



6.0 Capital, Operating, and Maintenance Costs

Providing significantly improved transit service in the Draper Transit Corridor will require UTA, FTA, and other agencies and possibly private interests to share program capital costs (land acquisition, costs of construction, and required vehicles and equipment). UTA will then assume the responsibility for O&M costs.

Both capital and O&M costs have been evaluated on a preliminary basis for the final alignment alternatives. A comparison of the build alternatives is provided to facilitate selection of the LPA.

6.1 Capital Costs

The total costs to construct a new transit system, or capital costs, are summarized in Table 6-1 for the LRT build alternatives, as well as for the TSM Alternative. Capital costs include all construction costs (including construction of the transit guideway, maintenance facilities, park-and-ride lots, special conditions, stations and associated facilities, and utility relocations); costs for new transit vehicles and initial spare parts; acquisition of right-of-way; and allowances for final engineering design, construction management, construction change orders, and an allocation for costs to UTA for managing the construction.

The capital costs were developed through an extensive cost-estimating process conducted during project definition. Non-construction costs used in the capital cost estimate were developed using standard industry practice and locally gained experience for projects of this complexity. These costs include project management, project administration, design, construction management, quality assurance, quality control, business impact mitigation, property appraisal and relocation, contractor allowances, insurance, start-up and testing, project reserve, and financing.

The alternatives do not include any costs for rail or bus maintenance and storage facilities. The cost estimates included provisions for right-of-way acquisition. Costs are shown in Table 6-1.

Table 6-1. Capital Cost Estimates

in thousands of \$

FTA SCC Number	Description	TSM Alternative	Alternative A – West of I-15	Alternative B – State Street	Alternative C – UTA-Owned Right-of-Way
10	Guideway and track elements	0	\$121,924	\$89,575	\$80,272
20	Stations, stops, terminals, intermodal centers	\$1,866	14,081	6,687	6,539
30	Support facilities: yards, shops, buildings	0	0	0	0
40	Site work and special conditions	\$3,139	71,915	81,034	54,971
50	Systems	\$2,579	35,018	30,190	41,591
	Construction subtotal (10–50)	\$7,584	\$242,938	\$207,486	\$183,374
60	Right-of-way, land, existing improvements	\$963	121,156	94,080	151,922
70	Vehicles (3 LRV at opening; 10 LRV in 2030)	\$9,720	72,114	48,116	59,372
80	Professional services	\$1,547	42,020	48,466	47,089
90	Unallocated contingency (10% of categories 10-80)	\$1,981	47,829	39,815	44,176
100	Finance charges	\$2,180	52,612	43,796	44,433
	Total Project Cost (10–100)	\$23,975	\$578,728	\$481,760	\$530,366

Source: AECOM 2008a

Costs are listed in YOE dollars.

6.2 O&M Costs

O&M costs include all expenditures required to provide daily transit service, including pro-rata UTA system administrative costs, wages and benefits for transit vehicle operators and maintenance workers, security, and the maintenance of the transit guideway, stations, facilities, and vehicles.

Operation and maintenance costs were projected for UTA's bus, light-rail, and commuter-rail services. Key assumptions with regard to these services are discussed in this section. Total UTA system operating costs in 2007 were \$195.9 million, which included charges for asset depreciation. Net operating expenditures (without depreciation) were \$149.9 million. The estimate of net expenditures for operations in 2008 is \$176.6 million. Incremental bus and rail operating costs are based on the operating plans developed for each of the action alternatives evaluated in this EIS.



6.2.1 Bus O&M Costs

Bus O&M costs for 2007 were \$74.2 million and reflect actual costs incurred by UTA. For 2008, costs are based on the UTA budget of \$80.4 million. For the 2008–2030 period, these costs are based on UTA’s budget and projections of service for the Salt Lake, Provo, and Ogden service areas in future years.

UTA’s cost per bus mile is based on the 2008 adopted budget and then increased at 4.0% per year for real growth and inflation. The cost per bus mile assumed in the projections is consistent with the results of the bus O&M cost modeling conducted in conjunction with the Mid-Jordan Line EIS and with past trends.

Previously, over the 1998–2008 period, UTA’s O&M cost per mile increased at a compound average growth rate of 4.28% per year.

6.2.2 Fixed-Guideway O&M Costs

LRT O&M costs were \$18.5 million in 2007 for the North-South TRAX Line and University TRAX Line (including Medical Center TRAX Line) service. In 2008, the rail O&M costs are projected to be \$31.2 million, which reflects the increased LRT mileage for the extension of the LRT to the Central Station in downtown Salt Lake City and the beginning of FrontRunner North commuter-rail service in April. As projects come online, additional O&M costs are added to the plan for each new project. With respect to LRT O&M cost per mile, these costs are consistent with the LRT O&M cost modeling for the North-South TRAX Line and University TRAX Line.

O&M costs for the final alternatives were calculated and are shown in Table 6-2. The costs assume the adoption of the recommendations of the recently concluded comprehensive operations analysis and bus system redesign that significantly modified service in the study area and reallocated operating costs for the UTA fixed bus routes. Comparative costs also are shown in Table 6-2; these represent the incremental cost for each alternative compared to the No-Action and TSM Alternatives.

The bus and rail operating plans are expected to be refined as the project progresses through preliminary engineering and the Final EIS phase of project development. The estimated annual O&M cost increases for the MOS are less than 1% of the UTA annual revenue that can be allocated to O&M throughout the UTA system.

How is the projected LRT O&M cost calculated?

The projected LRT O&M cost per daily number of trains, light rail vehicle miles, and train hours is based on past LRT O&M costs and service levels increased 5.0% annually for real growth and inflation. These unit costs are then multiplied by projected service levels.



Table 6-2. Estimated O&M Costs in 2030

In thousands of \$

Description	Alternative				
	No-Action	TSM Alternative	Alternative A – West of I-15	Alternative B – State Street	Alternative C – UTA-Owned Right-of-Way
Total systemwide annual O&M expenditures (net of depreciation)	\$363,157	\$369,112	\$371,351	\$371,221	\$370,228
Total estimated increase in annual O&M expenditures from No-Action (net of depreciation)	—	\$5,995	\$8,200	\$8,070	\$7,070
Total estimated increase in annual O&M expenditures from TSM (net of depreciation)	—	—	\$2,205	\$2,075	\$1,075

Source: UTA 2008