Lake County COG and executive appropriation committee meeting minutes, interviewed individuals involved in developing the prioritization process and researched federal guidelines for prioritizing transportation projects. We also reviewed the written prioritization process worksheet and studied the individual factors, source data, and formulas for that model.

Legislature Permits Counties to Impose a Local Option Sales and Use Tax

To impose the sales and use tax increase, voter approval is required.

H.B. 4001, passed during a special legislative session on September 19, 2006, authorized a county legislative body to impose a local option sales and use tax to help fund regionally significant highway and transit projects for congestion mitigation and expanded capacity. To impose up to a .25 percent sales and use tax increase for transportation projects, voter approval of an opinion question in a general election is required. ***Utah***

Code 59-12-1703(2)(b)(I) provides the following ballot language for use by a county of the first or second class:

> Shall (county name), Utah be authorized to impose a (insert the amount of the sales and use tax up to .25%) sales and use tax for corridor preservation, congestion mitigation, or to expand capacity for regionally significant transportation facilities?

For less populated counties, the required ballot language is only slightly different, adding the term "transportation projects" as an additional purpose for the tax revenues.

One-fourth of the increase in sales and use tax is dedicated to corridor preservation.

One-fourth of the revenues are statutorily dedicated to corridor preservation. The other three-fourths (.1875) of the revenue is spent as directed by a county's COG, but the COG must follow a statutorily defined process to select projects for funding.

Legislation Requires an Evaluation Process to Assist Decision Makers

H.B. 4001 requires a COG to develop a written prioritization process.

H.B. 4001 requires local officials to use an objective process for allocating the sales and use tax revenue among road and transit projects. The COG must develop a written prioritization process specifying a weighted criteria system to rank proposed projects. The rankings must then be used to make funding allocations.

Criteria Guidance Is Provided in Statute. ***Utah Code*** 59-12-1704 (2)(b) provides the framework for the prioritization process.

The weighted criteria system shall include the following:

- the cost-effectiveness of a project;
- the degree to which a project will mitigate regional congestion;
- the compliance requirements of applicable federal laws or regulations;
- the economic impact of a project;
- the degree to which a project will require tax revenues to fund maintenance and operation expenses; and
- any other provisions the council of governments considers appropriate.

Once a COG develops a written prioritization process, it must be approved by the Legislature's Executive Appropriations Committee.

Based on the above criteria and the required ballot language, it appears to us that the Legislature intended these funds to go to projects that most cost-effectively provided congestion relief. However, the statute also allows the COG to include provisions it considers appropriate. Once the COG of a first- or second-class county develops a written prioritization process, it must be submitted to the Legislature's Executive Appropriations Committee for approval.

Project Funding Should Consider Prioritization Rank. After the COG prioritizes projects, the rankings are used to allocate funding. Local officials are not required to follow the prioritization rankings exactly, but need to give an explanation if they skip over highly ranked projects for other projects further down the list. Examples of skipping higher-ranked projects are shown later in the report.

The Salt Lake County COG was the first county to develop and implement a transportation prioritization process.

The first county to pass the .25 percent sales and use tax increase was Salt Lake County on November 7, 2006. The Salt Lake County COG was the first county legislative body to develop and implement a transportation prioritization process. As discussed next, the process followed by the Salt Lake County COG was flawed.

Prioritization Process Developed by WFRC Was Flawed

We identified a number of concerns with the process used by the Salt Lake County COG to allocate the sales and use tax revenue. First, the rankings presented to the Salt Lake County COG were flawed by a calculation error. As a result, some of the projects that received funding were ranked much higher than they should have been. Second, other information presented to the Salt Lake County COG, as well as the deliberations of the local government officials, seem biased toward rail rather than road projects. Therefore, it is unclear if correct rankings would have changed the funding decisions made by the Salt Lake County COG. Finally, UTA plans on using the revenue from the sales and use tax to pay for operations and maintenance (O&M), as well as construction costs and interest accrued on bonds. Statute is not clear that this revenue source can be used for O&M.

The Salt Lake County COG obtained assistance from WFRC to develop the prioritization process.

The Salt Lake County COG obtained assistance from the Wasatch Front Regional Council (WFRC) to develop the required project ranking.

The 34 projects considered for the prioritization process were identified in WFRC's 2030 Regional Transportation Plan.

The 34 projects considered for the prioritization process were taken from the list of projects in Salt Lake County that were identified in the WFRC's 2030 Regional Transportation Plan. Engineers and planners from the WFRC staff identified criteria and factors for the Salt Lake County COG to consider. Based on input from UTA, the Utah Department of Transportation (UDOT), and the Legislature's Executive Appropriations Committee, the following criteria and weighting were used to rank the 34 projects:

- congestion relief (30 percent of total weight)
- cost-effectiveness (30 percent)
- safety (20 percent)
- community factors (10 percent)
- environmental factors (10 percent)

These criteria and the data used to measure them are reviewed in detail later in this report. This section addresses an important calculation error that had a large impact on the rankings, followed by a discussion of how the rankings were used by the Salt Lake County COG.

Rankings Presented to Salt Lake County COG Were Incorrect

Because of a miscalculation of the safety criteria, the rankings presented to the Salt Lake County COG were wrong. Although not required by statute, the safety criteria was included by the Salt Lake County COG. Initially, the safety of each project was to be measured by the estimated number of accidents reduced in the year 2015 due to the construction of the highway or transit project. However, at the December 13, 2006, Executive Appropriations Committee, the formula was accepted with the provision that the safety criteria be made relative to the cost of each project. Thus, the number of accidents reduced by each project was to be divided by the project's cost.

When WFRC calculated the safety factor, the accidents reduced for each project were incorrectly multiplied by the construction cost.

When WFRC calculated this factor, the accidents reduced for each project were incorrectly multiplied by the construction cost instead of divided by the construction cost. The result of this miscalculation gave larger projects with a greater annualized construction cost higher prioritization. WFRC reported that they did not realize this miscalculation had occurred until after the Salt Lake County COG had already selected the transportation projects to be funded.

Figure 1 shows the list of 34 highway and transit projects being considered with the original ranking (with the safety miscalculation) and the correct ranking (with the safety criteria factor calculation corrected).

Figure 1. Change in Project Prioritization Due to Safety Criteria Factor Correction. Because of a calculation error, high-cost projects were rated much higher than they should have been. Eighty percent of the funds are dedicated to projects that should have been ranked 18th and 19th.

Salt Lake COG selected four projects to be funded with sales and use tax revenue.

Project	Rank Presented to SLC COG	Corrected Rank	Percent of Funding
Int - 53/State, 53 & 47 Rdwd	1	1	
3500 South-a	8	2	
SR-201	3	3	
9000 South	13	4	
Mid Jordan Light Rail	5	5	17.0
3500 South-b	12	6	
State Street	9	7	
I-80	6	8	2.7
9000 South/9400 South	22	9	
I-215	10	10	
Redwood Road-b	21	11	
7800 South-b	14	12	
11400 South	17	13	
900 East	23	14	
4500 South	19	15	
7800 South-a	24	16	
5600 West	15	17	
West Valley Light Rail	7	18	30.0
Commuter Rail South (SLC only)	2	19	50.3
700 East	28	20	
Mountain View Corridor (SLCo)	4	21	
Redwood Road-a	20	22	
3900 South	31	23	
10400 South	18	24	
I-15 IntX - 11400 S	16	25	
State Street w/RR Bridge	25	26	
Wasatch Blvd	30	27	
Main Street/300 West	27	28	
Draper Light Rail	26	29	
10600 South	29	30	
Airport Light Rail	11	31	
Highland Drive	34	32	
7000 South	32	33	
3100 South	33	34	

It is not clear whether correct rankings would have changed how funding was allocated because many local officials supported transit projects.

The figure also shows the funding allocations made by the COG for the projects selected. Eighty percent of the funding was allocated to projects that should have been ranked as 18 and 19 while many higher priority projects received no funding. Of course, the correct rankings were not presented to the Salt Lake County COG at the time. It is not clear whether correct rankings would have changed how funding was allocated because many local officials were strongly supportive of the transit projects. Some county officials did state in the Salt Lake County COG minutes that they were hesitant to support commuter rail. However, commuter rail ranked second on the priority list and was selected. If commuter rail was presented as 19th on the priority list, it may not have been selected.

Salt Lake County COG Appeared to Focus on Transit Projects

Even though the ballot question stated funds would be used for congestion relief and expanded capacity for roads and transit projects, some local government officials seemed to believe that voters really intended that all the funds be used for rail transit projects. Local officials may also have focused on transit projects because of an earlier plan to fund construction of new TRAX lines with property taxes. These attitudes may have led to a biased approach to allocating new tax revenues.

Local officials may have focused on transit projects because of an earlier plan to fund them with property taxes.

In May 2006, UTA proposed to Salt Lake County that the county allow residents to vote in November 2006 on a property-tax increase that would allow the county to obtain a bond for about $900 million to build four TRAX extensions. At that time the extensions were proposed for the Salt Lake City International Airport, Draper, West Jordan, and South Jordan. The county council voted in July 2006 to place the proposal on the ballet. However, this proposal was withdrawn when the Legislature met in a special session in September 2006 and H.B. 4001 was approved. This bill shifted the focus of the transportation projects to both road and transit projects.

Documents for Final Project Selection Meeting Seemed Biased Toward Transit Projects. For the Salt Lake County COG meeting on December 19, 2006, a set of documents was provided to COG members to aid them in the selection process. Appendix A shows the three key documents as they were presented to the Salt Lake County COG—

- Summary of prioritization process providing the transportation project rankings
- Fact sheet showing the benefits of funding transit projects
- Funding distribution scenario giving an example how the sales tax revenue could be allocated among four transportation projects

The first document lists each of the 34 transportation projects from the 2030 plan and their prioritization based on the five criteria. A composite score was given for each project, and each project was ranked according to the composite score. However, as discussed above, the rankings were flawed by a calculation error. This document (with the erroneous rankings) is in Appendix A, page 1.

The fact sheet presented to the Salt Lake County COG showed support for transit projects.

The second document prepared for the Salt Lake County COG is a fact sheet that shows support for transit projects. This document in Appendix A, page 2, was created by WFRC and UTA representatives and in our opinion seems slanted toward transit and away from road projects. For example, one fact is that "every $25 million dedicated to projects other than the three rail projects delays one of these [rail] projects one year." We asked UDOT officials about that statement and they said the opposite is also true: funds spent on rail projects delay critical road projects. The benefits of transit projects are given much greater emphasis than the benefits of highway projects. Thus, we believe the information presented to the COG was slanted.

We asked UDOT why the benefits of highway projects were not included on the fact sheet. One UDOT official said it was evident during early meetings of staff from the WFRC, UTA, and UDOT that the focus was on transit projects, and the group's intent was to use the quarter-cent sales and use tax for transit. For this reason, UDOT decided it was not a valuable use of their time to participate in the prioritization process.

The Salt Lake County COG was presented with only one funding distribution scenario, which was accepted.

The third document is a funding distribution scenario. The documents only contain one scenario for funding transit projects, which was adopted by the COG. Appendix A, page 3, shows the proposal for funding transit projects, which was contained in the documents presented to the COG, and which was eventually adopted. Figure 2 below shows the information allocating the funding among the projects selected from Appendix A and the construction cost data for each project from the prioritization process.

Figure 2. Funding for Selected Projects. This funding scenario was presented to the Salt Lake County COG for consideration at the project selection meeting on Dec. 19, 2006.

Project	Percent of Sales Tax Revenue	Amount of Sales Tax (Cents)	Est. Project Cost (Millions)
Mid Jordan Light Rail	17.0%	.031875	$ 368
West Valley Light Rail	30.0	.05625	260
Commuter Rail	50.3	.094375	370
I-80 Widening	2.7	.005	110
Total	**100.0%**	**.1875**	**$1,108**

Note: Statute requires one-fourth of the .25 percent increase in sales and use tax is dedicated to corridor preservation, leaving .1875 to be allocated through the prioritization process.

Mid Jordan LRT and West Valley LRT were given first priority, the commuter rail was given second priority, and I-80 widening was third.

It was suggested that transit projects receive 97.3 percent from three-fourths (.1875) of the tax revenue (since one quarter of the revenue is dedicated to corridor preservation), and the I-80 road project only receive 2.7 percent of the funding. According to the Salt Lake County COG meeting minutes, the Mid Jordan Light Rail and the West Valley Light Rail were both given the first priority, the commuter rail was given second priority, and the I-80 widening was given third priority. However, according to the analysis provided by WFRC and UTA staff, there was not enough funding for all four projects. Since almost all the new tax revenues were dedicated to the rail projects, the motion in the Salt Lake COG meeting minutes was to partially fund the "I-80 widening project with the remainder as an incentive for the state to make up the difference." Thus, the Salt Lake County COG agreed to the funding presented to them (Appendix A, page 3).

UTA told us the funding will be used to cover construction costs, debt service, and O&M.

We did not verify how the funding allocations shown in Figure 2 were determined. Initially, we thought the funding would be based on the project cost used in the prioritization process, but the information in Appendix A, page 3 shows that was not the case. As noted, the allocation was prepared for the Salt Lake COG by WFRC and UTA according to their analysis. UTA told us the amount of funding that each UTA project will receive is based on the estimated amount of revenue need to cover construction, O&M, and interest accrued on bonds for 30 years. (O&M is discussed later in the report.) UTA reported that their estimate of the total revenue received per year from the sales and use tax increase would

be about $50 million. From UTA's analysis it was determined that this amount of expected funding from the sales and use tax increase could only cover the four projects selected.

Salt Lake County COG's Decision Was Consistent with the Information Presented. Based on the information provided them, the COG chose not to select three highway projects that had a higher prioritization than two of the transit projects that were selected. The COG's meeting minutes on December 19, 2006, stated their reasoning for not selecting the three highway projects, these reasons are the same as the facts provided to the COG on December 19 by WFRC and UTA representatives as shown in Appendix A, page 2:

Three highway projects were not selected by the COG that had a higher priority than two transit projects that were selected.

- Three intersections at 53rd & State, 53rd & Redwood, and 47th & Redwood (Rank 1)–**already had funding**
- SR 201 (Rank 3)–**needed later around the time Mountain View Corridor opens**
- Mountain View Corridor (MVC)-Build SL County (Rank 4)–**already receiving 1/4 of the quarter cent tax increase**

First, as discussed in the prior section, this fact sheet that was provided to the COG seems slanted. For example, the three intersections—53 & State , 53rd & Redwood, and 47th & Redwood, that received the highest ranking were skipped over because other funding was available. The question is whether the same type of thinking was applied to transit projects, because funding was also available for transit projects. Apparently, the funding provided the rail projects by the COG will enable UTA to accelerate the completion of other TRAX lines that received very low scores on the prioritization process. In fact, the UTA general manager stated in the December 19 COG meeting that funding the three rail projects would allow other transit projects to be accelerated, and the Airport and Draper transit lines could be accelerated by 7-12 years.

A UTA official told the COG that by funding the three transit projects being considered for selection, other transit projects would be accelerated.

Second, the COG justified passing over SR 201 because it was not needed until a later time. However, UDOT has stated that SR 201 is needed now, and because the COG passed over this project, they have had to search for other funding sources.

Third, the meeting minutes stated that Mountain View Corridor (MVC) is already receiving funding from the quarter-cent sales and use tax. However, this funding is not for the construction of the highway.

The funding is being used for corridor preservation, as required by statute. In other words, this funding is used to purchase right-of-way prior to building the highway. This requirement was discussed earlier in the report.

Several members of the COG saw transit projects as a priority over road projects.

The meeting minutes from December 19 also reflect that several of the members saw transit projects as a priority over road projects. Examples of what COG members stated regarding selecting transit projects from meeting minutes are listed below:

- *The transit system is a vision and is regional, this [selection of the projects] helps that vision move faster.*
- *This [selection of the projects] is consistent with voters' feelings about transit.*
- *Commuter rail would result in the highest congestion relief.*
- *We should keep a commitment to Utah County with regard to the commuter rail.*
- *When residents voted to impose the sales tax, they understood that it included the airport line as well as other transit lines.*

These types of comments from the meeting minutes showing support for transit projects raise questions about some of the COG members' intent to rely on the prioritization process. While the goal of the written prioritization process was to provide objective information to the Salt Lake COG, other information provided to the COG and some of the COG's thinking seemed to favor transit projects over road projects.

UTA May Expect Funding to Pay for Operating Costs

Statute does not provide clear guidance regarding the use of the sales tax revenue to fund O&M.

The statute does not provide clear guidance regarding the use of sales and use tax increase to fund O&M. According to the funding allocation that has been accepted by the Salt Lake County COG, UTA plans on using the revenue from the sales and use tax increase for construction costs, O&M, and interest accrued on the bonds for each project selected by the COG. UDOT's I-80 widening project is only expected to utilize the sales and use tax revenue to help cover construction costs.

As previously mentioned, ***Utah Code*** 59-12-1703 states that a local legislative body may impose a sales and use tax up to .25 percent for the purposes related to a regionally significant transportation facility for a new

capacity or congestion mitigation, and corridor preservation. This section of the code implies that revenue can be used to construct transportation facilities. ***Utah Code*** 59-12-1703(4)(E)(iii) also states revenue can be used for any debt service and bond issuance costs related to a selected project. However, the code does not specifically state the revenue can be applied toward O&M.

According to the prioritization process, estimated annual taxpayer-funded O&M for the commuter rail and light rail projects are:

- Mid Jordan Light Rail – $4,897,000
- West Valley Light Rail – $4,543,000
- Commuter Rail – $7,552,000

Statute does not specify how long each transportation project should receive funding from the increase in sales and use tax.

For these three rail projects, total annual taxpayer O&M is $16,992,000. Statute does not specify how long each transportation project should receive funding from the increase in sales and use tax. Entities receiving funding can expect to receive funding while the bonds for projects are active. (It is expected that the four projects that have been selected will incur bonds for 30 years.) However, after the bonds have been retired, we are concerned that UTA may be hopeful that the revenue stream will continue to help cover O&M costs for those projects.

This raises the concern that entities receiving sales and use tax revenue may expect that projects will be funded indefinitely to help cover O&M. Should a COG be able to select other transportation projects to be funded by the sales and use tax revenue once bonds have been retired? Also, what if sales and use tax revenues exceed the amount needed to pay for the bonds, does the entity receiving the revenue get to keep the excess amount? The Legislature should review the purposes of funding transportation projects with the local option sales and use tax, and determine if projects should be funded for a specific period of time, such as long as bonds are active. Also the Legislature needs to determine if revenue can go toward O&M of a transportation project or should the revenue be designated for specific costs, such as construction and financing.

Future Prioritization Processes Should Be Improved

After reviewing the prioritization process, we found that some of the calculations for the prioritization process could be improved. Of most significance, we learned that the safety factor was calculated incorrectly as discussed earlier in the report. In addition, we found: 1) two factors that should have included the length of project in the analysis, 2) capping large values made it problematic to compare projects, 3) three factors with all negative values should not have been standardized – made positive values, 4) two factors don't show the benefits of the projects, and 5) some factors show somewhat redundant information.

WFRC looked at federal guidelines in reports from the Government Accountability Office (GAO) and the Federal Highway Administration. They also received assistance from UDOT and UTA, and guidance from the Legislature's Executive Appropriations Committee and the Salt Lake County COG to determine how to measure the criteria. WFRC also collected data from UDOT and UTA, and used their own data for the evaluation process. Given the input and review from so many sources and the subjective nature of the evaluation process, developing a sound evaluation process became complex and difficult.

The prioritization process consists of five criteria: congestion relief, cost-effectiveness, community factors, environmental factors, and safety. These criteria are used to determine the priority of each transportation project. The criteria were also weighted to give congestion relief and cost-effectiveness the most weight. Safety received the next-highest weight, and community and environmental criteria were each given the least weight. Each of the five criteria contains at least one factor, and the prioritization process contains a total of 14 factors. Appendix B shows each of the criteria and lists the 14 factors.

Prioritizing Both Transit and Road Projects Is Unique

The prioritization process is unique because it requires the evaluation of both highway and transit projects.

The ranking process is unique and challenging because it requires the evaluation of both highway and transit projects using a common set of measures. While planning tools and guidelines exist to help analysts and decision makers prioritize road projects or transit projects separately, WFRC staff told us they are not aware of an evaluation process that

considers both highway and transit projects together. The audit team also researched for guidelines and evaluation models that combined transit and highway projects together but did not find that type of an evaluation process.

WFRC considered federal guidelines as part of developing the prioritization process.

WFRC stated that they considered federal guidelines from the Federal Highway Administration and reports from the GAO as part of developing the prioritization process. GAO reports state that many factors affect investment decisions when planning transportation projects:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Protect and enhance the environment, promote energy conservation, and improve quality of life.
- Promote congestion relief and prevention through management strategies/systems.
- Examine the overall social, economic, energy, and environmental effects of transportation decisions.
- Consider access to ports, airports, and intermodal transportation facilities.
- Preserve rights-of-way access for future transportation projects.
- Consider connectivity of roads in areas outside MPO planning boundaries and in other states.

Even though WFRC considered federal guidelines, did congestion relief receive adequate weighting?

WFRC considered some of the factors suggested by GAO for the prioritization process. However, a question arises as to whether congestion relief received an adequate weighting for the prioritization process. Congestion relief is one of five criteria used to measure projects in the prioritization process. Accounting for the weighting of the five criteria, congestion relief data makes up 30 percent of total data in the analysis.

Prioritization Methodology Can Be Improved

As part of this audit, we reviewed the evaluation process to determine if calculations were correct for each of the factors. We looked at the data sources used in the calculations, and we also looked at the relevancy of the factors compared to federal criteria. (Appendix C shows the prioritization process developed by WFRC.) As a result of the review, we found five areas within the prioritization methodology that could be changed to

improve the prioritization process. Each of these five areas is discussed below.

Total Project Length Should Have Been Included in the Prioritization Analysis. Within the prioritization process, 14 factors dictate the composite score of each project. Data or values for some of the factors are based on a feet or mile scale, while other values are based on the total projects' scope. An example of a factor that specifically fails to capture the complete impact of the projects is the *Tax Funded Annual O&M (dollars per mile)*. The values for each project in this factor only account for the cost per mile; the factor's calculation should include length of the project to show total cost, since some projects are longer than others. The total costs and benefits of each project should be included in the data to ensure that the whole project scope is evaluated. Figure 3 displays six projects from the prioritization process (two widening projects, two new construction projects, and two light rail projects). The figure shows the length of each project, the original *Tax Funded Annual O&M* values—cost per mile, and the new values, showing the total cost of the projects, which includes project length.

The total benefits and costs for each project should be included in the prioritization process.

Figure 3. Tax Funded Annual O&M Prioritization Factor. The equation did not include the total annual project cost; it only included the cost per mile.

			Cost Effectiveness	
Project Name	**Project Type**	**Length of Project (miles)**	**Tax Funded Annual O&M ($/mile)**	**Tax Funded Annual O&M* Length of Project**
Redwood Road-b	Widening	4.8	$ 30,000	$144,000
Int-53/State, 53 & 47 Rdwd	Widening	0 .75	44,000	33,000
Highland Drive	New	1.2	30,000	36,000
MVC - Build SLCo	New	25.5	55,000	1,402,500
Draper Line	Transit	3.0	544,111	1,632,333
Commuter Rail South (SL Only)	Transit	22.0	343,273	7,552,000

The table above shows the difference in the annual O&M cost when the total O&M cost is shown versus the cost per mile. For example, the

original comparison between the two rail projects (Draper Light Rail and commuter rail) would lead readers to conclude that the commuter rail project will cost less to operate and maintain than the Draper Light Rail project.

After accounting for the length of the project, we see that the Draper Line will cost less to operate and maintain than the commuter rail. If total cost would have been included in the prioritization process, the more expensive projects with long lengths would incur lower prioritizations. The same concern exists for the *Additional Width for New Projects (feet)* factor; this factor only considers the width, not the length, of each project. WFRC has adjusted the equations or calculations for these two factors for the prioritization process for the Davis County COG.

Capping Project Values Affects the Comparison Between Projects. Some factors contains very large numbers; for example, one project's value is 20 times larger than the average value of all projects for the same factor. To account for large values, WFRC created a cap. Any value over the cap received the highest value of 100, while a project whose value was under the cap received a relative value on a scale from 0 to 100.

Capping creates a bias for projects with smaller values.

This process creates a bias for projects with smaller values because the projects with large values have been reduced to 100, which creates an inaccurate comparison. For example, the Mountain View Corridor will save 129,093 person minutes per day (in 2015) which is four times the amount of minutes saved by the Mid Jordan Light rail line (30,024 person minutes), but due to the capping method, both projects received the same score of 100. WFRC should evaluate their capping methodology and explore alternative solutions to properly evaluate both the individual project value and the difference between project values.

Treatment of Negative Values in the Evaluation Process Is Problematic. Three factors within the prioritization list only contain data with negative values (negative value denotes a cost). WFRC adjusts the negative values by standardizing them (or making them positive) and then normalizes the values by applying new values from 0 to 100 to every number. For example, the difference between a project which costs $-30,000 to maintain compared to another project which costs $-44,000 is $14,000, or 47 percent. If these two values are standardized, the difference of cost between the projects is still $14,000 ($654,364-$640,364), but the percentage difference between the projects drops to 2

percent. The process of standardizing and normalizing negative numbers reduces the difference between project values, so most values fall within a small range. Again this process creates a bias for projects with smaller values because the projects with large values have been reduced to a smaller value of 100. WFRC should evaluate their methodology and explore alternatives solutions to compare negative values in the prioritization process.

Two Factors Fail to Show the Benefit of Constructing the Transportation Projects. An important quality for a factor is to effectively show the change or benefit associated with constructing a transportation project. Most factors achieve this goal, such as the *2015 PM Person Travel Time Reduced* and *Reduced CO & Nox Daily Emissions*. These factors both show the benefit of the project. However, one factor, the *2015 PM Peak Corridor Person Volume,* only shows the projected number of vehicles traveling each project/corridor in 2015 peak time, and another factor, the *Employment within Buffer*, emphasizes the current number of jobs within specified boundaries of the project/corridor. Both of these factors do not show the benefit of constructing the transportation projects.

Factors should show the change or benefit associated with constructing a transportation project.

Some Factors Show Similar Information. Having somewhat redundant information makes the prioritization process more complex. An example of redundant factors are two environmental factors: *Reduced Co & Nox Daily Emissions* and the *VMT Reduced*. Both of these factors are highly correlated and relate to emissions. If a project's value is high for the first factor, it will also be high for the second factor. For example, if constructing a project increased the number of miles traveled, a direct result of that is increased emissions. Therefore, one of these two factors may be eliminated from the prioritization process.

Factors that show somewhat redundant information could be eliminated.

An Adjusted Prioritization Process Is Being Applied to Davis County COG

Since the completion of the original prioritization list and selection of projects within Salt Lake County, WFRC has begun working on a prioritization process for the Davis County COG. The evaluation process being used for Davis County is similar to the one used for the Salt Lake County COG. However, WFRC has made some adjustments to the written evaluation.

WFRC has made adjustments to the prioritization process for the Davis County COG.

WFRC has corrected the *Safety* factor calculation, so the number of accidents reduced is divided by the annual costs. WFRC has also adjusted the equations or calculations for the *Tax Funded Annual O&M* and *Additional Width for New Projects* factors to include length of project. The updated process is currently being applied to properly rank transportation projects for Davis County.

We believe that WFRC should consider other adjustments to the written prioritization process mentioned in previous sections of this report:

- Capping project values affects the comparison between projects' values.
- The treatment of negative values in the evaluation process is problematic.
- Factors should show the benefit or costs of building transportation projects.

WFRC should consider developing solutions for the issues raised and review the prioritization process for other problematic areas.

WFRC should review the prioritization process to ensure it focuses on congestion relief and cost-effectiveness.

Also, WFRC should review all the criteria and factors used for the prioritization process and ensure that they follow legislative intent and focus on congestion relief and cost-effectiveness. The prioritization process should be developed as straightforward as possible and redundant factors or factors that do not show the benefits or costs of implementing transportation projects should be removed from the prioritization process. The prioritization process should be a tool that aids the Davis County COG in determining which transportation projects should be funded with the sales and use tax increase.

Recommendations

1. We recommend that the Legislature:

    - Clarify whether the revenue from the sales and use tax increase can be dedicated for O&M as well as for construction costs and interest accrued on bonds for transportation projects.

- Determine if there should be a limit on the amount of funding that can be applied to O&M for transportation projects—if the Legislature permits tax revenue to be applied to O&M costs.
- Clarify if projects should be eligible to receive funding from the sales and use tax increase after bonds have been retired.

2. We recommend that Councils of Governments follow legislative intent when developing and utilizing a written prioritization process and focus on congestion mitigation and expanding capacity when selecting transportation projects.

3. We recommend that WFRC address the concerns listed in the report regarding the written prioritization process for the Davis County Council of Governments:

- Capping project values affects the comparison between projects' values.
- The treatment of negative values in the evaluation process is problematic.
- Factors should show the benefit or costs of building transportation projects.

Appendices

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Appendix A

Project Prioritization Scenario

	Maximum Score	300	300	100	100	200	1000	
	Weight	3	3	1	1	2		
	Project	Congestion Relief	Cost Effective	Community Factors	Environment Factors	Safety	Composite Score	Composite Rank "bigger is better"
1	Int - 53/State, 53 & 47 Rdwd	87	86	81	67	11	686	34
2	Commuter Rail South (SL only)	87	19	65	63	100	647	33
3	SR-201	83	61	50	20	68	637	32
4	MVC - Build SLCo	66	43	55	16	100	598	31
5	Mid Jordan LRT	70	16	43	61	100	565	30
6	I-80	64	41	70	56	62	564	29
7	West Valley LRT Line	77	6	60	54	100	563	28
8	3500 South-a	58	48	65	54	52	542	27
9	State St.	32	41	75	63	78	513	26
10	I-215	42	34	66	35	79	489	25
11	Airport LRT	39	2	67	66	100	457	24
12	3500 South-b	39	48	52	54	31	426	23
13	9000 South	34	74	31	39	11	417	22
14	7800 South-b	45	59	41	48	7	416	21
15	5600 West	38	62	46	41	4	394	20
16	I-15 IntX - 11400 S	39	47	34	52	8	362	19
17	11400 South	33	59	37	33	7	359	18
18	10400 South	35	47	28	46	19	357	17
19	4500 South	34	41	46	47	15	349	16
20	Redwood Road-a	22	42	42	40	33	344	15
21	Redwood Road-b	25	65	24	38	5	340	14
22	9000 So./9400 So.	29	55	37	46	2	339	13
23	900 East	26	41	70	46	8	334	12
24	7800 South-a	37	37	47	47	8	332	11
25	State St. w/RR Bridge	36	40	49	47	2	327	10
26	Draper LRT Line	39	11	49	53	32	316	9
27	Main Street / 300 West	18	47	54	63	1	312	8
28	700 East	23	40	51	51	8	304	7
29	10600 South	36	37	28	41	1	289	6
30	Wasatch Boulevard	23	51	20	40	0	284	5
31	3900 South	21	37	46	47	0	268	4
32	7000 South	18	37	36	47	0	250	3
33	3100 South	17	37	40	47	0	248	2
34	Highland Drive	13	44	27	41	1	240	1

* 3500 S-a project has CHF funds.

Salt Lake County 0.25-cent Sales Tax - Funding Facts

FACTOIDS:

- The legislation devotes ¼ of the 0.25-cent sales tax to state highway corridor preservation leaving 0.1875 cents for the SLCOG to prioritize (0.25 cents – 0.0625 cents = 0.1875 cents).
- Out of the $2.5B to be raised over 30 years, derived from the 0.1875 cents sales tax, Mid Jordan LRT would need 17%, West Valley LRT needs 30%, and Commuter Rail South (SL) requires 50+%. Under this scenario, approximately 2+% would be available for roads. See Table 1 below.
- Every $25M dedicated to projects other than the three rail projects delays one of these projects one year.
- The 2015 objectives of the 2030 long-range transportation plan can be met by spending the 0.1875 cent sales tax (0.25 cents less 0.0625 to MVC corridor) as shown in Table 1.
- Intersections (53rd S/State Street, 53rd & 47th at Redwood Rd.) – this project is already funded
- SR 201 – Project most critical at a later stage when MVC is opened to traffic
- MVC (Build SLCounty) – Project already receives ¼ of this tax

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PROJECT SELECTION BY SLCOG EXTENDED (see Table 1):

Table 1 "0.1875 cent sales tax"

Project	Per cent of 0.1875 Sales Tax/$2.5B	Amount of Sales Tax (cents)	Amount of Sales Tax Funds	Year Opens	Notes
Commuter Rail + M&O	50+%	0.094375	$1,300	2015	Construction and Operating
Mid Jordan LRT	17%	0.031875	$450 (Total $700)	2012	Assumes $250M of Federal
West Valley LRT	30%	0.05625	$750	2015	
I-80 Widening	2+%	0.005	$66 (Total $128)	2009	Total cost $128M, $45M CHF Available Leaving gap Of $83M
SR201	0%	0.00	(Total $105)		No funding
Totals	100%	0.1875	$2,500+		

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Appendix B

List of Criteria and Factors with Definitions

Criteria 1-Congestion Relief

Factor 1-*2015 PM Person Travel Time Reduced (person minutes)* - Daily person minutes saved in the corridor during the 3 hr pm peak period (2015)

Factor 2-*Current PM Peak Period V/C* - The current 2-way volume/capacity ratio during the peak period

Factor 3-*2015 PM Peak Corridor Person Volume* - Projected daily volume of passengers passing through the corridor during the peak period (2015)

Criteria 2-Cost Effectiveness

Factor 4-*2015 PM Person Travel Time Reduced/Annualized Construction Cost* - Daily person minutes saved in the corridor during the 3 hr pm peak period (2015) divided by the annualized construction cost (in $million)

Factor 5-*Tax Funded Annual O&M ($/mile)* - Annual cost to operate and maintain the project per mile

Criteria 3-Community Factors

Factor 6-*Percent Trucks* - Current ratio of trucks/vehicles in corridor

Factor 7-*Employment w/in Buffer (1.5 mi hwy, 0.5 mi transit)* - Current number of jobs within a 1.5 mile radius of the highway project (and number of jobs within a 0.5 miles radius of the transit projects)

Factor 8-*Special Populations (w/in 0.25 mi buffer)* - 2000 census count of the special population (disabled, low-income, and elderly) within a 0.25 mile buffer zone from project

Factor 9-*Additional Width for New Project (feet)* - Width of ROW (right of way) still needed to be purchased for the project

Criteria 4-Environmental Factors

Factor 10-*Reduced CO % Nox Daily Emissions (lbs/day)* - Change in daily emissions directly influenced by completion of project

Factor 11-*VMT Reduced (NB-Build)* - Change of number of vehicle miles traveled on project

Factor 12-*Impact to Critical Lands* - Total number of critical lands (steep slopes, wildlife habitat, lake shores, streams, and wetlands) affected by project (in acres)

Factor 13-*Growth Principle* - Number of special centers (total of 55) within 0.5 mile radius of project

Criteria 5-Safety

Factor 14-*2015 Acc. Reduced/Ann. Cost (acc./$1,000,000)* - 2015 accidents reduced by completing the project / annualized construction cost (in $M)

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Appendix C

Salt Lake Co. Project Prioritization – ¼ Cent Transportation Sales Tax

			A. Project Measures													
			Congestion Relief			Cost Effectiveness		Community Factors				Environmental Factors				Safety
	Project	Construction Cost	2015 PM Person Travel Time Reduced (person-minutes)	Current PM Peak Period V/C	2015 PM Peak Corridor Person Volume	Reduced / Annualized Construction Cost (min/$M)	Tax Funded Annual O & M ($/mile)	Percent Trucks	Employment w/in Buffer (1.5 mi hwy, 0.5 mi transit)	Special Populations (w/in 0.25 mi buffer)	Additional Width for New Project (feet)	Reduced CO & NOx Daily Emissions (lbs/day)	VMT Reduced (NB - Build)	Impacts to Critical Lands	Growth Principles	2015 Acc. Reduced / Ann. Cost (acc/$1,000,000)
	Mean		[illegible]	[illegible]	[illegible]	*5,492*	*-$98,591*	*11.2*	*28,897*	*1,287*	*-34.1*	*-479*	*-18,249*	*-8.6*	*2.1*	[illegible]
a	3500 South-a	$50,000,000	9,150	1.51	18,300	2,813	-$44,000	11.2	47,549	1,855	-6.0	109	4,133	0.0	2	0.4695
b	3500 South-b	$50,000,000	8,610	0.83	12,300	2,647	-$44,000	10.1	35,467	1,337	-26.0	128	4,832	0.0	2	0.2794
c	3900 South	$5,500,000	0	0.81	5,100	0	-$30,000	11.3	19,937	1,186	-18.0	-18	-689	0.0	1	0.0040
d	4500 South	$35,000,000	2,880	0.86	14,400	1,265	-$44,000	9.2	40,555	413	0.0	-96	-3,621	0.0	1	0.1401
e	7000 South	$8,000,000	0	0.69	4,800	0	-$30,000	12.4	9,336	479	-7.0	-4	-134	0.0	1	0.0019
f	7800 South-a	$11,000,000	0	1.30	11,700	0	-$30,000	19.2	16,890	563	-26.0	48	1,808	0.0	1	0.0713
g	7800 South-b	$32,200,000	10,200	1.17	10,200	4,870	-$30,000	19.2	18,310	9	-59.0	216	8,177	0.0	1	0.0598
h	9000 So./9400 So.	$12,300,000	3,120	0.92	7,800	3,899	-$30,000	6.9	19,873	774	-8.0	-121	-4,575	0.0	1	0.0146
i	10600 South	$18,000,000	0	1.37	9,000	0	-$30,000	7.8	4,894	329	0.0	53	1,999	0.0	0	0.0056
j	10400 South	$54,000,000	7,440	0.85	9,300	2,118	-$30,000	7.2	10,699	194	0.0	-130	-4,913	-2.0	1	0.1760
k	5600 West	$25,900,000	9,180	1.08	5,400	5,449	-$30,000	16.9	13,426	924	-40.0	-24	-926	0.0	0	0.0400
l	I-215	$62,100,000	0	0.44	39,600	0	-$55,000	7.5	70,219	1,913	0.0	-4,537	-171,702	-53.1	5	0.7172
m	Redwood Road-a	$38,000,000	3,000	0.59	7,500	1,214	-$30,000	19.1	5,712	658	-40.0	-111	-4,211	-0.4	0	0.3007
n	Redwood Road-b	$20,000,000	7,920	0.47	6,600	6,067	-$30,000	6.9	4,984	95	-26.0	-495	-18,722	-6.6	0	0.0431
o	State St.	$45,000,000	3,600	0.83	12,000	1,230	-$44,000	11.8	59,525	2,307	0.0	-332	-12,554	0.0	4	0.7042
p	700 East	$26,800,000	990	0.60	9,900	568	-$30,000	8.4	30,287	1,623	-26.0	-351	-13,278	-0.4	2	0.0719
q	900 East	$23,900,000	1,980	0.73	9,900	1,274	-$44,000	11.4	47,952	2,394	-26.0	-123	-4,644	-0.9	1	0.0716
e	Wasatch Boulevard	$9,000,000	1,860	0.58	9,300	3,177	-$30,000	4.7	1,736	137	-20.0	-40	-1,510	-5.3	0	0.0036
s	I-80	$110,000,000	8,600	0.95	48,000	1,342	-$55,000	8.6	53,027	2,387	0.0	-465	-17,596	0.0	3	0.5658
t	SR-201	$105,000,000	39,390	0.83	39,000	5,767	-$55,000	7.5	76,061	244	0.0	-3,884	-147,001	-47.1	1	0.6149
u	3100 South	$5,300,000	0	0.61	4,800	0	-$30,000	12.4	30,750	297	-88.0	1	25	-0.2	1	0.0003
v	9000 South	$28,100,000	14,718	0.46	7,800	6,052	-$30,000	6.9	17,594	201	0.0	-1,452	-54,956	0.0	1	0.1026
w	11400 South	$28,000,000	8,820	0.82	6,300	4,842	-$30,000	12.4	26,925	115	-86.0	-1,488	-56,309	-4.1	0	0.0642
x	I-15 IntX - 11400 S	$62,800,000	9,455	0.82	12,056	2,314	-$30,000	8.6	23,895	11	0.0	-233	-8,830	0.0	2	0.0750
y	Main Street / 300 West	$21,600,000	2,970	0.57	3,300	2,114	-$30,000	12.4	44,664	921	-40.0	-302	-11,428	0.0	4	0.0055
z	Highland Drive	$12,000,000	1,260	0.26	6,300	1,614	-$30,000	9.9	5,798	439	-106.0	0	-8	-1.5	0	0.0052
aa	MVC - Build SLCo	$1,395,000,000	129,033	0.71	20,005	1,836	-$55,000	16.9	71,513	1,131	-328.0	-4,345	-164,447	-110.7	2	47.3084
bb	State St. w/RR Bridge	$28,000,000	1,720	0.82	18,329	944	-$44,000	11.7	17,855	1,561	-24.4	-13	-493	0.0	1	0.0204
cc	Int - 53/State, 53 & 47 Rdwd	$4,700,000	34,448	0.99	80,216	112,672	-$44,000	19.3	48,201	2,834	-11.4	156	0	0.0	5	0.1001
dd	Airport LRT	$255,000,000	8,732	0.71	15,000	526	-$654,364	12.4	42,405	2,235	-28.0	158	5,968	-6.6	14	1.9809
ee	West Valley LRT Line	$260,000,000	22,609	1.51	20,700	1,331	-$454,300	13.4	17,657	3,270	-33.0	269	10,195	-3.6	2	4.5689
ff	Mid Jordan LRT	$368,000,000	30,024	1.03	17,550	1,254	-$288,059	8.0	12,315	1,654	-33.0	473	17,904	-1.5	3	14.4288
gg	Draper LRT Line	$89,400,000	14,100	0.60	10,200	2,425	-$544,111	9.0	3,282	2,880	-33.0	96	3,647	-1.5	2	0.2946
hh	Commuter Rail South (SL only)	$370,000,000	74,448	1.02	89,860	3,093	-$343,273	11.0	33,201	6,371	-20.0	575	23,375	-48.2	8	3.6244

Variation in method of measurement

New Highway   Widen Highway   Transit

C. Normalized Scores (scaled 0-100)

	Project	Congestion Relief: 2015 PM Person Travel Time Reduced (person-minutes)	Congestion Relief: Current PM Peak Period V/C	Congestion Relief: 2015 PM Peak Corridor Person Volume	Cost Effectiveness: PM Person Time Reduced / Annualized Construction Cost (min/$M)	Cost Effectiveness: Tax Funded Annual O & M ($/mile)	Community Factors: Percent Trucks	Community Factors: Employment w/in Buffer (1.5 mi hwy, 0.5 mi transit)	Community Factors: Special Populations (w/in 0.25 mi buffer)	Community Factors: Additional Width for New Project (feet)	Environmental Factors: Reduced CO & NOx Daily Emissions (lbs/day)	Environmental Factors: VMT Reduced (NB - Build)	Environmental Factors: Impacts to Critical Lands	Environmental Factors: Growth Principles	Safety: 2015 Acc. Reduced/ Ann. Cost (acc./$1,000,000)
	Mean														
a	3500 South-a	33	91	52	26	71.07	50	82	72	55	56	56	54	47	51.7
b	3500 South-b	31	50	35	24	71.07	45	61	52	51	57	57	54	47	30.8
c	3900 South	0	49	14	0	73.91	50	34	46	53	55	55	54	24	0.4
d	4500 South	10	51	41	12	71.07	41	70	16	56	54	54	54	24	15.4
e	7000 South	0	42	14	0	73.91	55	16	19	55	55	55	54	24	0.2
f	7800 South-a	0	78	33	0	73.91	86	29	22	51	56	56	54	24	7.9
g	7800 South-b	37	70	29	44	73.91	86	32	0	46	57	57	54	24	6.6
h	9000 So./9400 So.	11	55	22	35	73.91	31	34	30	54	54	54	54	24	1.6
i	10600 South	0	82	25	0	73.91	35	8	13	56	56	56	54	0	0.6
j	10400 South	27	51	26	19	73.91	32	19	8	56	54	54	53	24	19.4
k	5600 West	33	65	15	50	73.91	75	23	36	49	55	55	54	0	4.4
l	I-215	0	26	100	0	68.84	33	100	74	56	6	7	28	100	79.0
m	Redwood Road-a	11	35	21	11	73.91	85	10	26	49	54	54	54	0	33.1
n	Redwood Road-b	29	28	19	55	73.91	31	9	4	51	50	50	51	0	4.8
o	State St.	13	50	34	11	71.07	53	100	90	56	52	52	54	94	77.6
p	700 East	4	36	28	5	73.91	37	52	63	51	51	51	54	47	7.9
q	900 East	7	44	28	12	71.07	51	83	93	51	54	54	54	24	7.9
e	Wasatch Boulevard	7	35	26	29	73.91	21	3	5	52	55	55	52	0	0.4
s	I-80	35	57	100	12	68.84	38	92	93	56	50	50	54	71	62.3
t	SR-201	100	50	100	53	68.84	33	100	9	56	13	14	31	24	67.8
u	3100 South	0	37	14	0	73.91	55	53	12	41	55	55	54	24	0.0
v	9000 South	53	28	22	73	73.91	31	30	8	56	39	40	54	24	11.3
w	11400 South	32	49	18	44	73.91	55	47	4	41	39	39	52	0	7.1
x	I-15 IntX - 11400 S	34	49	34	21	73.91	38	41	0	56	53	53	54	47	8.3
y	Main Street / 300 West	11	34	9	19	73.91	55	77	36	49	52	52	54	94	0.6
z	Highland Drive	5	15	18	15	73.91	44	10	17	38	55	55	53	0	0.6
aa	MVC - Build SLCo	100	43	56	17	68.84	75	100	44	0	8	9	0	47	100.0
bb	State St. w/RR Bridge	6	49	52	9	71.07	52	31	61	52	55	55	54	24	2.2
cc	Int - 53/State, 53 & 47 Rdwd	100	60	100	100	71.07	86	83	100	54	57	55	54	100	11.0
dd	Airport LRT	32	43	42	5	0.00	55	73	87	51	57	57	51	100	100.0
ee	West Valley LRT Line	81	91	58	12	0.00	60	31	100	50	58	58	52	47	100.0
ff	Mid Jordan LRT	100	62	50	11	21.57	36	21	64	50	60	60	54	71	100.0
gg	Draper LRT Line	51	36	29	22	0.00	40	6	100	50	56	56	53	47	32.5
hh	Commuter Rail South (SL only)	100	61	100	28	10.30	49	57	100	52	61	62	31	100	100.0

Score = 0   Score = 100   Variation in scoring method   New Highway   Widen Highway   Transit

C. Normalized Scores (scaled 0-100)

	Project	Congestion Relief: 2015 PM Person Travel Time Reduced (person-minutes)	Congestion Relief: Current PM Peak Period V/C	Congestion Relief: 2015 PM Peak Corridor Person Volume	Cost Effectiveness: PM Person Time Reduced / Annualized Construction Cost (min/$M)	Cost Effectiveness: Tax Funded Annual O & M ($/mile)	Community Factors: Percent Trucks	Community Factors: Employment w/in Buffer (1.5 mi hwy, 0.5 mi transit)	Community Factors: Special Populations (w/in 0.25 mi buffer)	Community Factors: Additional Width for New Project (feet)	Environmental Factors: Reduced CO & NOx Daily Emissions (lbs/day)	Environmental Factors: VMT Reduced (NB - Build)	Environmental Factors: Impacts to Critical Lands	Environmental Factors: Growth Principles	Safety: 2015 Acc. Reduced/Ann. Cost (acc/$1000,000)
	Mean														
a	3500 South-a	33	91	52	26	71.07	50	82	72	55	56	56	54	47	51.7
b	3500 South-b	31	50	35	24	71.07	45	61	52	51	57	57	54	47	30.8
c	3900 South	0	49	14	0	73.91	50	34	46	53	55	55	54	24	0.4
d	4500 South	10	51	41	12	71.07	41	70	16	56	54	54	54	24	15.4
e	7000 South	0	42	14	0	73.91	55	16	19	55	55	55	54	24	0.2
f	7800 South-a	0	78	33	0	73.91	86	29	22	51	56	56	54	24	7.9
g	7800 South-b	37	70	29	44	73.91	86	32	0	46	57	57	54	24	6.6
h	9000 So./9400 So.	11	55	22	35	73.91	31	34	30	54	54	54	54	24	1.6
i	10600 South	0	82	25	0	73.91	35	8	13	56	56	56	54	0	0.6
j	10400 South	27	51	26	19	73.91	32	19	8	56	54	54	53	24	19.4
k	5600 West	33	65	15	50	73.91	75	23	36	49	55	55	54	0	4.4
l	I-215	0	26	100	0	68.84	33	100	74	56	6	7	28	100	79.0
m	Redwood Road-a	11	35	21	11	73.91	85	10	26	49	54	54	54	0	33.1
n	Redwood Road-b	29	28	19	55	73.91	31	9	4	51	50	50	51	0	4.8
o	State St.	13	50	34	11	71.07	53	100	90	56	52	52	54	94	77.6
p	700 East	4	36	28	5	73.91	37	52	63	51	51	51	54	47	7.9
q	900 East	7	44	28	12	71.07	51	83	93	51	54	54	54	24	7.9
e	Wasatch Boulevard	7	35	26	29	73.91	21	3	5	52	55	55	52	0	0.4
s	I-80	35	57	100	12	68.84	38	92	93	56	50	50	54	71	62.3
t	SR-201	100	50	100	53	68.84	33	100	9	56	13	14	31	24	67.8
u	3100 South	0	37	14	0	73.91	55	53	12	41	55	55	54	24	0.0
v	9000 South	53	28	22	73	73.91	31	30	8	56	39	40	54	24	11.3
w	11400 South	32	49	18	44	73.91	55	47	4	41	39	39	52	0	7.1
x	I-15 IntX - 11400 S	34	49	34	21	73.91	38	41	0	56	53	53	54	47	8.3
y	Main Street / 300 West	11	34	9	19	73.91	55	77	36	49	52	52	54	94	0.6
z	Highland Drive	5	15	18	15	73.91	44	10	17	38	55	55	53	0	0.6
aa	MVC - Build SLCo	100	43	56	17	68.84	75	100	44	0	8	9	0	47	100.0
bb	State St. w/RR Bridge	6	49	52	9	71.07	52	31	61	52	55	55	54	24	2.2
cc	Int - 53/State, 53 & 47 Rdwd	100	60	100	100	71.07	86	83	100	54	57	55	54	100	11.0
dd	Airport LRT	32	43	42	5	0.00	55	73	87	51	57	57	51	100	100.0
ee	West Valley LRT Line	81	91	58	12	0.00	60	31	100	50	58	58	52	47	100.0
ff	Mid Jordan LRT	100	62	50	11	21.57	36	21	64	50	60	60	54	71	100.0
gg	Draper LRT Line	51	36	29	22	0.00	40	6	100	50	56	56	53	47	32.5
hh	Commuter Rail South (SL only)	100	81	100	28	10.30	49	57	100	52	61	62	31	100	100.0

Score = 0 Score = 100 Variation in scoring method New Highway Widen Highway Transit

		D. Project Priority						
		3	3	1	1	2		
	Project	Congestion Relief	Cost Effectiveness	Community Factors	Environmental Factors	Safety	Composite Score	Rank
	Mean							
a	3500 South-a	58.5	48.3	64.8	53.5	51.7	542	27
b	3500 South-b	38.5	47.6	52.4	53.6	30.8	426	23
c	3900 South	21.1	37.0	45.9	46.9	0.4	268	4
d	4500 South	34.1	41.3	45.8	46.5	15.4	349	16
e	7000 South	18.4	37.0	36.2	47.0	0.2	250	3
f	7800 South-a	37.1	37.0	47.0	47.3	7.9	332	11
g	7800 South-b	45.3	59.1	40.8	48.2	6.6	416	21
h	9000 So./9400 So.	29.4	54.7	37.4	46.4	1.6	330	13
i	10600 South	35.9	37.0	27.9	41.4	0.6	289	6
j	10400 South	34.6	46.6	28.5	46.1	19.4	357	17
k	5600 West	37.8	61.8	45.9	41.0	4.4	394	20
l	I-215	42.1	34.4	65.9	35.3	79.0	489	25
m	Redwood Road-a	22.4	42.5	42.4	40.5	33.1	344	15
n	Redwood Road-b	25.0	64.7	23.6	37.7	4.8	340	14
o	State St.	32.1	41.1	74.5	63.0	77.6	513	26
p	700 East	22.5	39.5	51.1	51.0	7.9	304	7
q	900 East	26.3	41.3	69.5	46.3	7.9	334	12
e	Wasatch Boulevard	22.6	51.4	20.4	40.3	0.4	284	5
s	I-80	63.8	40.5	69.7	56.3	62.3	564	29
t	SR-201	83.2	60.7	49.7	20.4	67.6	637	32
u	3100 South	16.7	37.0	40.2	47.0	0.0	248	2
v	9000 South	34.2	73.6	31.2	39.2	11.3	417	22
w	11400 South	32.9	59.0	36.9	32.6	7.1	359	18
x	I-15 IntX - 11400 S	39.1	47.5	34.0	51.7	8.3	362	19
y	Main Street / 300 West	18.0	46.6	54.3	63.1	0.6	312	8
z	Highland Drive	12.6	44.3	27.2	41.0	0.6	240	1
aa	MVC - Build SLCo	66.4	42.8	54.8	16.0	100.0	598	31
bb	State St. w/RR Bridge	35.7	39.8	48.8	47.0	2.2	327	10
cc	Int - 53/State, 53 & 47 Rdwd	86.5	85.5	80.8	66.6	11.0	686	34
dd	Airport LRT	38.9	2.4	66.6	66.2	100.0	457	24
ee	West Valley LRT Line	76.8	6.1	60.1	54.0	100.0	563	28
ff	Mid Jordan LRT	70.4	16.5	42.9	61.2	100.0	565	30
gg	Draper LRT Line	38.6	11.0	49.0	53.3	32.5	316	9
hh	Commuter Rail South (SL only)	87.0	19.3	64.7	63.4	100.0	647	33

Agency Response

Salt Lake County Council of Governments

AN ASSOCIATION OF LOCAL GOVERNMENTS IN SALT LAKE COUNTY, UTAH

AGENDA

SL County Government Center
N 2003
2 pm

October 10, 2007

John M. Schaff
Auditor General
PO Box 145315
SLC, UT 84114-5315

Dear Mr. Schaff:

Enclosed is a response to the 'Exposure Draft', A Review of the Transportation Prioritization Process, which was received October 4, 2007.

We have divided the enclosure into two parts. One is the policy response indicating the Salt Lake County Council of Governments decision making process. The second is a technical response from our staff at Wasatch Front Regional Council.

We appreciate your comments and recommendations to improve the prioritization process.

Thank you for the detail provided in the report and the opportunity to discuss the process with you.

Sincerely,

Dennis J Nordfelt

Mayor Dennis Nordfelt
President, SL County COG
2007

Darrell Smith

Mayor Darrell Smith
President, SL County COG
2006

Alta – Bluffdale – Cottonwood Heights – Draper – Herriman – Holladay – Midvale – Murray – Riverton – Salt Lake City
Salt Lake County – Sandy – South Jordan – South Salt Lake City – Taylorsville – West Jordan – West Valley City

Barbara Thomas - Intergovernmental Coordinator
295 North Jimmy Doolittle Road Salt Lake City, Utah 84116
Phone: (801)363-4230 ext.124 - Email: bthomas@wfrc.gov

POLICY RESPONSE

HB 4001

In 2006, the Legislature authorized counties to impose an additional 0.25 percent sales and use tax, subject to voter approval, through the adoption of HB 4001. The legislation requires local officials to follow a written prioritization process for ranking and prioritizing projects.

This required prioritization process applies only to the optional tax levy permitted by Part 17 of the sales and use tax code. One fourth of these revenues are statutorily dedicated to corridor preservation.

As part of the deliberations about which projects should be ranked, the Council of Governments interpreted HB 4001 to allow operations and maintenance (O&M) costs for transit, but limited the quarter cent funding to O&M for commuter rail only.

Background

As early as December of 2003, the Wasatch Front Regional Council unanimously adopted the Regional Transportation Plan that included an accelerated TRAX construction program. The new plan and policy proposed an additional 0.25 cents ("third quarter") sales tax to accelerate the 4 TRAX extensions from a completion date in 2030 to 2015.

Local officials had originally requested that the Salt Lake County Council raise property taxes to fund four light rail lines: the Draper, West Valley, Mid Jordan and Airport lines. At that time the legislature felt that a sales tax would be preferable to a property tax increase. As part of the legislation allowing a vote on a sales tax increase in lieu of a property tax increase, the legislature mandated that highway projects had to be considered and weighed against rail projects. The Salt Lake County Council of Governments applied the comparative process, but also felt they had received a mandate to fund transit in the vote for Proposition 3.

Chronology/Process

The COG requested assistance from the Wasatch Front Regional Council (WFRC) staff to develop the project ranking based on the approved process. The projects to be ranked were taken from the 2030 Regional Transportation Plan. Comments about the criteria and factors developed by the engineers and planners at WFRC, UTA and UDOT are included in the second enclosure.

First, however, in developing the list of projects to be ranked, only two highway projects compare with the magnitude of the five transit projects in Salt Lake County: the Mountain View Corridor freeway ($1,395M) and the I-80 freeway capacity expansion ($110M). UTA had developed five high cost (greater than $100M) transit projects that are included in the first phase of the 2004-2030 Regional Transportation Plan: four TRAX extensions and Commuter Rail South.

The prioritization process weighed congestion relief heavily but also followed the legislation to include other specified factors not necessarily related to congestion relief. In accordance with the legislation, the Expanded COG, which included the members of the Salt Lake County Council as well as all of the mayors in Salt Lake County, added other criteria it considered appropriate. One such criterion was safety. Historically, UDOT has included safety in developing TIF projects. The prioritization process received approval from the Executive Appropriations Committee of the Legislature on December 13, 2006, subject to certain changes.

In addition to these quantified factors, the Expanded COG noted other factors that influenced their project selection. For example, the legislature had already designated 25% of the sales tax receipts for right-of-way purchases for highways, and the COG felt strongly that they should consider the voter's wishes to fund light rail lines within Salt Lake County with a portion of the remaining funds. Exit polling after the referendum showed most voters preferred using the funds for rail transit.

UDOT's I-15 reconstruction project in Utah County requires an innovative "traffic control plan" during construction. At Joint Policy Advisory Committee meetings (JPAC) during 2006, Mountainland Association of Governments (MAG) members (from Utah County) had emphasized to COG members the critical need to open Commuter Rail South before the highway reconstruction project began. The MAG representatives noted that I-15 is a crucial route for the entire state in addition to being the primary north/south artery in Utah County.

Another factor considered by the Expanded COG is the status of funding for the highway and transit projects on the prioritized list. Transit and highway projects differ when securing funds, making side-by-side comparison all the more difficult. In practice, federal highway funds are predictably allocated by formula but the new starts federal transit funds are discretionary. Funding for highway projects to be constructed by 2015 was more secure than funding for the transit projects, the latter depending on a federal approval process and the passage of a "third quarter" cent sales tax. By the time the Expanded COG selected the projects to be funded with the new "third quarter" cent, the funding for many of the higher ranked highway projects had been secured with other funding sources predicted to be available for the 2007-2012 Transportation Improvement Program.

The COG looked at the prioritization process and considered the technical data for the individual transit and highway projects and weighed them against the needs of the county, communities and the region. As required by HB 4001 59-12-1705-2-4 (a) & (b),

reasons for the projects selected were given at the Expanded COG meeting on September 23, 2006.

The statement below was added to the motion for approval of the prioritization process at that meeting:

"The Project Prioritization Process (PPP) incorporates the factors required by legislation plus other factors added by the Salt Lake Council of Governments as permitted by the legislation. The additional factors enable our process to reflect Salt Lake COG intentions to largely replace the proposed transit property tax with 0.25 cent sales tax. We also fully support allocating one-quarter of the sales tax increase (0.0625 cents) to major highway corridor preservation."

Conclusion

At the December 19, 2006 Expanded COG meeting, Mayor Nordfelt, in response to the legislation requiring that the COG explain their project choice if some projects are skipped over and looking at the Prioritized List of Transportation Projects, stated the following:

Priority project #1(Intersections at 53/State, 53rd and 47th at Redwood) already had funding.

Project #3 (SR 201) is needed later around the time Mountain View Corridor opens.

Project #4 (MVC – Build SL County) will receive ¼ of the ¼ cent sales tax increase

Project #6 (I-80) is needed to increase capacity.

Based on this review and in response to voter consideration, Mayor Nordfelt made the MOTION, seconded by Councilman Jensen, to list the following as priorities:

Priority #1: Mid Jordan and West Valley light rail lines with about 47% of the money.

Priority #2: Commuter rail from Salt Lake County to Utah County with about 50+% of the money

Priority #3: I-80 widening project with the remainder as an incentive for the state to make up the difference.

The Expanded SLCOG final project selection is summarized in the following revised table:

New Table "Expanded SLCOG Adopted 0.25 cent sales tax"

Project	**Per cent of 0.25 Sales Tax/$2.5B**	**Amount of Sales Tax (cents)**	**Amount of Sales Tax Funds**	**Notes**
Mid Jordan and West Valley LRT	35%	0.088125	$1,200 (Total $1450)	Assumes $250M of Federal
Commuter Rail + M&O	38%	0.094375	$1,300	Construction and Operating
1-80 Widening	2+%	0.005	$66 (Total $128)	Total cost $128M, $45M CHF Available Leaving gap Of $83M
MVC	25%	0.0625		
Totals	100%	0.2500	$2,500+	

We feel the Salt Lake COG considered the factors and criteria included in the prioritization process as well as the community needs and desires and made a decision that fulfills the requirements outlined in HB4001 and reflects the will of the voters. **In the end, the Expanded Salt Lake County Council of Governments distributed the local sales tax increase about evenly between two state highways, two TRAX lines and one Commuter Rail South line accelerated to enable I-15 reconstruction**.

TECHNICAL RESPONSE

Summary – (see bullet list at the top of page 18)

The SLCOG and WFRC will consider the recommendations made in the three bullet points on page 18. However, our initial response is as follows:

- The capping we utilized satisfactorily fulfills the desire to address statistical "outlier" scores.
- The offsetting of negative measures satisfactorily retains the relative scores.
- Out of necessity, some factors measure the relative need for transportation improvements between corridors; other factors deal with the specific benefits of each project.

Recognizing that the *Safety* factor was calculated incorrectly, WFRC has corrected this factor in subsequent prioritization analyses. This correction was brought to the attention of the auditors by WFRC staff at the beginning of the audit process.

The WFRC initially established an interagency team with representatives from UDOT and UTA to get input on establishing the priority setting process. Input from both UDOT and UTA was helpful in identifying factors which would be fair measures of project need and cost effectiveness.

During the WFRC led interagency team meetings, UDOT explained the process they established to rank highway projects for the Transportation Investment Fund (TIF). They included factors for safety, traffic growth and truck traffic, but not for cost effectiveness.

Factors Considered Biased and Therefore Thrown Out

The WFRC interagency team considered many potential factors as we narrowed the list to what we thought we could measure in short order. Some of the factors ruled out were: the cost per mile of owning and operating an automobile multiplied by the 2015 vehicle miles of travel anticipated on a proposed highway project; "constructability" as measured by project readiness for construction; and, the status of the environmental process. All three of these measures would have favored transit projects.

Page 15 – first sentence, first paragraph

WFRC agrees with the auditors about including project length in measuring *Tax Funded Annual O&M* costs and *Additional Width for New Projects*. WFRC staff identified this concern earlier to the auditors and made this change in the Davis County project priority process that was developed subsequent to the Salt Lake process.

Page 16 – third paragraph

This paragraph mischaracterizes the prioritization process "capping mechanism". The capping mechanism was devised not because the values were large, but because the *range* of values was large. Because of the large disparity in scoring some factors, a few high scoring (or statistical outlier) projects tilt the scale to one end making it difficult to discriminate between the majority of projects which score at the opposite end of the spectrum. The report should note that the "cap" for each factor was effectively set at twice the mean for all projects. A project with a factor score more than twice the mean for that factor was assigned the maximum score of 100 on a 0-100 scale. WFRC will entertain other means to address statistical outlier scores that may be proposed. For now the Davis County and Weber County prioritization processes use the method described above.

Page 16 – fourth paragraph

This paragraph addresses how the prioritization process deals with negative factors. Offsetting negative scale measures in the manner employed by WFRC was designed to identify the relative value of each project and properly place the project value on a positive 0-100 scale relative to the other projects. The first sentence states that "(negative values denotes a cost)" when actually there are four factors measured on a negative scale and only one of them is cost. The four factors measured on a negative scale are: 1) Tax Funded Annual O&M, 2) Additional Width for New Projects, 3) Reduced Emissions, and 4) Reduced VMT. For these four factors, the greater the measured value for the project the less desirable the project is. This is the opposite sense for measuring the other ten factors so these "negative factors" had to be rectified by some means. The means chosen was to "translate" the negative scores to a positive scale. Because lower cost is a desirable project factor, using the translated scores places these projects near the top of the 0-100 scale as one would expect.

A simple example of how the offsetting of negative scores works is provided here. If there are a group of projects with scores representing costs ranging from -4 to -100, the process would offset these by the absolute value of the minimum score plus the absolute value of the maximum score – in this example that would be 100 plus 4 for a total offset of 104. If project "A" had a score of -14, the offset score would be 90. This makes sense because a -14 cost is a relatively low cost and the project should therefore receive a high score. Project "A" and all other projects would then be normalized to a 0-100 scale in the same manner as the other project factors.

WFRC staff will reconsider how negative factors are considered based on guidance from the Audit staff. However, for now we have retained the same offsetting process for the Davis County and Weber County prioritization process.

Page 16 – last paragraph

This paragraph questions whether the data used for *2015 PM Peak Corridor Person Volume* and *Employment within Buffer* represent 2015 data and the impacts of transportation projects in the immediate vicinity of those projects. These two factors measure the relative need for transportation improvements in each corridor rather than the specific impacts of each project.

It should be clarified that the data used in the prioritization process for these two factors represent 2015 projections even though 2015 is not identified in the *Employment within Buffer* factor. The data do represent growth anticipated within the corridor by 2015 based on socio-economic projections and the implementation of transportation projects within the corridor as well as all other projects in the RTP.

Page 17 – second paragraph

This paragraph is concerned with two factors that are highly correlated – *Reduced CO & NOx Daily Emissions* and *VMT Reduced.* The WFRC intended to measure air quality reductions because there are federal guidelines to control vehicle emissions. The WFRC also desired to measure VMT (vehicle miles traveled) reductions because this is a key element of regional growth principles. The measures selected for these two factors are highly correlated but the factors come from two different requirements.

In effect this redundancy gives *VMT Reduction* somewhat more weight within the Environmental Criterion than *Impacts to Critical Land* or *Growth Principles*, but the weight for the Environmental Factor remains "1".