
VIII. FINANCIAL PLAN

The Intermodal Surface Transportation Efficiency Act (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) require that a financial plan be part of the overall transportation plan for a region. The purpose of this requirement is to ensure that the recommended improvements included in the plan can be implemented and that the air quality benefits assumed for the implementation of the plan are realistic. These realistic estimates of emissions reductions are needed for the air quality conformity analysis required by ISTEA and the Clean Air Act Amendments of 1991.

Potential revenue sources are summarized and estimates of future revenues from these sources are made for the 2030 LRP Update. The costs to meet the projected needs of the Transportation Plan for the Urbanized Area through the year 2030 are estimated. These costs include those required to meet the needs identified in the 2030 LRP Update as well as the costs required for general administration and the operation and maintenance of the existing transportation system. This chapter summarizes the Financial Plan of the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. The Financial Plan, Technical Report 44, contains detailed information on the revenue and cost assumptions and projections used to determine the resources available to implement the 2030 LRP Update.

PROJECTED REVENUES

The Wasatch Front Regional Council, in cooperation with the Utah Department of Transportation and the Utah Transit Authority, developed estimates of available revenues based on projected sources that will be available for transportation improvements through the year 2030. Included in these revenue estimates are federal, state and local sources for highway and transit improvements. Assumptions were made concerning revenue growth and new or increased sources of funds. The projections and assumptions used are discussed in the balance of this section. A more detailed description of potential federal, state, and local revenue sources for the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 has been provided in Appendix I.

HIGHWAY REVENUE SOURCES

Federal, state, and local government revenues will be available for the recommended highway improvements found in the Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030. These revenues were estimated for the years 2004 through 2030. Separate efforts were made to estimate funds that will be available to the Utah Department of Transportation and funds that will be available for local jurisdictions.

Revenue sources for UDOT include federal funds, state funds, and the Centennial Highway Funds (CHF). TEA-21 increased federal highway funding in Utah by approximately 50 percent. After 2003, federal funds are assumed to grow by two percent a year. State gasoline tax revenues were assumed to increase at a three percent rate per year. In addition, a five cent per gallon increase in the gas tax was assumed every six years beginning in 2006. State general funds will also contribute to highway improvements.

The four main sources of revenue available for regional and local transportation projects are: (1) federal funds for the Salt Lake and Ogden/Layton Surface Transportation Programs (STP) and the Congestion Mitigation / Air Quality Programs (CM AQ); (2) Class B and C Funds from state highway user revenues for counties and cities; (3) Salt Lake County's 1/4 of 1/4 cent sales tax; and (4) local general funds. Local funding, such as Class B and C funds, local general funds, and innovative funding sources, were also projected to grow at three percent per year.

Statewide Highway Revenues

Working with the WFRC, the UDOT Planning Division developed estimates of the projected revenues that will be available to UDOT through the year 2030. These revenues come from federal revenue, state revenue, the CHF, as discussed below. Details of these projections are included in the Financial Plan for the 2030 LRP Update.

Federal Revenue: ISTEA established several spending programs for federal funds for highway improvements, which are administered by UDOT and the State Transportation Commission. TEA-21 continued these programs with higher funding levels. These programs include Interstate Maintenance, National Highway System, Any Area Surface Transportation Program, STP Safety and Enhancement Programs, and Bridge Replacement Programs. TEA-21 authorized amounts were assumed to be available for these programs through 2003. A modest growth of two percent per year for each program was then assumed for the period between 2004 and 2030.

State Funds: State of Utah revenues for transportation are primarily generated through highway user fees. These include a 1/16 cent sales tax, motor fuel and special fuel taxes, vehicle control fees, motor vehicle registration, proportional registration, temporary permits, special transportation permits, highway use tax, and safety inspections and miscellaneous fees. In addition, the State Legislature has programmed state general funds to support UDOT projects. UDOT used historical growth rates for each of these sources to project future revenues. Overall, motor fuel consumption grew at a rate of about three percent per year. Other revenue sources have grown at rates of three to six percent.

State revenue projections also assume future increases in the state gas tax. The state gas tax has increased from seven cents per gallon to twenty-four and a half cents per gallon over the last twenty years. The latest increase was a five cents per gallon increase approved in 1997. This trend would indicate that it is reasonable to expect that the state gasoline tax will be raised by five cents per gallon every six years or so. The 2030 LRP Update assumes the gas tax will be raised in the year 2006, and thereafter in 2012, 2018, 2024, and 2030. This will result in a total tax increase of \$0.25 per gallon by 2030.

In establishing a Centennial Highway Fund in 1996, the Legislature greatly increased the amount of state general fund revenue going to UDOT. The CHF program initially assumed general fund revenues up to \$145,000,000 per year. The Legislature has recently reduced this level to approximately \$60,000,000 per year due to budget constraints. The 2030 LRP Update assumes approximately \$60,000,000 per year through 2007, but expects that the economy and budget situation will improve to allow the Legislature to provide \$100,000,000 per year afterwards.

Finally, UDOT will receive a 1/4 of the 1/4 cent transit sales tax in Salt Lake County, which was approved in November of 2000. The 1/16th of a cent sales tax was designated for state highway projects in Salt Lake County. WFRC is estimating that this sales tax will generate approximately \$752,000,000 through the year 2030. Table VIII-1 summarizes the amount of statewide highway revenue projected through the year 2030.

Transfers Appropriated to Other State Agencies : Not all of the highway user revenues are available to UDOT. In the past, approximately 8 percent of these funds have been diverted to other agencies, such as Highway Patrol, Driver's License Division, and the Utah State Tax Commission. Of the remaining amount, 25 percent is transferred to cities and counties through Class B and C funds. UDOT estimated that future amount of diversions to other agencies. The total amount of transfers and diversions from 2004 through 2030 is approximately \$7,438,000,000.

Local Revenues

There are three main sources of local revenues for transportation projects: (1) federal funds from the Salt Lake and Ogden/Layton Surface Transportation Program and the Congestion Mitigation/Air Quality Program; (2) Class B and C Funds from state highway user revenues for Counties and Cities; and (3) local general funds. In addition, other innovative sources will need to be used in the future to help finance specific highway improvements recommended in the 2030 LRP Update. The following section describes the various funds that are available to local cities and counties within the Wasatch Front Region.

Federal Funds: ISTEA established several spending programs for federal funds for highway improvements in urban areas, which the WFRC administers. TEA-21 continued these programs with higher funding levels. These programs are the Salt Lake and Ogden/Layton Surface Transportation Program and Congestion Mitigation/Air Quality Programs. For projecting future revenues, TEA-21 authorized amounts were assumed to be available for these programs through 2003. As with the other federal program revenues, a modest growth of two percent per year for each program was then assumed for the period between 2004 and 2030. These funds can be used for projects on the state highway system, as well as on local streets.

Class B and C Funds: The Class B and C roadway funds are allocated from the highway user fees revenues on a ratio of population and road miles for counties and cities in the state. Based on the current allocation formula, the Wasatch Front Urban Area currently receives approximately 41 percent of the Class B and C funds. Although the allocation formula will change in the future, the current percentage was maintained for the projection of future funding for this category.

General Funds: Cities and counties along the Wasatch Front program a significant amount of local general funds for highway maintenance and improvement. Current and past general fund spending on highways by counties and cities was examined to project future revenues. Based on the information provided in a survey of Wasatch Front communities, local governments are projected to spend about \$85,000,000 on highway maintenance and improvements in 2004. These local expenditures are projected to grow by three percent a year through 2030.

Innovative Sources: Local governments will need to consider several innovative highway funding programs in the future. Many already levy transportation impact fees on new developments. In addition, developers are a source for funding for major projects which benefit their development. These and other innovative sources will provide funding over the next 27-years for local highway projects. A total of approximately \$253,000,000 is assumed. Table VIII-2 summarizes the amount of regional and local highway revenue projected through the year 2030.

Table VIII-1

**SUMMARY OF PROJECTED
STATEWIDE HIGHWAY REVENUE
2004 – 2030**

PROJECTED STATEWIDE REVENUE	
SOURCE	AMOUNT
Federal Revenue	
Highway Trust Funds	5,457,000,000
State Revenue	
Highway User Funds (less diversions)	23,590,000,000
Centennial Fund – Bonds & Other Revenue	1,864,000,000
Transfers Appropriated to Other State Agencies	(7,434,000,000)
Total Statewide Revenue Available	23,477,000,000

Table VIII-2

**SUMMARY OF PROJECTED
REGIONAL AND LOCAL HIGHWAY REVENUE
2004 – 2030**

PROJECTED REGIONAL REVENUE	
SOURCE	AMOUNT
Surface Transportation Program	391,000,000
Congestion Mitigation / Air Quality	123,000,000
Salt Lake County 1/16 percent sales tax	752,000,000
Total WFRC Programmed Revenue	1,266,000,000
PROJECTED LOCAL HIGHWAY REVENUE	
Class B and C Program Funds	2,633,000,000
Local General Funds	3,451,000,000
Innovative Funding Sources	253,000,000
Total Local Highway Revenue	6,337,000,000

TRANSIT REVENUE SOURCES

Revenues for transit service and improvements are available from several sources including federal funds, a local sales tax, fares, and others. Federal funds for transit capital and planning assistance are made available through the FTA. These funding programs are financed through the federal gasoline tax as well as from general fund monies. The Utah Transit Authority is the primary recipient of these funds which are used to make system improvements, introduce new transit technology, increase service, and purchase new equipment.

Revenues for transit improvements were projected assuming an increase in local support to a one percent transit sales tax in Weber and Davis Counties and 15/16 percent in Salt Lake County beginning in 2007. In addition, federal formula grant funds available for transit were assumed to grow by three percent a year for operating costs. Also, it was assumed that federal discretionary funding for transit improvements, such as bus-to-bus facilities, fixed guideway and rail modernization, would be available at 54.6 million dollars in 2004 and would grow by about three percent per year to keep up with the inflation rate for capital costs. This is the equivalent of 52 percent of total major investment costs and 39 percent of all capital costs. Finally, fare revenue was projected to cover 20 percent of bus operating costs, just under five percent of its paratransit operating costs, and 40 percent of the north/south light-rail and regional commuter rail operating costs and 30 percent of Enhanced Bus, Bus Rapid Transit, and other light rail transit operating costs.

Federal Transit Funds

Federal funds for transit capital and planning assistance are made available through the FTA. These funding programs are financed through the federal gasoline tax currently going to the Mass Transit Account of the Highway Trust Fund as well as from general fund reserves. These are discussed below.

Section 5307 Formula Grants: This program provides a block grant to local transit agencies for capital improvements. These funds can also be used to support preventive maintenance and planning activities. Funding is distributed annually to the Wasatch Front Urban Area by a formula based on population, population density, and transit revenue miles of service. Fiscal Year 2003 Section 5307 grants were \$22 million for the Salt Lake and the Ogden/Layton Urbanized Areas. The WFRC assumed that this annual amount would grow by 4.2 percent each year in order to keep up with the inflation of capital costs. A total of \$1,109,000,000 is projected to be available for Section 5307 between 2004 and 2030 for the Wasatch Front Urban Area.

Section 5309 Discretionary Bus/Bus Facilities Grants: This program provides discretionary funding for capital improvement projects such as the purchase of buses, the construction of park-and-ride lots, or the construction of operating and maintenance facilities. These funds are allocated by FTA throughout the country on the basis of need. The federal share of these projects is up to 80 percent but actual share typically is much lower. Because of their discretionary nature, Section 5309 funding for area transit projects varies from year to year. For this 2030 Long Range Transportation Plan Update analysis, the WFRC assumed that UTA would receive a little more than the amount they received in 2003 (\$3,900,000), with a three percent annual increase to adjust for inflation. The projected total for this discretionary grant category is \$165,500,000 for the next 27 years which is the equivalent of 11 percent of the region's total non-rail, non-BRT, or enhanced bus capital costs.

Section 5309 New Starts Grants: FTA also has a separate Section 5309 Program for new projects over \$50,000,000. The federal share for these projects generally range from 50 to 80 percent. The WFRC assumed that UTA would receive a revenue stream of \$50.5 million per year. Over the life of the Long Range Plan Update this federal income would amount to about 46 percent of the total capital costs of regional commuter rail, light rail transit, and BRT. A total of \$2,408,000,000 is projected for this grant program.

Other Federal Grants: FTA also has a separate Section 5309 Program for rail modernization which each rail project becomes eligible for after seven years in service. A total of \$50,500,000 was assumed for this program. Additionally, federal grants for Congestion Management/Air Quality was assumed to be \$206,600,000.

Local Sales Tax Revenue

A portion of local sales tax revenues is used to support transit services. In the past 24 years, taxable sales have grown at an average rate of about 6.5 percent per year. Beginning in 2001, this sales tax levy was raised to ½ percent from 1/4 percent in Weber, Davis, and Salt Lake Counties. In Weber and Davis Counties this amount is fully dedicated to Utah Transit Authority. In Salt Lake County 7/16 of a percent is dedicated to UTA and the remaining 1/16 percent is to be used for projects on the state highway system in the County.

Since this referendum, and the dramatic success of first the Sandy TRAX line and then the University of Utah TRAX line, pressure from the general public, business, and policy makers has increased to take more serious strides in building a robust transit system in the region. Community leaders are embracing transit for their communities and have passed resolutions in favor of an additional tax increase to support transit. In approving the previous 2002-2030 LRP in December 2001, the Regional Council asked the WFRC staff to work with local officials to identify additional transit opportunities and potential funding sources.

The WFRC formed the Transit 2030 Committee to make recommendations for the transit portions of the Plan Update more robust. The Transit 2030 Committee consisted of representatives from both the public and private sectors, including local and state officials, chambers of commerce, the Utah Manufacturers Association and other business interests, Envision Utah, Utah Shuttle Service, and Utahns for Better Transportation.

The Transit 2030 Committee, held workshops for local officials to identify the transit needs for their communities in 2002. The Committee then evaluated the suggestions and recommended major transit improvements that should be pursued in the next 27 years. The Committee also identified the need to implement many of the projects on the 2030 LRP Update sooner than on the Plan adopted in 2001. The Transit 2030 Committee also reviewed a wide range of potential funding sources to pay for there improvements. Based on their analysis of the level of local support in other cities around the county, the support expressed by local officials in the region, and the results of public opinion surveys concerning the general public's support for more transit, the Transit 2030 Committee recommended that the region pursue an increase in local support for transit equivalent to a ½ percent sales tax through a referendum in November 2006.

Trans Com and the Regional Council adopted the Transit 2030 Committee's recommendation as a reasonable estimate of future local support for transit at their August 2003 meetings. Therefore, the 2030 LRP Update assumes that the voters will pass the equivalent of an additional ½ cent sales tax devoted to transit in November of 2006 and that the additional revenue will be available for improvements beginning in July of 2007. The Plan assumes that the rate of taxable sales will pick up again but to a conservative rate of 5.5 percent in 2005 and maintain that growth rate through 2030. The annual sales tax receipts discussed above amounts to \$96,300,000 in FY 2004 and \$252,000,000 in 2008. Projected total sales tax revenue for transit improvements equals \$11,592,400,000.

User Fare Revenue

The UTA receives additional revenue from the daily operation of its bus and light rail system through user fares. The UTA's Strategic Plan states that it is the goal of the UTA to obtain 20 percent of its bus operating costs from patron fares. The WFRC assumed that UTA would receive fare revenue to cover approximately 20 percent of its bus operating costs. Light rail and commuter rail systems generally cover a greater share of their operating costs than bus operations. The WFRC assumes that fares would generate revenues equivalent to approximately 30 percent of light-rail transit spur, BRT, and enhanced bus operating costs and 40 percent of north-south TRAX and regional commuter rail operating costs. User fare revenue projection for the next 27 years equals approximately \$2,482,600,000.

Other Revenue

The Utah Transit Authority receives revenues from other sources, mainly bank account interest, bus advertising, federal planning funds, and joint development. UTA currently receives \$7,400,000 a year from these sources of revenue and is anticipated to receive another \$75,000 beginning in 2004 from joint development. Approximately 80 percent is estimated to be derived from the WFRC area. The Long Range Financial Plan Update assumes that UTA will continue to receive these revenues and will receive 5.5 percent interest on its yearly balance. These revenues are anticipated to result in total receipts of \$603,000,000 between 2004 and 2030. Table VIII-3 entitled, "Projected Transit Revenues 2004 - 2030," summarizes the various federal, local sales tax, fares, and other revenues that will fund the 2030 LRP Update's recommended transit improvements for the next 27 years.

Table VIII-3

PROJECTED TRANSIT REVENUES 2004 - 2030

SOURCE	AMOUNT
Federal Revenues	
Section 5307 Formula Grants	1,109,000,000
Section 5309 Discretionary Bus Grants	165,000,000
Section 5309 New Start Grants	2,244,000,000
Other Federal Grants	257,000,000
Local Sale Tax Revenue	11,592,000,000
User Fare Revenue	2,483,000,000
Other Revenue	603,000,000
Total Transit Revenue	18,453,000,000

Flexible Funding

While the funds discussed above have been identified with either highways or transit, there is some flexibility in the use of many of these funds. Most of the federal funds can be used for either highways or transit under certain conditions. Interstate Maintenance, National Highway System, Surface Transportation Program, and Congestion Mitigation/Air Quality (CMAQ) funds can all be used for transit capital projects. FTA Section 5307 funds can be used for highway improvements if UTA has met all Americans with Disabilities Act requirements.

State highway user revenues, including Class B and C funds, must be used for highway improvements. However, eligible uses would include construction of bus turnouts along arterial streets and construction of joint use park-and-ride lots which can also serve transit riders. State and local general fund revenues that are currently dedicated to highway improvements could possibly be used to support transit's capital or operating expenses, with approval of local governing bodies. The local sales tax for transit is restricted to transit uses.

The Long Range Financial Plan Update does not anticipate a significant transfer of funds between highways and transit, since the projected funds for each will not meet all the future needs. However, CMAQ funds have been used in the past to purchase light rail vehicles, buses, and vans for UTA and are programmed to be used to construct several park-and-ride lots. The planning process will continue to consider the need for similar transfers in the future.

PROJECTED COSTS

The costs for making the needed improvements for both highways and transit as identified by the 2030 LRP Update were analyzed. The costs to meet the projected needs of the 2030 LRP Update through the year 2030 were then estimated. These costs include those required to meet the needs identified in the Plans as well as cost estimates for general administration and the operation and maintenance of the existing transportation system. Projected costs for the highway improvements have been adjusted at an annual three percent inflation rate. Transit cost estimates include expenditures for bus and light rail operation and maintenance and capital costs. Projected costs for transit improvements have been adjusted at an annual 3.2 percent inflation rate.

HIGHWAY COST ESTIMATES

The Utah Department of Transportation estimated their cost to operate and maintain, preserve, and administer the state highway system. These various estimates are discussed below:

UDOT Operations: The Utah Department of Transportation operation costs include UDOT staff, planning and preliminary engineering, maintenance, snow plowing the highways, and other costs. UDOT estimated their administrative costs based on their past budgets. In 2003, UDOT's budget for Operations was approximately \$153,600,000 statewide. This cost was inflated at two percent per year until 2030. A total of \$5,538,000,000 has been estimated for UDOT operations expenses through the year 2030.

Contractual Maintenance: Contractual maintenance costs are the costs associated with short season maintenance projects that are contracted out such as: slurry seals, chip seals, and striping. UDOT estimated their contractual maintenance costs based on their past budgets. In 2003, UDOT's budget for contractual maintenance was \$50,000,000 statewide. This cost will increase \$5,000,000 in 2006 and then every 6 years after, in accordance with the gas tax increase until 2030. A total of \$1,675,000,000 has been estimated for contractual maintenance for UDOT through the year 2030.

Signals, Spot Improvements, Lighting, and Barrier: Signals, spot improvements, lighting, and barrier activities include signing, marking, and signal installation and maintenance. UDOT estimated their costs for these activities. UDOT's maintenance cost for 2003 was \$10,900,000 statewide. These costs were increased by three percent a year to account for cost inflation. Based on Utah Department of Transportation assumptions, UDOT will have approximately \$488,000,000 for signals, spot improvements, lighting and barrier expenses between 2004 and 2030.

Bridge Preventative Maintenance: The Utah Department of Transportation estimated their statewide costs for bridge preventative maintenance activities at \$10,000,000 in 2003. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, approximately \$649,000,000 will be set aside for bridge preservation for the years 2004 through 2030.

Bridge Rehabilitation / Replacement: UDOT estimated bridge rehabilitation and replacement costs for 2004 through 2030 based on the 2003 budget of \$4,700,000 statewide. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, \$356,000,000 will be used for bridge rehabilitation and replacement for the years 2004 through 2030.

Highway Rehabilitation / Replacement: The Utah Department of Transportation estimated highway rehabilitation and replacement costs for 2004 through the year 2030 based on the 2003 budget of \$28,100,000 statewide. These costs were increased by three percent a year to account for cost inflation. Based on UDOT assumptions, \$2,027,000,000 will be used for highway rehabilitation and replacement for the years 2004 through 2030.

Hazard Elimination, Safety, Enhancements: Hazard elimination, safety, and enhancements include hazard elimination, intersection upgrades, railroad crossing improvements, other similar projects and the development of pedestrian facilities, bicycle facilities, and landscaping projects. UDOT estimated their statewide costs for these activities at \$7,500,000 in 2003. Approximately 10 percent of STP funds are spent on enhancement projects. These costs were increased by three percent a year to account for cost inflation. Based on Utah Department of Transportation assumptions, UDOT will have \$314,000,000 for hazard elimination, safety and enhancement expenses between 2004 and 2030.

Region/Department Contingencies: UDOT Region and department contingencies are used for overruns on projects, spot improvements and other immediate needs. UDOT estimated their statewide costs for these activities at \$3,500,000 in 2003. This cost will increase \$400,000 in 2006 and then every 6 years after, in accordance with the gas tax increase until 2030. Based on Utah Department of Transportation assumptions, UDOT will have \$121,000,000 for region and department contingency expenses between 2004 and 2030.

Table VIII-4 summarizes the projected state highway costs for 2004 through 2030 for each of the eight expenditure categories described above.

Table VIII-4

**PROJECTED STATE HIGHWAY COSTS
2004 – 2030**

STATEWIDE HIGHWAY OPERATING AND PRESERVATION COSTS	
EXPENDITURE	AMOUNT
UDOT Operations	5,538,000,000
Contractual Maintenance	1,675,000,000
Signals, Spot Improvements, Lighting, Barrier	488,000,000
Bridge Preventive Maintenance	649,000,000
Bridge Rehabilitation / Replacement	356,000,000
Highway Rehabilitation / Replacement	2,027,000,000
Hazard Elimination, Safety, Enhancements	314,000,000
Region / Department Contingencies	121,000,000
Total Statewide Highway Operating and Preservation Costs	11,168,000,000

Local Highway Cost Estimates

Six local cost categories were estimated, including administration, maintenance, pavement preservation, traffic operations and safety, and enhancements. The total costs estimated for the various types of costs are discussed below. These assumptions are based on a survey of local agencies concerning their expenses. Growth and inflation assumptions were applied to these cost totals from 2004 through 2030. The WFRC then estimated its share of these costs for the same period of time for each of the categories. Appendix D contains details on the estimated costs used for projecting administration, maintenance, pavement preservation, structure preservation, traffic operations and safety, and enhancements.

Administration: Administration costs are the costs associated with administering transportation agencies and transportation sections of larger public works departments. These costs include such expenditures as local staff, planning and preliminary engineering costs, and so on. Cities and counties along the Wasatch Front are estimated to spend 15 percent of their revenues for transportation projects on administration. A total of approximately \$977,000,000 has been estimated for local administration costs through the year 2030.

Maintenance: Maintenance activities include snow removal, sweeping, weed control, crack sealing and pothole patching. Estimates of local spending for maintenance were calculated from city and county financial reports. Local maintenance costs were estimated to be approximately \$1,500 per lane-mile. These costs were estimated to increase by three percent a year, while the number of lane-miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane-miles. A total of approximately \$809,000,000 has been estimated for local maintenance costs from 2004 to 2030.

Pavement Preservation: Pavement preservation actions are treatments for streets and highways, which are more intensive than maintenance. These treatments range from a chip seal up to a full reconstruction. Local pavement preservation costs were calculated based on experience from city and county financial reports. Local agency costs for pavement preservation are estimated, on average, at about \$4,100 per lane-mile per year for collector, arterial and local streets. These costs were estimated to increase by three percent a year. The Wasatch Front Urban Area has 8,875 lane-miles of collector, arterial and local streets. The number of lane-miles was assumed to grow at one percent a year. A total of \$2,185,000,000 has been estimated for local pavement preservation costs for the years 2004 through 2030.

Traffic Operations and Safety: Traffic operations activity includes signing, marking, and signal installation and maintenance. Safety improvements include hazard elimination, intersection upgrades, railroad crossing improvements, and other similar projects. Local agency costs for traffic operations and safety are estimated, on average, at about \$2,100 per lane-mile per year for collector, arterial and local streets. These costs were estimated to increase by three percent a year, while the number of lane-miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane-miles. A total of \$1,096,000,000 has been estimated for local traffic operations and safety costs for the years 2004 through 2030.

Enhancements: Enhancements include development of pedestrian facilities, bicycle facilities, and landscaping projects. Local enhancement costs were estimated to be approximately \$400 per lane-mile. These costs were estimated to increase by three percent a year, while the number of lane-miles is estimated to increase by one percent annually. Cities and counties along the Wasatch Front are responsible for approximately 8,875 lane-miles. A total of \$218,000,000 has been estimated for local enhancement costs through the year 2030.

Table VIII-5 summarizes the projected local highway costs for 2004 through 2030 for each of the six expenditure categories discussed above.

Table VIII-5

**PROJECTED LOCAL HIGHWAY COSTS
2004 – 2030**

LOCAL HIGHWAY COSTS	
EXPENDITURE	AMOUNT
Administration	977,000,000
Maintenance	809,000,000
Pavement Preservation	2,185,000,000
Traffic Operations and Safety	1,096,000,000
Enhancements	218,000,000
Total Local Highway Costs	5,285,000,000

TRANSIT COST ESTIMATES

The costs for making the needed transit improvements as identified by the 2030 LRP Update were analyzed. These costs include those required to meet the needs identified in the 2030 LRP Update, as well as costs estimates for general administration and the operation and maintenance of the existing transportation system.

The WFRC worked with UTA to estimate the costs to implement the 2030 LRP Update's recommended transit improvements in the Wasatch Front Urban Area. Included in these estimates are operating and maintenance costs as well as capital costs for both existing and expanded services. Recommended major capital investments are considered the construction of the proposed commuter rail, light rail transit, BRT, and enhanced bus lines. Other significant capital investments are the purchase of replacement and expansion vehicles and the installation of improvements to increase the speed, comfort, and connectivity of transit services. These estimated costs are discussed below.

Operating and Maintenance Costs: Operating and maintenance costs are the total non-capital costs associated with transit services. Local and paratransit bus service costs were based upon revenue miles traveled because the specific nature of the routing was unknown. Regional Commuter Rail was also based upon vehicle revenue-miles because of the source material used. Light rail transit, BRT, and enhanced bus operating and maintenance costs, however, were based upon vehicle hours of service which takes into account estimated travel speeds.

In 2002, the Wasatch Front Urban Area had about 18,443,000 revenue-miles in its regular bus service and another 4,400,000 revenue-miles in its paratransit services. The 2030 LRP Update recommends regular bus service to increase by 100 percent and paratransit to increase by another 50 percent by the year 2030. The annual operating and maintenance costs of regular bus service in 2002 was \$78,300,000 and the annual cost of Flextrans service was \$14,900,000. The projected annual cost of the recommended regular and paratransit bus systems, including the 4.2 percent inflation factor, is \$477,000,000 in 2030. Bus rapid transit and enhanced bus are anticipated to add an additional \$89,000,000 to this 2030 operating cost.

Regional commuter rail operating costs are influenced by the economies of scale present in its operations. Accordingly, a per car mile cost of \$10.63 was used for Ogden to Salt Lake service whereas this cost was reduced to \$8.86 for the larger Provo to Ogden run. Twenty-minute peak frequencies and forty-minute off peak frequencies were assumed on week days and sixty-minute peak hour frequencies were assumed on non-weekdays. Additionally, three-car, peak-hour trains and one-car, off-peak trains were assumed. This would cost the WFRC \$19,720,000 per year in 2008 when running from Ogden to Salt Lake and \$25,983,000 per year in 2011 to run between the Utah County Line and Ogden when running between Provo and Ogden.

Operating and maintenance costs are based upon vehicle hours of service and take into account projected travel speeds. The Utah Transit Authority's light rail transit vehicle operating costs per revenue hour are \$178.23. UTA bus operating costs was \$27.50 per revenue-hour plus 90 cents per revenue mile. Headways for these services were assumed to match that of the existing TRAX service. About three vehicles per train were assumed for the north-south line and about two vehicles per train were assumed for rail spurs, whereas single vehicles were assumed for BRT and enhanced bus. Weekend and holiday service were assumed to be half that of current TRAX weekday service.

Capital Costs: UTA will need to replace its existing fleet of buses and rail vehicles as well as expand its bus and rail fleet to provide the recommended levels of service in the year 2030. The average age of the current fleet is about seven years and, generally speaking, buses last about 12 to 14 years in service. The per bus cost ranges from \$275,000 for a 40 foot bus to \$470,500 for an articulated bus. Light rail transit vehicles last 30 years and cost \$2.2 million each. In order to expand service as recommended, an additional 506 buses or paratransit vans, 116 BRT vehicles, 83 light-rail vehicles, and 43 commuter rail vehicles will need to be purchased and housed. Factored into the cost of each expansion vehicle is the costs of its maintenance facility. UTA estimates these facility costs to be \$500,000 for each new rail vehicle and \$250,000 for each new bus or BRT vehicle.

The 2030 LRP Update recommends the construction of a regional commuter rail line, an enhanced bus line, and several light rail transit and BRT lines by 2030. These construction costs include the fixed-guideways, stations, and structures.

The financial plan allocated sufficient funding to build a regional commuter rail from Ogden to Salt Lake, from Salt Lake to Utah County, and from Ogden to 2700 North in Pleasant View. The WFRC's contribution to this line's capital costs is anticipated to be \$637,000,000 in year of expenditure dollars.

The 2030 LRP Update recommendations include enhancements to the north-south TRAX line of several light rail extensions. The UTA's light rail transit construction estimates of \$30 million per downtown mile, \$25 million per suburban mile, and \$11 million per existing right-of-way mile, as well as park-and-ride/station costs, \$10 million per structure, \$2.2 million per vehicle, and a 20 percent contingency cost was used to model each of the proposed lines. The projected capital costs in year of expenditure dollars were \$195 million for northsouth enhancements, \$298 million for the Airport Line, \$19 million for the intermodal center Line, \$40 million for the Sugarhouse Line, \$245 million for the West Valley Line, \$439 million for the 3500 South Line, \$151 million for the Mid-Jordan Line, \$166 for the Daybreak Line, \$76 million for the Draper Line, and \$298 million for the Traverse Line. Total year of expenditure light rail line costs are anticipated to be \$1,908,000,000.

The Wasatch Front Urban Area Long Range Transportation Plan Update: 2004-2030 also recommends several BRT lines. The construction costs of each BRT line were estimated based upon the construction of bus lanes where congestion is anticipated to be severe and the use of signal priority and queue jumpers at each signalized intersection, as well park-and-ride/station costs, \$10 million per structure, \$1 million per vehicle, and a 35 percent contingency cost. Bus lane costs were estimated at \$13 million per downtown mile, \$8 million per suburban mile, and \$4 million per existing right-of-way mile. The projected capital costs in year of expenditure dollars were \$96 million for the Washington Boulevard BRT, \$52 million for the Ogden/WSU BRT, \$198 million for the North Davis BRT, \$100 million for the South Davis BRT, \$235 million for the Tooele BRT, \$79 million for the Fort Union BRT, \$191 million for the 1300 East BRT, \$173 million for the Redwood Road BRT, and \$601 million for the Mountain View BRT. Total year of expenditure BRT line costs are anticipated to be \$1,725,000,000. The Foothill/I-215 enhanced bus line, without specialized vehicles or exclusive rights-of-way, is anticipated to cost \$80,000,000 in year of expenditure dollars.

Other Capital and Operating Costs: Many of the miscellaneous costs associated with UTA operations as well as the rideshare operations are included in the operating and maintenance costs discussed in the operating and capital costs above. One important exception is debt service. The Long Range Financial

Plan Update assumes that UTA will receive seven percent (1.5 percent more than it earns on its positive balances) on its yearly debt.

Other capital costs include intermodal centers, transit hubs, additional park-and-ride lots, bus stop improvements, and ITS capital projects. Intermodal centers are recommended for Ogden, Salt Lake (600 West 200 South), West Valley, and the Murray/Midvale area. The costs for the first three of these centers were derived from their environmental assessments. The cost for the Murray/Midvale center was estimated to be the same as the West Valley center at \$7.5 million uninflated dollars. Transit hubs are recommended for each commuter rail station, Weber State University, the Airport/North Temple area, the University of Utah, Sugarhouse, West Jordan, and Fort Union. The cost for each of these hubs was estimated to be \$4.7 million uninflated dollars. Park-and-rides, in addition to those in fixed-guideway corridors, are recommended for several locations. The cost for each of these park-and-rides was estimated to be \$2.4 million uninflated dollars. Table VIII-6 summarizes projected transit capital and operating costs that will be needed between 2004 and 2030 to expand and improve the existing UTA system.

Table VIII-6

**PROJECTED TRANSIT CAPITAL AND OPERATING COSTS
(INCLUDING ALLOCATED DEBT SERVICE)
2004 - 2030**

EXPENDITURE	2004-2012	2013-2022	2023-2030	Total (2004-2030)
Bus Operating Costs	972,000,000	1,832,000,000	2,633,000,000	5,437,000,000
Bus Capital Costs	172,000,000	347,000,000	538,000,000	1,057,000,000
Paratransit Operating Costs	196,000,000	373,000,000	501,000,000	1,070,000,000
Paratransit Capital Costs	17,000,000	28,000,000	30,000,000	75,000,000
BRT & Enhanced Bus Operating Costs	71,000,000	408,000,000	682,000,000	1,161,000,000
BRT & Enhanced Bus Capital Costs	526,000,000	1,389,000,000	0	1,915,000,000
Rail Operating Costs	583,000,000	1,591,000,000	1,796,000,000	3,970,000,000
Rail Capital Costs	1,795,000,000	699,000,000	140,000,000	2,634,000,000
Other Capital and Operating Costs	195,000,000	67,000,000	86,000,000	348,000,000
Total Transit Costs	4,526,000,000	6,735,000,000	6,406,000,000	17,667,000,000

Conclusion

The 2030 LRP Update assumes that Wasatch Front Regional Council will receive 55 percent of the UDOT statewide funding available for capacity improvement projects. This equals approximately \$6,770,000,000 of the \$12,309,000,000 total new capacity funds available for UDOT. The region also will receive approximately \$635,000,000 for Centennial Highway Fund projects, for a total of \$7,405,000,000 available capacity funds from UDOT. The WFRC also estimates that approximately \$2,318,000,000 will be available for local capacity improvement projects. The Wasatch Front Regional Council's total amount for planning capacity projects is approximately \$9,723,000,000.

For the highway portion of the 2030 LRP Update, cost estimates were calculated for new capacity improvements on collector and arterial streets needed to meet transportation demands in 2030. These costs are approximately \$9,524,000,000 in the Wasatch Front Urban Area. The cost for local street construction is not included in these estimates. It is assumed that private developers will build these streets. Table VIII-7 outlines revenue allocation for statewide and local highway improvements recommended by the 2030 LRP Update.

Table VIII-7

**STATEWIDE, LOCAL, AND REGIONAL
HIGHWAY REVENUE ALLOCATION
2004 - 2030**

SOURCE / EXPENDITURE	AMOUNT
Statewide Revenue Available	23,477,000,000
Statewide Highway Operating Costs	(11,168,000,000)
Available Funds for Capacity Improvements	12,309,000,000
WFRC's Available Funds for Capacity Improvements from State Funds	7,405,000,000
Regional Revenue Available	1,266,000,000
Local Revenue Available	6,337,000,000
Local Highway Operating Costs	(5,285,000,000)
WFRC's Available Funds for Capacity Improvements from Local Funds	2,318,000,000
Total WFRC's Available Funds for Capacity Improvements	9,723,000,000
Total WFRC Highway Project Costs 2004-2030	9,524,000,000

For the transit portion of the 2030 LRP Update, federal funding for transit operating costs is assumed to continue at current inflation adjusted levels. Federal discretionary funding is projected to provide 52 percent of major transit improvements such as enhanced bus, bus rapid transit, light rail, or commuter rail and 39 percent of all capital costs. Local sales tax revenues are projected to grow at 5.5 percent per year. Fare revenues will grow so that fares will pay for 20 percent of the operating costs for bus service, just under five percent for paratransit service. Additionally, fares are projected to pay for 40 percent for north/south light rail line and regional commuter rail line services and 30 percent for other rail, bus rapid transit, and enhanced bus lines. Other revenues, including joint development and advertising, are also anticipated to increase.

The transit cost estimates for the LRP Update include an increase in revenue miles for both bus service and paratransit service and increases in UTA's bus fleet to about 890 buses in the Wasatch Front Urban Area. They also include the development of regional commuter rail, the extension of light rail service, the development of a bus rapid transit/enhanced bus system and other transit improvements, including bus stop, park-and-ride lots and transit hubs, rideshare vans, and support equipment. **Table VIII-8, entitled "Transit Revenue Allocation, 2004 – 2030"** breaks down revenue allocation by the type of expenditure for the Salt Lake, Ogden and Wasatch Front Region.

Table VIII-8

**TRANSIT REVENUE ALLOCATION
2004 - 2030**

SOURCE / EXPENDITURE	AMOUNT
Federal Revenues	
Section 5307 Formula Grants	1,109,000,000
Section 5309 Discretionary Bus Grants	165,000,000
Section 5309 New Start Grants	2,244,000,000
Other Federal Grants	257,000,000
Local Sale Tax Revenue	11,592,000,000
User Fare Revenue	2,483,000,000
Other Revenue	603,000,000
Total Transit Revenue	18,453,000,000
Total Transit Project Costs 2004-2030	17,667,000,000

The Financial Plan for the Wasatch Front Urbanized Areas provides adequate revenues to not only address the needs to operate and maintain the existing highway and transit systems, but to provide for future demand. A recognized need to increase long range highway capacity is addressed in 177 funded projects designed to improve the overall highway system through increased capacity. The transit portion of the Plan allows for a substantial increase in the existing bus and rideshare van fleet, the expansion of the Region's light rail system, development of bus rapid transit corridors, and the implementation of regional commuter rail service from Ogden to Provo. Therefore, the 2030 LRP Update is financially constrained.