CHAPTER 9. Funding

Introduction

Funding for implementation of the recommended LRTP comes from federal, state, and local sources. This financial element of the LRTP includes estimates of costs that would be required to implement the LRTP as well as estimates of existing and contemplated sources of funds available to pay for these improvements.

The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) planning regulations for metropolitan areas stipulate that all LRTPs must include a financial plan that demonstrates the consistency of proposed transportation investments with available and projected sources of revenue. The LRTP identifies multimodal improvement, pavement preservation, and enhancement needs for the next 20 years.

The cost to implement all elements of the recommended LRTP over the next 20 years and to maintain and operate the transportation system is more than $3.7 billion, as shown in Table 9--1.

All tables in this chapter reflect planning-level cost estimates for use in demonstrating funding constraints, according to FHWA guidance. All funding is subject to federal, state, and local appropriation.

Table 9-1. Recommended Plan Cost

Item	Cost ($)[a]
Roads	
National Highway System	1,281
Non-National Highway System	741
Pavement preservation	188
Operation and maintenance	676
Transit	
Capital	107
Operating	390
Railroad grade separations	130
Enhancements	87
Non-motorized trails/walkways	
Maintenance	12
Congestion management	114
Planning, studies, and coordination	6
Total	**3,732**

[a] All costs are in millions of 2004 dollars.

Source: CH2M HILL

Projected revenue from identifiable sources totals $3.7 billion. See Table 9-2.

Revenues appear adequate to implement all elements of the LRTP. The following paragraphs discuss each element of the funding plan.

Roadway Capital Costs and Estimated Revenues

Roadway capital projects are divided into two categories: National Highway System (NHS) projects and non-NHS projects. This distinction is important because some federal funds are specifically designated only for use on the NHS.

The cost of implementing NHS roadway improvement recommendations contained in the Anchorage Bowl and Chugiak-Eagle River LRTPs will be approximately $1.3 billion. See Table 9-3. Other NHS-related expenditures include pavement rehabilitation, rut repair, and preservation; they are expected to cost an additional $76 million. Federal revenues designated for the NHS, federal earmarks, and state bonding and capital program sources projected to be available to pay for NHS improvements are about $811 million. The balance of $546 million can be covered by a portion of available non-NHS revenues.

The highlighting identifies text revised in the 2027 LRTP. See the Revisions chapter at the end of the book.

Table 9-2. Projected Plan Revenue Sources

Item	Revenue ($)[a]
Federal funding	
Federal Highway Administration	1,450
Federal Transit Administration	140
Legislative transportation earmarks	160
Other federal programs	50
Railroad grade separation earmarks	130
State	
General revenue federal match	119
Capital program	376
Operations and maintenance	219
Municipality of Anchorage	
Road bonds and federal match	265
General fund—road and trail maintenance	469
General fund—public transportation operation	358
Transit capital	26
Non-motorized capital	15
Total	**3,777**

[a] All revenues are in millions of 2004 dollars. Revenue projections are based on historical data from the DOT&PF and MOA.

Source: CH2M HILL

Table 9-3. Comparison of Costs and Revenues Available to Implement National Highway System LRTP Projects

Item	Cost ($)[a]
Roadway improvements (LRTP projects only)	1,341
Roadway pavement preservation	76
Total Cost	**1,417**
NHS revenues available	
FHWA designated NHS funds	421
State match funds	42
Federal earmarks	160
State capital program	188
Non-NHS revenues available (see Table 9-4)	606
Total Revenue	**$1,417**

[a] All costs and revenues are in millions of 2004 dollars.

Source: CH2M HILL

Table 9-4 shows similar cost-revenue results for the non-NHS portion of the LRTP. Non-NHS revenue sources can be used more flexibly than NHS funding. Major program elements for the non-NHS funding include roadway improvements and rehabilitation projects; pavement preservation; the safety improvement program; enhancement program; congestion mitigation and air quality (CMAQ) program; and planning, studies, and coordination. Table 9-4 shows estimated expenditures for each category of the non-NHS program. The amount of money spent on CMAQ projects has been increasing during the past few years (rising from $4.7 million in 2001 to $6.01 million in 2004).

Table 9-4. Comparison of Costs and Revenues Available to Implement Non-National Highway System LRTP Projects

Item	Cost ($)[a]
Roadway improvements (Anchorage Bowl LRTP)	554
Roadway improvements (Chugiak-Eagle River LRTP)	91
Roadway pavement preservation	108
Roadway safety projects	35
Enhancements	87
CMAQ	79
Planning, studies, and coordination	6
Total Cost	**960**
Total FHWA revenues	1,029
Total state and local match revenues	103
State capital program	188
MOA road bonds	239
MOA non-motorized capital	15
Other federal programs	40
Total Revenue	**1,614**
Non-NHS revenues available for NHS or other projects	654

[a] All costs and revenues are in millions of 2004 dollars.

Source: CH2M HILL

The highlighting identifies text revised in the 2027 LRTP. See the Revisions chapter at the end of the book.

The estimated expenditures for the non-NHS portion of the LRTP program total $960 million. Revenues from all sources (federal, state, and local) available to fund these needs are estimated to be about $1.6 billion. A portion of the non-NHS revenues, $546 million, is applied toward funding the NHS program described above.

GARVEE Bonds

The MOA and the State of Alaska obtained voter approval in the fall of 2002 to fund a package of statewide priority projects with Grant Anticipation Revenue Vehicle (GARVEE) bonds.

GARVEE bonds allow the State of Alaska to bond for road projects in the short term while paying them back with future federal highway funds receipts. The only AMATS project included in the approved bond issue was the C Street extension between Dimond Boulevard and O'Malley Road in the amount of $36.1 million. GARVEE bonding represents no increase in funding amount; it is simply a transfer mechanism to facilitate earlier scheduling of certain projects.

State General Obligation Bonds and Capital Program

Alaska voters approved a package of statewide general obligation bonds in the fall of 2002. That vote marked the first time in Alaska history that state general obligation bonds were approved for road projects. The bond package identified $37.5 million for the Abbott Loop Road Extension project. More recently the state Capital Program has included $56.5 million funding for other projects in Anchorage. On the basis of these recent funding initiatives, the 20-year LRTP program estimates $376 million will be available from state capital program and bond sources. State capital program and bond funds are assumed to be split equally between NHS and non-NHS improvements.

Transit Operating and Capital Costs and Estimated Funding

The recommended LRTP expands existing public transportation services and AnchorRIDES services for disabled and elderly persons. It also introduces new express bus service in the Glenn Highway corridor. The required bus fleet will be approximately 90 buses plus an AnchorRIDES paratransit fleet of about 54 units. The MOA is currently utilizing FHWA CMAQ funds to expand transit service and meet some capital improvement needs. Transit capital costs are projected to be $107 million. Available capital funding from federal and municipal sources is sufficient to cover the $107 million. See Table 9-5.

Most of the operating budget for public transportation services is derived from local property taxes. Some of the cost to operate public transportation services is offset by fares collected from passengers and miscellaneous advertising income. Additionally, some costs are covered by federal transit funding, other federal agency programs, and CMAQ monies from FHWA. The remainder is derived from MOA general budget funds. In 2004, public transportation funding support of $13.22 million was provided from the MOA general budget; for 2005, the MOA general fund is budgeted to provide $13.37 million net support for transit.

Table 9-5. Transit Operation and Capital Funding

Item	Cost ($)[a]
Operations	
Net operating cost of recommended LRTP transit services	390
MOA funds for transit operations	307
CMAQ funds for transit operations	19
Other Federal funds for operations	64
Total funds for transit operations	**390**
Capital	
Total capital cost of recommended LRTP transit services	107
FTA Section 5307 grant funds	85
MOA transit capital	22
Total transit capital funds	**107**

[a] All costs and revenues are in millions of 2004 dollars.

Source: CH2M HILL

The public transportation net operating costs through 2025 will be $390 million, after deducting passenger fares and miscellaneous operating revenue for the recommended bus and paratransit services. The revenue projection for public transit utilizes FTA, MOA general fund, transit capital funds, CMAQ, and other federal agency funds. Funding for the expanded bus system operations will require increased MOA general fund allocations or new sources.

Funding from property taxes depends on the willingness of the Municipal Assembly and the Administration to allocate money for this purpose and on support of the general public. Many other public transportation systems receive allocations from other funding sources (such as a percentage of sales tax, gasoline tax, or vehicle registration tax).

Earmarks and Other Federal Funding

Congressional transportation earmarks are a special category of revenues that cuts across all categories of transportation projects. The MOA was recipient of some earmark projects and one High Priority project from the Transportation Equity Act for the 21st Century (TEA-21) funds. Almost $11 million was earmarked in TEA-21 for the Ship Creek Access project. Some of this money has subsequently been diverted, through federal legislation, to other projects. ARRC also has received earmark money under FTA Section 5309 and anticipates additional earmarks in the future. Work on the environmental documentation for the Knik Arm crossing project is being carried out with earmarked monies.

Another earmark project example is the Ship Creek Intermodal Facility, which will develop a transportation hub (bus, rail, parking, and pedestrian facilities) in the Ship Creek area. In recent 6-year federal transportation reauthorization legislation cycles, from $9 billion to $11 billion has been designated by Congress for earmark project funding. The LRTP program estimates funding of $160 million will be derived from earmarks (not including Knik Arm Crossing earmark funds).

In addition to the federal transportation funding allocations made by the FHWA and FTA to states and urban areas, both administrations have other discretionary funding programs that are awarded on a competitive basis. Other federal agencies, such as the U.S. Environmental Protection Agency, Energy, and Health and Human Services, have various programs that also may be tapped for transportation funding. The LRTP program estimates $50 million in funding will be derived from these supplemental sources.

Railroad Grade Separation Funds

Revenue to fund major railroad grade separations is estimated to come from federal earmarks or other specially designated funding sources. The total amount for this purpose is $130 million.

Summary of LRTP Costs and Application of Revenues

Table 9-6 summarizes costs for the recommended LRTP and the allocation of available revenues to fund implementation.

The highlighting identifies text revised in the 2027 LRTP. See the Revisions chapter at the end of the book.

Table 9-6. LRTP Cost and Revenue Allocation Summary, 2005–2025

All costs and revenues are shown in 2004 millions of dollars

Capital Cost Items	Cost ($)	Revenue Sources	Revenue ($)
National Highway System			
Roadway improvements on National Highway System for this LRTP	1,281	FHWA	421
Pavement preservation	76	State match	42
		Earmarks	160
		State capital program	188
		Non-National Highway System transferred dollars	546
Total	**1,357**		**1,357**
Non-National Highway System			
Roadway improvements on non-National Highway System for this LRTP	650	FHWA	1,029
Non-National Highway System pavement preservation	112	State & local match	103
Chugiak-Eagle River non-National Highway System road improvements	91	MOA road bonds	239
Highway Safety Improvement Program	35	MOA non-motorized capital	15
Spot improvements ($30.0), traffic calming ($4.0), safe school routes ($1.4)			
Enhancements	87	State capital program	188
Pedestrian and bicycle non-road projects ($68.0), aesthetics ($19.4)			
CMAQ program costs	79	Other federal funds	40
Signal timing and upgrades ($17.2), ITS including CVISN ($9.0), travel demand management ($17.6), transit capital and operations ($19.4), various control measure programs ($15.5)			
Planning, studies, and coordination	6		
Total	**1,060**		**1,614**
		Available for NHS and other programs	554
Transit			
Transit capital	**107**	Transit capital	**107**
Buses ($67.3), other capital ($32.1), vans and van IT ($7.3)		FTA ($85.3), MOA transit capital ($21.3), CMAQ ($0)	
Roadway/Railroad Grade Separations			
Roadway/railroad grade separations	**130**	Railroad earmarks	**130**
Total Capital Costs	**2,654**	**Total Revenue Sources**	**2,662**

Table 9-6. LRTP Cost and Revenue Allocation Summary, 2005–2025

All costs and revenues are shown in 2004 millions of dollars

Operation and Maintenance Cost Items	Cost ($)	Revenue Sources	Revenue ($)
Roadways	676	State funds	219
		MOA general budget funds	457
Non-motorized (trails)	12	MOA general budget funds	12
Transit operations	390	Transit operations	390
People Mover ($320.7), Glenn Highway express bus service ($7.9), AnchorRIDES ($61.1)		MOA general budget and new source ($306.2),), FTA demonstration grant—Glenn Highway express bus service deployment ($15.4), CMAQ ($19.4), FTA ($38.9),other federal funds ($9.9)	
Total Operations and Maintenance Costs	**1,078**	**Total Revenue Sources**	**1,078**

Source: CH2M HILL

Roadway Operations and Maintenance

Adequate funding of street operation and maintenance functions is important to ensure that the road system continues to function well. The operation and maintenance functions include activities such as signing, marking, lighting, street sweeping, traffic signal system operation, snow clearing, sanding, pothole repair, landscaping, and sidewalk maintenance.

The State of Alaska and the MOA jointly share the responsibility of maintaining roadways in the Anchorage Bowl. For the most part, the MOA maintains municipality-owned roads and the State of Alaska maintains state-owned roads. However, in cases where efficiencies can be achieved, the maintenance responsibilities have been shifted through formal maintenance agreements. The State of Alaska contracts with the MOA for certain operations and maintenance functions.

The State of Alaska and the MOA spent almost $31 million in 2004 for operations and maintenance of the public road system in the Anchorage Bowl and the Chugiak-Eagle River area. (See Table 9-7.) New roads and lanes to be built as a part of the LRTP implementation will add maintenance cost of about $1.6 million per year. During the 2005–2025 LRTP period, operation and maintenance costs for the road system are projected to be $676 million.

State and local maintenance budgets have traditionally been very tight. As a result, there is a tendency to defer needed roadway upkeep because of lack of funds. The state legislature appropriates money for State of Alaska highway maintenance out of the general fund. Whether the road maintenance needs will be adequately funded depends on the priority given this function by the Legislature.

Deferring maintenance has a hidden price. Preventative maintenance programs, such as crack sealing, can substantially prolong the life of a roadway, reducing the frequency and total cost of rehabilitation projects.

A factor driving up the cost of roadway maintenance is pavement rutting caused by studded snow tires. The 2004-2006 Transportation Improvement Program (TIP) indicates that roadway-rutting problems will cost approximately $25.1 million to rehabilitate during the 3-year period. Under a recently adopted State of Alaska new tax on tires, motorists pay $2.50 tax per tire sold in Alaska and pay $5.00 for tires with studs. The Alaska Department of Revenue estimates the measure will raise about $3.2 million per year for road repair and maintenance.

The highlighting identifies text revised in the 2027 LRTP. See the Revisions chapter at the end of the book.

Table 9-7. Annual Highway Operation and Maintenance Funding

Item	Cost ($)[a]
2004 annual roadway operations and maintenance cost (local)	21.4
2004 roadway operations and maintenance cost (state)	9.6
Total 2004 roadway operations and maintenance costs	31.0
Annual additional roadway operations and maintenance cost with full LRTP implementation	1.65
2005-2025 roadway operations and maintenance cost with LRTP implementation	676.2

[a] All costs are in millions of 2004 dollars.

Costs include traffic engineering operations and roadway operations and maintenance, excluding drainage system maintenance.

MOA and DOT&PF costs have been adjusted for intergovernmental subcontracts.

Sources: MOA 2005 Approved Operating Budget, MOA Street Operations and Maintenance Department, DOT&PF Central Region Operations and Maintenance, and CH2M HILL

Non-motorized (Trails and Walkways) Maintenance Costs

Estimated maintenance costs for trails and walkways are derived from operations and maintenance department accounts and information from Chugiak-Eagle River Parks, Recreation and Community Development. The existing (2004) budget for trail and walkway maintenance was identified as a baseline. The cost of maintaining new trails and walkways in the LRTP was derived by applying unit costs per mile from current cost information. Total 2005–2025 maintenance costs for trails and walkways are projected to be $11.94 million.

Table 9-8. Trail and Walkway Maintenance Funding

Item	Amount ($)[a]
2004 annual trail/walkway maintenance cost	0.49
Additional annual maintenance cost for new LRTP trails/walkways	0.15
Total annual trail/walkway maintenance cost with full LRTP implementation	0.64
2005-2025 trail/walkway maintenance cost with LRTP implementation	11.94

[a] All costs and revenues are in millions of 2004 dollars.

Sources: MOA and CH2M HILL

Alaska Railroad Capital and Operating Costs and Estimated Revenues

Capital funding for selected Alaska Railroad Corporation (ARRC) improvements is estimated to originate from the FTA and the Federal Railroad Administration (FRA). The operation and maintenance of capital facilities is the responsibility of the ARRC. The railroad reports systemwide operating, capital, and funding sources for purposes of the National Transit Database. FTA formula programs (Urbanized Area Formula funds and Fixed Guideway Modernization funds) are calculated on passenger revenue vehicle miles and rail route miles. Table 9-9 shows ARRC capital and operation costs and revenues.

Table 9-9. Alaska Railroad Corporation Capital and Operation Funding

Item	Cost ($)	
	Estimate, Annual	20-Year LRTP[a]
Operations		
Total cost of operating system	15	300
Existing passenger budget	16	320
Additional operations cost	1	(20)
New passenger and other revenues from expanded fleet	0.75	15
New source of revenues needed to operate expanded fleet	0.25	(5)
Capital		
Total capital cost of system	10	200
FTA Section 5307 grant funding	6	120
FTA Section 5309 earmarks and other grants	1	30
FRA funding	1	30
Alaska Railroad Corporation internally generated capital applied to transit operations	1	20
Total annual revenues to finance capital costs	10	200

[a] All costs and revenues are in millions of 2004 dollars.

Source: Alaska Railroad Corporation

The highlighting identifies text revised in the 2027 LRTP. See the Revisions chapter at the end of the book.

Conclusion

Transportation system infrastructure development, improvements, rehabilitation, and preservation are costly endeavors. The recommended transportation plan outlined in Chapter 8 will cost $2.6 billion in 2004 dollars for capital items and $1.08 billion in 2004 dollars for operation and maintenance items.

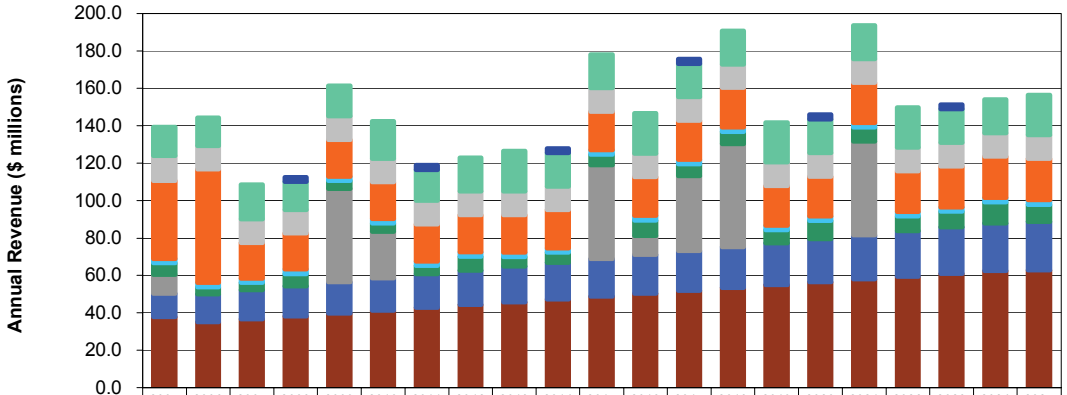
It is worth noting that the costs referenced above are public investments to build and preserve transportation infrastructure. Figure 9-1 depicts the annual revenues by funding source that will be required to implement the LRTP. Ongoing costs to operate and maintain the transportation system are borne by the MOA and the State of Alaska from annual operating budgets.

There is another page to the transportation expenditures story—the amounts spent by individual households on personal transportation from their disposable incomes. U.S. Bureau of Labor Statistics consumer expenditure surveys reveal that an average Anchorage household spent $10,795 in 2003 on transportation (for expenses such as vehicles, operation, fuel, insurance, public transportation, and vacation travel). That works out to nearly $1 billion per year collectively for all households in Anchorage. During the 20-year LRTP time span, with more households added, these cumulative personal transportation expenditures will exceed $23 billion.

There is yet a third transportation cost perspective—that of not doing enough. Congestion has grown dramatically across North America during the past 20 years. In 2003, the nation's annual cost of congestion was estimated to be a staggering $63.1 billion (reported in *The 2005 Urban Mobility Report*, by David Schrank and Tim Lomax, for the Texas Transportation Institute, May 2005). Anchorage has fared far better than larger metropolitan areas or most of their smaller urban area peers. But the analysis presented in this LRTP about anticipated growth to 2025 indicates a more challenging environment. More people, increasing travel demand, and suburban spreading will exert more pressure on the MOA transportation system capacity.

In the absence of significant transportation system investments, travel mobility will be markedly degraded—and consumer costs will rise further. There is a clear *Call for Action*—to live up to the vision of Anchorage 2020 and to preserve qualities that distinguish Anchorage's way of life.

Figure 9-1. LRTP Revenue by Source



Year:	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
MOA Non-motorized	$0.0	$0.0	$0.0	$2.5	$0.0	$0.0	$2.5	$0.0	$0.0	$2.5	$0.0	$0.0	$2.5	$0.0	$0.0	$2.5	$0.0	$0.0	$2.5	$0.0	$0.0
MOA Transit Capital & Operating	$15.3	$14.9	$18.4	$14.9	$16.4	$19.9	$16.4	$17.9	$21.4	$17.9	$17.9	$21.4	$17.9	$17.9	$21.4	$17.9	$17.9	$21.4	$17.9	$17.9	$21.4
MOA Road Capital	$13.3	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6	$12.6
ADOT&PF + AK Capital Program	$41.6	$60.6	$19.1	$19.3	$19.5	$19.7	$19.8	$20.0	$20.2	$20.3	$20.5	$20.7	$20.9	$21.0	$21.2	$21.4	$21.6	$21.7	$21.9	$22.1	$22.1
Federal Other	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4
Federal Transit	$6.4	$3.7	$3.8	$6.5	$4.2	$4.4	$4.7	$7.4	$5.1	$5.4	$5.7	$8.4	$6.2	$6.6	$6.9	$9.7	$7.6	$8.0	$8.4	$11.3	$9.2
Federal Earmarks	$10.0	$0.0	$0.0	$0.0	$50.0	$25.0	$0.0	$0.0	$0.0	$0.0	$50.0	$10.0	$40.0	$55.0	$0.0	$0.0	$50.0	$0.0	$0.0	$0.0	$0.0
FHWA NHS	$12.4	$14.9	$15.5	$16.1	$16.6	$17.2	$17.8	$18.4	$19.0	$19.6	$20.1	$20.7	$21.3	$21.9	$22.5	$23.1	$23.6	$24.2	$24.8	$25.4	$26.0
FHWA Non-NHS	$37.9	$35.2	$36.7	$38.2	$39.7	$41.3	$42.8	$44.3	$45.8	$47.3	$48.8	$50.4	$51.9	$53.4	$54.9	$56.4	$58.0	$59.5	$61.0	$62.5	$62.7

Source: CH2M HILL