CAMBRIDGE SYSTEMATICS

Alaska Transportation Finance Study

final

report

prepared for

Alaska Municipal League

prepared by

Cambridge Systematics, Inc.

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Executive Summary

The Alaska Municipal League (AML) commissioned Cambridge Systematics, Inc. to conduct an objective assessment of the current finance trends, challenges, and possible options to meet Alaska's transportation funding needs. This work involved a significant amount of analysis and produced multiple layers of findings that have been documented in this report, the Transportation Finance Study. Nevertheless, the work may be summarized into the following three categories of findings.

UNDER INVESTMENT IN THE STATE'S TRANSPORTATION INFRASTRUCTURE

Almost every state and the Federal Government have been chronically under investing in their transportation infrastructure and Alaska is not an exception. Over the last several years, studies at the national and state levels have painted a dire picture of transportation funding over the long term: the average funding gap for the Federal shortfall is almost $60 billion annually through 2017 (10-year average) to maintain the current condition and performance of the nation's surface transportation system.

- Underinvestment in Alaska may have more severe consequences than for almost any other state because the Alaska's economy is highly dependent on resource extraction industries. These industries are highly transportation-intensive; their growth is the most likely offset to declining oil production and may be the State's best opportunity to diversity, but will require investment. In addition, the State's far-flung communities, harsher environment and less mature roadway network amplify the effects of under investment.
- In its 2030 Transportation Plan, the Alaska Department of Transportation and Public Facilities (ADOT&PF) estimated its annual highway and bridge needs at approximately $1.1 billion per year of which about $530 million is unfunded on state-owned facilities alone (excluding local roads and street needs), with Federal and state funding covering about half of the needs.
- In Alaska, routine highway maintenance remains underfunded and the backlog in life-cycle needs is over three times the level of spending in annual highway maintenance activities at the state level. Adding the AMHS unfunded needs, and Alaska's transportation funding gap increases to $720 million. These figures still do not include needs of transit, and locally funded roads, both in urban and rural areas of the State, or aviation. Furthermore, it does not include any transportation capacity needs to meet travel demand growth in the future.

- Alaska's transportation capital spending (from state and local revenue sources) as a percentage of the Gross State Product (GSP) for 2006 is the fourth lowest compared to other states. If Federal funding is included, the transportation spending as a percentage of GSP increases placing Alaska in the top 10 states, clearly indicating the State's reliance on Federal funding to meet its transportation needs.

CURRENT FEDERAL FUNDING AT RISK

Alaska has historically received on average roughly 75 percent of its total transportation funding needs from Federal sources. This dependence is quite likely to put Alaska in a very vulnerable position when the Federal transportation funding is reauthorized next year for the following reasons:

- Federal Highway Trust Fund went broke this past year and Congress provided only one year of stop-gap funding. Longer-term fixes, however, may include lower levels of funding, which would increase state competition for Federal allocations.
- The current negotiations over reauthorization are further reducing the difference between donor states (which have increased in the previous reauthorization from 90 percent of their contribution to 92 percent) and donee states, of which Alaska is one of the highest.
- Reauthorization funding policies appear to place far more emphasis on tolling or other user fees and metropolitan transit/transportation networks, rather than highway funding or legislative earmarking. Some proposals would push greater responsibility to states or cities for financing their transportation improvements.
- Federal support for Alaska's transportation needs is being challenged by other states because of the perception that Alaska's financial capacity is substantially better off than other states. The lower 48 and the Federal government see the Alaska Permanent Fund currently has almost $28 billion and Alaska is the only State that collects neither income taxes nor state sales taxes, and its 8 cents-per-gallon (cpg) gas tax is the lowest rate in the country.

OPTIONS FOR CLOSING THE GAP

In order for Alaska to close some of the gap in underinvestment and improve its competitive position for the next reauthorization of Federal transportation legislation, we propose some options for increasing state revenues with a mix of six sources that include increases to user fees such as the fuel tax and vehicle registrations fees, new sales tax on vehicles and the wider use of local sales taxes, reinstitution of the Local Service Roads and Trails (LSR&T) fund, and establishment of an Alaska Transportation Fund (ATF) or comparable fund.

Option One would generate roughly $151 million annually, or about 28 percent of the $535 million annual gap. It has the following six components:

- Increase fuel taxes from 8 cents per gallon (cpg) to 18 cpg (national average) and index the rate to inflation, generating about $38 million annually.
- Increase vehicle registration fees by 50 percent from $100 to $50 biannual fee, generating slightly less than $23 million annually.
- Impose a vehicle sales tax of 0.5 percent, yielding about $10 million annually
- Encourage local jurisdictions to impose a 0.5 percent sales tax, which if enacted throughout the State would earn about $30 million annually
- Capitalize the Alaska Transportation Fund (ATF) with $1 billion, which with a 8 percent return should earn about $50 million annually.

Option Two would generate roughly $291 million annually, or about 55 percent of the $535 million annual gap. It has the following six components:

- Increase fuel taxes from 8 to 28 cpg and index the rate to inflation, generating about $76 million annually.
- Double vehicle registration fees from $100 to $200 biannual fee, generating over $45 million annually.
- Impose a vehicle sales tax of 1.5 percent, yielding over $31 million annually
- Encourage local jurisdictions to impose a 1.5 percent sales tax, which would earn about $89 million annually
- Capitalize the Alaska Transportation Fund (ATF) with $1 billion, which with a 8 percent return should earn about $50 million annually.

Option Three also would generate $291 million annually (55 percent of the $535 million annual gap), but it would reduce the two sales taxes and instead reinstitutes the Local Service Roads and Trails (LSR&T) fund:

- Same increase in fuel taxes (8 cpg to 28 cpg and index the rate to inflation), generating about $76 million annually.
- Same doubling of vehicle registration fees from $100 to $200 biannual fee, generating over $45 million annually.
- Impose a state vehicle sales tax of 1.25 percent and a 1.25 percent local sales tax, which would earn over $26 million and $74 million annually, respectively
- Capitalize the Alaska Transportation Fund (ATF) with $1 billion, which with a 8 percent return should earn about $50 million annually.
- Assume the State reinstitutes the LSR&T program at about $20 million annually.

1.0 Introduction and Synopsis

1.1 STUDY OBJECTIVES

The Alaska Municipal League (AML) commissioned Cambridge Systematics, Inc. to conduct an objective assessment of the current finance trends, challenges, and possible future solutions to meet Alaska's surface transportation finance needs. Specifically, the Transportation Finance Study is intended to answer the following questions:

1. Present current trends in transportation finance within Alaska, based on the last 10 years of capital and operating needs for transportation.
2. Identify the changes in direction and new funding priorities that may emerge from several Federal programs and their likely impact on funding levels for Alaska.
3. Identify and evaluate user fees, public-private partnership, and other tools for financing transportation investments that are being used or considered in other states, and their potential applicability in Alaska.
4. Identify and discuss factors that are most likely to impact Alaska's transportation funding in the future.
5. Identify possible strategies Alaska can best use to react to these factor and challenges.
6. Identify potential funding and financing tools for transportation, and evaluate their applicability to Alaska.

The findings and recommendations addressing the six questions posed by the AML are summarized in the following sections.

1.2 CURRENT TRANSPORTATION FINANCE TRENDS AND ISSUES

Summary of Transportation Finance Trends

Alaska has historically depended on Federal funds to meet the capital transportation needs of the State. The State's General Fund is used primarily for state matches on Federal funds, operations and maintenance on highways and rural airport, and to subsidize AMHS operating costs. Federal funding is used primarily for capital improvement, although some of funding has been allocated in the past for preventive maintenance. Alaska is the only state that does not have dedicated revenues for transportation, such as motor fuel taxes and vehicle fees. Alaska's transportation capital spending (from state and local revenue sources)

as a percentage of the Gross State Product (GSP) for 2006 is estimated at 0.15 percent, the fourth lowest compared to other states. If Federal funding is included, the transportation spending as a percentage of GSP increases to 1.94 percent, placing Alaska in the top 10 states and indicating the state's reliance on Federal funding to meet its transportation needs.

At the local level, transportation funding is highly dependent on bond proceeds as well as property taxes and special assessments. Over the 10-year period from 1997 to 2006, bonds funded 36 percent of local government spending on highways, while property taxes and special assessments contributed 34 percent. It is important to note, however, that bond proceeds are not actual revenue, and that debt must be repaid over time, possibly through general fund revenues. In the last two years, debt service payments have exceeded both capital and O&M spending, with further reinforces the heavy reliance on bond proceeds to support local highway spending. This also has led to a reduced level on capital spending in roads and streets at the local level.

Transit does not receive dedicated state assistance in support of operations or capital programs, which is unique among Alaska's modes of transportation. Alaskan public transportation is highly dependent on local funds for operations and on Federal funds for capital projects.

At the national level, funding for transportation investments typically falls short of needs, and Alaska is not an exception. All states are facing similar funding gaps for transportation investments primarily for four reasons:

1. Revenues have remained flat or declined (measured in nominal or current dollars) because fuel tax rates have not been increased to account for inflation (i.e., indexed), increased travel per household, population growth, or maintenance and preservation of aging infrastructure (see below), and declining fuel consumption due to improved fuel efficiency in the vehicle fleet and transitioning to alternate fuels.
2. Increases in travel resulting from population growth and increased cars per household and miles driven per household (measured as vehicle miles of travel or VMT per household).
3. Rapid and dramatic escalation of construction costs because of the increased international demand for raw materials from developing industrial nations such as China and India.
4. The higher cost of maintaining and preserving aging infrastructure compared to newer facilities (separate from the rapid escalation of construction costs).

In Alaska, highway routine maintenance remains under funded and the backlog in life-cycle needs is over three times the level of spending in annual highway maintenance needs at the state level. These figures do not include needs on the AMHS, transit, and locally funded roads, both in urban and rural areas of the state. Furthermore, it does not include any transportation capacity needs to meet travel demand growth in the future.

Based on data from ADOT&PF long range plan,[1] and input from transit and rural transportation stakeholders, the funding gap for surface transportation in Alaska is estimated at almost $600 million per year, which only includes state-funded highways and bridge, transit and rural roads and streets; it does not include AMHS or urban roads and street needs from local governments. Adding the AMHS unfunded needs, Alaska's transportation funding gap increases to $720 million. Table 1.1 summarizes the funding gap by mode.

Table 1.1 Alaska's Annual Funding Gap (In Millions)

Mode	Annual Funding Gap (Millions)	Comments
Highway and Bridges	$533	Based on ADOT&PF 2030 Plan. Highway and bridge needs include: • System Development – projects aimed at reducing congestion, improving safety, providing better connectivity or enabling economic development, such as new highway construction. • Life-cycle management – periodic rehabilitation work to preserve value of assets. • Routine maintenance – these are annual activities, typically seasonal in nature, such as snow and ice removal, pothole patching, striping, mowing, and sign repair, among others. Highway and bridge needs are estimated at $1,051 million, of which $518 million is funded with projected Federal and state funding.
Rural Roads and Streets	$20	Based on estimates provided by stakeholders, including the Denali Commission. Calculated as the average, with estimates ranging from $10 to $30 million for rural needs.
Urban Roads and Streets	N/A	Not available. Current AMATS and FMATS long-range plans are financially constrained, and do not include unfunded needs over the long-term.

[1] Ibid.

Mode	Annual Funding Gap (Millions)	Comments
Transit	$32	Based on estimates provided by Alaska Mobility Coalition. The estimates provided are the funding needed above and beyond what transit providers receive from Federal, local governments, and passenger fares. Transit needs include: • Capital ($20 million), for bus replacement and capital needs of existing assets, service expansion for existing transit providers, and new rural and tribal transit services. • Operations and Maintenance ($12 million), for existing and new transit services, based on projected growth.
Total	**$585**	
AMHS	$135	Based on ADOT&PF 2030 Plan. It includes: system development (terminal additions and replacements); life-cycle management (vessel replacement, refurbishment and recertification); and routine maintenance. AMHS annual needs are estimated at $179 million; AMHS revenues were estimated at $44 million.
Total (including AMHS)	**$720**	

Source: ADOT&PF 2030 Plan; Denali Commission; Alaska Mobility Coalition.

Alaska Current Transportation Issues

Alaska's transportation challenges have been identified in the 2030 Transportation Plan, the TRIP report,[2] and through interviews with stakeholders. These unique issues relate mostly to the State's size, sparse and remote population, adverse weather, extensive dependence on marine and air modes, and a funding system that depends disproportionately on oil revenues and Federal largess. Seven areas of concerns were identified as current transportation issues, which are briefly summarized below:

Extent of transportation network. Alaska is the largest state in terms of size, but it is one of the smallest in terms of population. Furthermore, much of the population is distributed sparsely across the State. The transportation infrastructure is significantly less developed compared to the lower 48, and connectivity is one of the main issues faced in rural Alaska. Federal law allows the use of Federal-aid highway funding for most roads only in Alaska and Puerto Rico, which adds pressure on the demand for funding, affecting Alaska Department of Transportation and Public Facilities' (ADOT&PF) ability to sustain major roadway facilities (including the National Highway System, or NHS). The Federal-aid

[2] TRIP, *Future Mobility in Alaska: Meeting the State's Need for Safe and Efficient Mobility*, October 2008. Available at http://www.tripnet.org, last accessed on December 3, 2008.

highway program also is affected by state budget cuts from General Fund contributions, requiring ADOT&PF to shift resources for capital expansion and upgrades to preventive maintenance needs.

Cost of construction. The cost of construction in Alaska has increased significantly over the last few years, exceeding national averages. Several factors affect the cost of construction in Alaska, including (but not limited to) topography, soil, weather conditions, mobilization in rural areas, the vast amount of wetlands, short construction season, permafrost, the cost of the NEPA process and environmental mitigation, compliance with Section 4f, and the cost of litigation over contested projects (opposition from environmental and neighborhood groups).

Federal and state requirements. Federal requirements, including environmental clearance and the permitting process were cited by several groups interviewed as a main challenge for advancing transportation projects, particularly for rural communities. Federal environmental requirements for transportation projects have increased significantly over the last four decades. State design standards also are applicable when ADOT&PF funding is used, which also drives up the cost of construction compared to a private sector project. On the other hand, private sector projects may require to be rehabilitated, replaced or expanded much sooner than a project that applied ADOT&PF design standards, and may lack safety and traffic management feature that are desirable for public roads.

Tensions between surface transportation needs. Many stakeholders see four primary sources of tension between their State's transportation needs:

- **Capital versus maintenance needs.** Difficulty of balancing and prioritizing capital (e.g., added capacity) versus maintenance (e.g., life-cycle management) needs, especially when funding available for either capital expansion or maintenance is far below the estimated needs.
- **Urban versus rural needs.** Funding shortfalls force hard choices between providing upgrades and maintain the urban transportation system, versus improving connectivity and access in rural areas.
- **Demand of limited funding for state and locally owned roads.** Federal-aid highway funding may be used for all roadway facilities in Alaska, including local streets and roads. This creates competition for scarce resources that could either be used on major facilities or on local roads.
- **Ownership and control of road facilities.** The State owns and controls many transportation facilities that primarily serve local needs, which may affect ADOT&PF's decision-making on what is in the best interest of the state versus local interests. It also forces local interests to compete at the statewide level against other state programs, putting local needs in disadvantage.

Rural transportation. Rural stakeholders, including tribal governments, reported several issues that affect their ability to address their transportation needs, including: 1) difficulty in accessing Federal funds, and lack of technical capacity to advance projects; 2) lack of local funding to match Federal and state

funds, 3) limited or no state funding for local roads; and 4) difficulty in establishing partnerships on state-funded projects.

Transit-related issues. Low population densities limit the ability to provide extensive transit services, which in turn discourages choice riders due to low service levels. The significant increase in fuel prices during the summer 2008 increased transit ridership, but also added pressures to the operating budget of existing transit operators.

Safety. The fatality rate in Alaska was higher than the national average in 2006. The Strategic Highway Safety Plan includes roadway improvements to address safety concerns.

Factors Affecting Future Transportation Investment and Funding

There are a number of factors at the national and state level that will impact transportation and funding for transportation investments in the future. Understanding these issues is important as Alaska considers changes to its current portfolio of funding sources and develops a financing plan to address the transportation issues and needs identified above. We have organized the issues identified through the stakeholder interviews that they believe may face the State in the future into 11 areas of concern:

- **Lack of dedicated funding for transportation**. Alaska does not have a dedicated source for transportation funding, and motor fuel taxes and vehicle fees that are typically dedicated to transportation in other states go into the General Fund. Transportation is funded through annual legislative appropriations, competing with other state needs for funding. This will become a major issue as revenues from oil royalties, the main source going into the General Fund, are projected to decline in the future. Oil price volatility further aggravates this issue, particularly as the price of oil has dropped below the forecast priced used to develop the state's FY 2009 budget, which could result in budget shortfalls affecting all state spending, including transportation.
- **Heavily subsidized transportation system**. Alaska's highway transportation system is heavily subsidized so users pay a fraction of the full cost for building and maintaining the roadways. User fees such as tolls, registration fees, and gas taxes would send stronger price signals to users but are not levied in Alaska for transportation. Although the current prices charged of users of transportation in all states are below the cost of providing such services, Alaska's users are being charged far below the true costs. This significant subsidy is even more extreme for remote communities served by ferry and air service. At the national level, there has been significant discussion about the application of pricing that comes closer to the real costs of providing transportation services. For the State of Alaska, this debate could have profound effects on future Federal funding levels. The near complete subsidy of some state transportation services (ferry and air fares are a clear

exception) would become a significant impediment to future Federal apportionments. Nationally, future Federal policy may force states to price transportation more like a utility than a public good. Regardless of the State's Constitutional prohibition of dedicating revenues to specific public services, states that have reduced their subsidies and transitioned to user fees would have a strong competitive advantage for Federal matching funds.

- **Lack of state funding for public transportation**. Currently, no state money is dedicated to public transit. Public transportation currently is funded with Federal, local, and private nonprofit funding (demand response services). Transit services also are under funded at the local level, especially in rural areas. There is no enabling legislation that allows local governments to dedicate funding for transit, as is the practice in other states. Alaska's major transit providers fund their system with allocations from local general funds, competing with other local services, such as police and education.
- **Reliance on Federal Funding and Earmarking**. Most of the funding for both highway and transit investments comes from the Federal government, through both formula allocations and earmarks. The Highway Trust Fund (HTF) will be bankrupt in 2009 without any reforms and/or increases to Federal highway user fees that fund the HTF. If this were to occur, which is unlikely, Alaska could expect significant cuts in Federal funding levels, compared to the last decade.
- **Alaska's Financial Capacity**. Federal support for Alaska's transportation needs is being challenged by other states because of the perception that Alaska's financial capacity is substantially better off than other states. What other states see are record public revenues generated by high oil prices, and the Alaska Permanent Fund generating annual dividends to its residents, who in addition are not required to pay income taxes or sales taxes at the state level. Finally, the motor fuel tax was recently suspended for one year, but the rate already was the lowest in the country. Taken collectively, this perception concludes that Alaska has more head room in its funding alternatives than most other states,
- **Unique Disadvantages**: Many of those challenging Alaska's share of Federal support, however, are likely not as aware of inherent disadvantages. These include Federal ownership of 69 percent of its land, the small population, the dispersed communities that depend on transportation for their existence, inclement weather and its effects on roadway construction and maintenance costs, and dependence on very expensive marine and air service for a significant part of its transportation infrastructure. In addition, the massive construction of the interstate network was more or less completed before Alaska achieved statehood.
- **Future Transportation Infrastructure Needs in the North Slope and Future Heavy Traffic Growth**. The construction of the natural gas pipeline from the North Slope into the lower 48 will require significant improvements to the

existing transportation infrastructure. Under the current schedule, construction on the gas pipeline could begin by 2015, which would leave about six years to upgrade transportation infrastructure. Truck traffic is also expected to increase in the near term due to a new requirement to use low sulfur diesel for operations in the North Slope. Alternatively, the proposed rail extension into Port MacKenzie would allow for rail shipments of low sulfur diesel at lower costs.

- **Access to Natural Resources and Alternative Energy Sources**. The mining as well as oil and gas industries generally expect to pay for their own transportation access needs, but in some cases these roads are shared with the general public or among several resource owners, and in those cases the mines would prefer the state pay for the improvements. There are precedents in Alaska of state and private sector collaboration in providing access to natural resources.
- **Climate Change and Options for GHG Reduction**. The transportation sector is one of the main contributors of greenhouse gases (GHG). Future efforts to address climate change and reduce GHG will certainly impact the transportation industry. In Alaska, access to some rural areas is only feasible through air and/or marine transportation, both of which have large carbon footprints per person mile traveled, compared to highway or transit. The implementation of carbon taxes or cap-and-trade would only add to the cost of transportation and goods in rural areas and for industries that are highly dependent on transportation, such as fishing, mining, and oil. Another aspect of climate change are the additional adaptation costs that will further impact the high cost of construction. The effects of climate change include melting of permafrost layer, coastal erosion, and both increased frequency and severity of weather events, all of which would require adapting infrastructure to changing conditions.
- **Endangered and Threatened Species**. Recent designation of the polar bear as threatened and the beluga whale as endangered species is expected to impact transportation. In the case of the polar bear, the designation cannot be used to regulate GHG from transportation and other sources. The designation of the Cook Inlet beluga whale as an endangered species, however, is expected to impact projects in the Seward Highway, the Knik Arm Bridge, and expansion of the ports in Anchorage and at Point MacKenzie.
- **High Cost of Construction in Rural Alaska**. The high cost of construction materials, especially in rural and remote areas, limits the State's ability in investing in transportation improvement because in many cases these improvements do not generate sufficient benefits that justify investment. Some of this investment, however, is vital for sustainability and survival of these communities
- **High Cost of Fuel and Goods in Rural Areas**. Fuel prices are higher in Alaska when compared to the national average, and are even higher in rural

parts of the state. Fuel is purchased in bulk and delivered by barge during the summer months to coastal communities in Western Alaska, when the price of fuel is usually high. If fuel is delivered in the winter months, it is done by air, which is very expensive. More than transportation, the high fuel costs affects the cost of electric power and heating in these remote communities. The cost of goods also is very high in these communities, in large part due to the high cost of delivering goods in remote areas.

1.3 THE FUTURE OF THE FEDERAL TRANSPORTATION PROGRAM

There is much speculation about the future of Federal funding in Alaska for several reasons. First, revenues into the Federal Highway Trust Fund (HTF) have fallen below the expenditure levels established in SAFETEA-LU. Under SAFETEA-LU, expending levels increased significantly, but Federal fuel taxes and heavy vehicle fees remained at the same level. In addition, the yield of the fuel tax has declined due to a vehicle fleet shift to more fuel efficient vehicles, the introduction of alternatives fuels, and, more recently, a decline in travel due to high fuel prices. The projected HTF shortfall by 2010 was accelerated with the increase in fuel prices during the spring and summer of 2008 that led to a decline in HTF receipts. In September 2008, the President approved a transfer of $8 billion from the General Fund into the HTF to maintain its solvency. It is clear that the current levels of spending from the HTF are unsustainable over the long term, unless taxes are increased in the short term and more effective revenue sources are implemented over the long term. (See Section 3.0)

Another factor that will impact Federal funding in Alaska is the authorization of the next Federal transportation bill. SAFETEA-LU expires September 30, 2009. At this time, it is unknown whether a continuation of the existing legislation will be passed as a stop gap matter, or whether congress will be able to craft new legislation. Various transportation groups have presented different proposals, but most agree in a reform of the current Federal transportation funding program. A lot of discussion also has revolved around earmark reform and climate change. Some of the come themes from these proposals include:

- Transition to a diverse portfolio of revenue sources to fund transportation;
- Increase Federal motor fuel tax and include price indexing;
- Shift funding towards preserving and modernizing the national transit and rail networks;
- Emphasis on freight and goods movements, and investment on freight corridors of national and regional significance;
- Provide states with toll/user fee financing options, including congestion pricing, High-Occupancy Toll (HOT) lanes, and truck-only lanes on the existing Interstate Highway System;

- Take prompt action to sustain the Highway Trust Fund;
- Make greater use of public-private ventures;
- Shift to performance-based funding/monitoring with additional funding incentives available;
- Reduce the number of funding programs and shift from modal funding silos;
- Address climate change concerns and GHG reduction through increased fuel efficiency, cleaner fuels and shift to transit;
- Promote regional transportation planning efforts (e.g., Regional Blueprint Planning); and
- De-emphasis of Federal and state legislative earmarking.

Impacts to Future Federal Funding for Alaska

The emphasis for transportation funding is shifting towards tolling or other user fees and metropolitan transit/transportation networks, rather than highway funding or legislative earmarking. This could pressure Alaska to institute new or raise existing taxes or fees to fund their transportation projects.

A recent study by the Institute of Social and Economic Research (ISER) estimated that Alaska could be vulnerable to Federal spending cuts between $450 million and $1.25 billion, which could translate into a reduction of 7,000 to 20,000 in jobs. Federal spending in the form of grants (which includes transportation, among other sectors) is the most vulnerable to cuts, especially those grants allocated in the form of earmarks.

The future of the Denali Access System Program in the next Federal authorization for transportation is uncertain. The Denali Commission has played a key role in funding transportation need in rural areas, along with other Federal funding through the Indian Reservation Roads, National Park Service, and Forest Service programs. Nevertheless, local communities and native tribes struggle to meet the matching requirements and lack the technical capacity to implement their projects. The State could decide to play a larger role in supporting local road projects by providing funding for the non-Federal share of projects, and also by creating a joint-funded program for local roads. Also, as support for public transportation grows at the Federal level as an alternative to reduce VMT and reduce the carbon footprint of transportation, the State also may consider investing in public transportation.

About 60 percent of past earmarks have been taken out of what the State would have received from its allocation of Federal fuel tax revenues (also known as "below the line"). When these earmarks are targeted for high-priority projects, state and/or local government, the earmark helps to ensure that the State will receive the Federally authorized funding for that project. Furthermore, the State has usually programmed the required local match. Some earmarks, however, are not high-priority projects and these not only shift funding from the State's priori-

ties but the required local match may drain resources from higher-priority projects. In this context, earmark reform is seen by many stakeholders in a positive light.

1.4 TRANSPORTATION FUNDING AND FINANCING OPTIONS

Across the nation, state departments of transportation (DOT), local governments, and public transportation service providers are continuously evaluating and implementing strategies to expand their current portfolio of revenue sources available for transportation investments. The typical typology for organizing the possible revenue options divides into five groups: direct user fees, indirect user fees, specialized taxes, general taxes, and innovative finance techniques. But this typology does not apply in Alaska where all funding is programmed through the General Fund.

It should be noted that the implementation of any of these proposed revenue sources may require legislative action before implementation. Furthermore, the constitutional prohibition on dedicated revenues would have to be considered, and policy decisions and strategies will have to be in place to ensure that new revenue sources are used to support Alaska's transportation infrastructure.

Table 1.2 summarizes the funding and financing tools considered in the study; Table 1.3 summarizes the revenue potential for most of the funding option evaluated. Financing tools do not generate new revenue, but allow leveraging of existing resources to accelerate the construction of projects.

Table 1.2 Funding and Financing Options for Alaska

Direct User Fees	Indirect User Fees	Specialized Taxes	General Taxes	Financing Tools
Tolling and Pricing	Motor fuel taxes: Indexing Grandfathered dedicated fund for maintenance	Local vehicle registration fees	Alaska Transportation Fund	State and local general obligation bonds
Vehicle-Miles Traveled (VMT) Fees	Vehicle registration/license fees	Fuel transfer taxes	Constitutional Budget Reserve	Public-private partnerships
Weight-distance Fees	Personal property tax on vehicles	Property taxes/ road service areas	State general fund to match local funding/reinstitution of Local Service Roads and Trails (LSR&T)	State Infrastructure Bank (SIB)
	Sales tax on motor vehicles	Local sales taxes		State match of local debt
		Severance taxes		
		Local gas taxes		
		Income/payroll taxes		

Direct User Fees	Indirect User Fees	Specialized Taxes	General Taxes	Financing Tools
		Hotel taxes		
		Rental car taxes		
		Impact fees		
		Local/private in-kind contributions		

Table 1.3 Summary of Revenue Potential for Transportation Funding Options

Revenue Forecast for 2015

Funding Source	Description	2015 Revenues
Motor Fuel Taxes	Yield per penny by 2015	$4.0 million
	Reinstate motor fuel tax rate at 8 cpg	$32.2 million
	Adjust by CPI starting in 2010	$36.9 million
	Adjust motor fuel tax rate to capture value loss due to inflation over the last 10 years by 2010, and index annually thereafter	$46.6 million
Grandfathered Dedicated Fund for Maintenance	It would allow reinstating a fund dedicated to transportation	N/A
Vehicle Registration/ License Fees	$10 biannual fee increase	$4.8 million
Personal Property Tax on Vehicles	Property tax at the state level based on value of vehicle	N/A
Sales Tax on Motor Vehicles	1 percent sales tax on new and used vehicle sales	$26.8 million
VMT Fees	$0.01 per VMT; no indexing	$58.8 million
Weight-Distance Fee	Heavy vehicle fee based on vehicle weight, number of axles, and distance traveled	N/A
Alaska Transportation Fund	$1 billion dedicated from oil taxes	N/A
Constitutional Budget Reserve	Use a portion of interest/earnings from CBR	N/A
State General Fund Match to Local Funding	TBD	
Local Vehicle Registration Fees	$10 biannual fee; assume that is adopted by all communities	Up to $4.8 million
Fuel Transfer Taxes	Excise tax in cpg of fuel transferred	N/A
Property Taxes/ Road Service Areas	Ad valorem tax based on percentage of property values	N/A
Severance Taxes	Based on a percentage of profit from extraction of natural resources	N/A
Local Sales Taxes	0.5% sales tax adopted by all communities; excludes retail sales on motor vehicle, food, gasoline, and health care items	$37.4 million
Local Gas Taxes	Yield per penny by 2015, assuming that it is adopted by all communities	Up to $4 million
Income/Payroll Taxes	Percent of personal income, or percent of all salaries paid	N/A
Hotel Taxes	A percentage on room cost, or a flat rate per day	N/A
Rental Car Taxes	Flat rate per day, or x-percent of rental	N/A

Funding Source	Description	2015 Revenues
Impact Fees	Based on units for residential development, or square footage for nonresidential development	N/A
Local In-Kind Contributions	Land donations, professional services	N/A
70/30 State to Local Match	Similar to school funding program for transportation	N/A

Funding Scenarios

The funding gap has been estimated at $585 million annually for highway, bridges, and transit investments. No single revenue source would be able to close the funding gap on its own, given the projected revenue potential of each individual source, as shown in Table ES.3. Therefore, a combination of taxes and fees would be required to meet unfunded needs.

Three funding scenarios (Table 1.4) were developed to illustrate the need for a diverse portfolio of funding sources to generate at least $300 million per year (i.e., about half of the estimated gap).

Table 1.4 Funding Scenarios

Funding Source	Scenario #1	Scenario #2	Scenario #3	Comments
ATF	$1 billion dedicated to create fund	Same as Scenario #1	Same as Scenario #1	
Motor Fuel Tax	Add 10 cpg to baseline rate (i.e., 8 cpg)	Add 20 cpg to baseline rate (i.e., 8 cpg)	Same as Scenario #2	10 cpg is the required increase to meet the national average excise motor fuel tax (18 cpg)
Vehicle Registration Fees	Increase current vehicle registration fee by 50% (i.e., add $50 biannual fee)	Increase current vehicle registration fee by 100% (i.e., add $100 biannual fee)	Same as Scenario #2	
Sales Tax on Motor Vehicles	0.5%	1.5%	1.25%	Sales tax on new and used vehicle retail sales; applied statewide
Local Sales Tax	0.5%	1.5%	1.25%	Sales tax adopted by all communities; excludes retail sales on motor vehicle, food, gasoline, and health care items
LSR&T	$20 million	$20 million	$20 million	Assume that the state reinstitute the LSR&T program

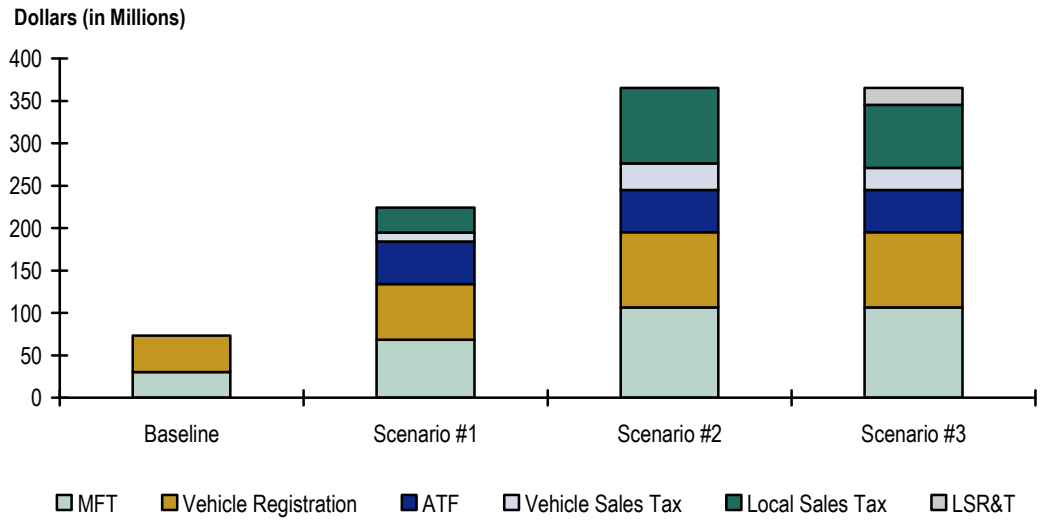
Table 1.5 and Figure 1.1 show the revenue potential of the three funding scenarios. Only motor fuel taxes (before suspension in September 2008) and vehicle registration fees are collected at the state level, and although not dedicated to transportation, they have generally been used to pay for ADOT&PF expenses.

Scenario #1 shows that closing the funding gap may not be achievable with a combination of taxes and fees at rates that could be generally acceptable. Both Scenarios #2 and #3 assume aggressive implementation and significantly higher fees to close half of the funding gap by 2010, but at levels that could be difficult to implement. While a transition to a user-fee based system might be recommended over the long-term, these scenarios further support the conclusion that direct and indirect user-fees in Alaska would not provide sufficient revenues without imposing a significant burden on its population, and that the state and local governments should consider a diverse portfolio of funding options to meet their transportation needs.

Table 1.5 Potential Contribution of Funding Mechanisms for Alaska Transportation Needs at the State and Local Levels
2010 (In Millions of Dollars)

Funding Source	Baseline	Scenario #1	Scenario #2	Scenario #3
ATF	N/A	$50	$50	$50
Motor Fuel Tax	30	69	107	107
Vehicle Registration Fees	43	66	88	88
Sales Tax on Motor Vehicles	N/A	10	31	26
Local Sales Tax	N/A	30	89	74
LSR&T	N/A	0	0	20
Total	**$73**	**$224**	**$365**	**$365**
Net Revenue (Compared to Baseline)	**0**	**151**	**292**	**292**

Figure 1.1 Gap Closing Potential of Revenue Scenarios



1.5 FUNDING OPTIONS

In this study, we have been tasked with finding answers to seven questions focused on whether the State can maintain its current levels of investment from its existing sources of revenue and what alternative sources would appropriate if these existing sources are not sustainable. The broad consensus among the stakeholders interviewed for this study and all indications from Washington, D.C. point to an imminent decline in Federal funding for Alaska's transportation needs. The question remains will this decline manifest itself as modest and steady reductions of the next six year reauthorization cycle, or will the State experience erratic drops with episodic infusions, or will the current Federal largess drop off a cliff. While the shape of this decline could have severe consequences to the state in the short term, long term consequences will look the same regardless of how quickly Federal funding dries up and state general funds decline. In other words, sooner or later the state will have to implement sustainable transportation funding.

Throughout our research for this study many stakeholders have provided compelling evidence that current levels of capital investment in state and local transportation infrastructure are insufficient. The ADOT&PF 2030 Plan has documented chronic deficiencies in investment of about $585 million annually for highway, bridge, and transit needs. While the scope of this study does not include further investigation of this gap, the interviews with stakeholders confirmed significant unfunded needs.

Our recommendations are focused on what the State's policy-makers should consider in the short- and longer-term to offset reductions in Federal funding and the likely decline in the state general fund revenues. Nevertheless, our

recommendations for a more sustainable funding portfolio incorporate strategies for increasing the overall investment and funding some of the unmet needs identified in the 2030 Plan.

Among the stakeholders we interviewed, there were many who have for some time been regarding the State's dependence on Federal revenue and general funds tied directly to international oil prices as a crisis waiting to happen. With the declining production of oil from the North Slop, many stakeholders we interviewed regard the looming loss of Federal funding as a long-awaited opportunity that is needed to catalyze improvements to the State's transportation funding practices. For them, "*You don't ever want a crisis to go to waste; it's an opportunity to do important things that you would otherwise avoid*."[3] If policy-makers embrace such philosophy, then bold solutions to the impending crisis for funding Alaska's transportation should gain some precedence over more cautious, small adjustments. One outcome would be certain if only small changes are made (and the price of oil rebounds and the gas pipeline is constructed), the state will gain some additional time before its faces this crisis again. But sooner or later, there will be a reckoning.

We start by separating our recommendations into two categories: efficiency of existing spending and expansion of alternative state sources.

Efficiency

The need to increase revenues for transportation must also show that current spending is efficient. QA comprehensive investigation of specific measures to improve efficiency, however, is beyond the scope of this study. Nevertheless, the interviews with stakeholders revealed a few opportunities we can identify in general terms.

The most often cited example from stakeholder interviews involves the redundancy of all types of public infrastructure to maintain a minimum of basic public services for many far flung communities. These communities present a wide array of conditions, but a significant number may present some opportunities to reduce redundancy of expensive infrastructure. The four Chignik communities, for example, have multiple fuel farms, public docks, airports, schools, and other municipal facilities. In this case better roads connecting the communities would allow the sharing of duplicative facilities and save significant state expenditures.

Expansion of Alternative Sources

The funding gap has been estimated at $585 million annually for highway, bridges, and transit investments. We recommend that the State consider increasing a combination of taxes and fees to meet unfunded needs. The scenarios presented in Section 4.7 are merely illustrations of alternative bundles of

[3] Rahm Emanuel, President Obama's Chief of Staff, November 7, 2008.

funding increase that would close the current gap. The information within each scenario is intended to show what various sources could contribute. Policy-makers will evaluate an increase in each source on its own merits and in the context of the State's unique conditions.

Alaska's vast area, sparse roadway network, small population, scattered communities, resource extraction-based economy, tough weather, Federal control of 69 percent of its land, and high dependence on marine and air modes minimize any useful comparisons to the funding portfolios of other states, let along a comparison to foreign countries. So a source-by-source comparison of Alaska's transportation funding to other state does not necessary point to deficiencies should be corrected to bring Alaska's funding portfolio into closer correspondence with those of the lower 48. Nevertheless, economy theory and the laws of human behavior still apply and drive the same tradeoffs facing any state trying to optimize its funding of transportation. Furthermore, Federal the central pillar of Alaska's transportation funding approach may be crumbling. With the differences and commonalities in mind, we recommend the following increases to specific sources of funding.

Increase User Charges

The fundamental tension to using alternative sources of transportation funding involves finding an appropriate point along a policy continuum, where the two poles are funding transportation as a pure public good or as a public utility much the way most state pay for water or energy. Public utilities are funded with user fees, which in their purest form are priced to cover the true marginal cost of serving each additional customer. This approach is most effective when the follow conditions exist:

1. One citizen's use of the public service excludes another from using the same increment of service (e.g., a camping spot in a campground);
2. There is a cost-effective means of collecting payment (e.g., drivers license);
3. The benefits of the public good accrue to users and less equally to society as a whole (e.g., toll roads); and
4. The user charge sends a clear price signal that ensures the service is used efficiently (e.g., solid waste disposal).

A pure application of user fees for transportation funding would entail the use of vehicle miles of travel (VMT) fees that vary by time of day, location, vehicle type, driver behavior and other criteria that price that individual's travel for his/her full cost on the network and society. No such system has been deployed, although two successful but small demonstration trails have been completed in Oregon and Washington State (Puget Sound Regional Council). Policy-makers in Oregon and Washington regarded these trails as successes, but have concluded that migrating from gas taxes to VMT fees will require a Federal program with standardize system architecture. Meanwhile, cordon pricing programs (which

are VMT pricing programs within a specific area) have been implemented in London, Stockholm and Singapore, and Germany has a countywide VMT payment program for commercial trucking. In addition, pay-as-you-drive (PAYD) insurance is available in some form in 34 states and in many foreign countries, including Israel, the Netherlands, United Kingdom, South Africa, Canada, and Japan.

At the other end of the continuum, transportation is regarded as a public good. Such public services benefit all citizens and one citizen's use of the service does not exclude another citizen use of the same service. National defense is often sighted as the purest example of a pure public good. So are education, public health, consumer protection, environmental protection and other services. The primary rationales for funding pure public goods with general taxes include:

1. The difficulty excluding a citizen from using or benefiting from the public good unless the government collects payment;
2. The benefits of the public good are distributed more or less equally to society as a whole; and
3. A private market for the public good would be difficult to create or the feasibility of providing the service from private sector would require inefficient subsidies or undesirable policy outcomes.

Most experts place transportation somewhere closer to a utility than a pure public good, but there is considerable debate and many specific conditions affect its placement, including the severity of congestion, priorities for economic development, opportunities for public-private partnerships, public safety, social welfare, and lots of others. Most experts agree, however, that the price charged to most users in the United States undervalues the benefits they receive from transportation and does not force a user to pay the full costs they impose on other users and society as a whole. This general consensus that all modes of transportation enjoy significant subsidies from general tax revenue is leading to a likely change in the Federal government's criteria for distributing funding to states. This likely outcome of this policy shift will be new requirements that states and local jurisdictions charge more aggressive user fees and other forms of pricing to manage demand as well as cover the cost of higher local match. Furthermore, reauthorization of the Federal transportation bill indicate transportation may be required to mitigate the full social costs of travel (e.g., taxing carbon or green house gas emissions, national weight-distance fees for commercial vehicles, etc.).

The State's unique conditions listed in the beginning of this section make the replacement of lower Federal funding with more aggressive use of user fees

difficult.[4] This practical limitation is exacerbated by the State's constitutional ban on dedicated revenue sources. In order for Alaska to retain some competitive position for the next reauthorization of Federal transportation legislation, we recommend more aggressive use of the following three user fee-based funding sources for specific elements of Alaska's transportation services.

Increase Fuel Taxes and Index to Inflation

Fuel taxes are regarded as indirect or weak user fees. While the amount of each state's fuel tax is added to the wholesale price of the fuel (gasoline or diesel), the differences in retail price levels of fuel in each state do not appear to correspond to the tax rates. The fuel tax, which is technically a user fee, does not send a strong price signal to the motorist. In fact, most of us do not know what the state and Federal fuel tax rates are that we are paying. Nevertheless, in a recent survey from ADOT&PF, almost 67 percent of respondents indicated that state funding for roadways should be increased. Furthermore the data shows stronger public support for user fees if they are assured the revenues go to the specified purpose versus into unrestricted revenues.

Perhaps even more important, changes in a state's fuel tax rate seem to have little or no influence in the state's retail fuel prices. This appeared to be the case when Alaska's eight-cent gas tax was suspended. There is strong evidence that *changes* in retail fuel prices are driven by demand and *changes* in the State's fuel tax rate may only affect who captures the increment of profit from the retail sale of a gallon of fuel: the State, the gas station, the distributor, the carriers, the refiners, or the producers.[5] The data indicate that the suspension of the State's fuel tax did little to reduce the retail price of fuel and any temporary effect was quickly overwhelmed market forces.

Prior to its suspension, Alaska's fuel tax at eight cents per gallon (cpg) was the lowest in the nation. This amount generates about $30 million annually. In Section 4.7 of this report, we present three alternative funding scenarios. All three include increases in the State's fuel tax. If the State increase the fuel tax 10 cpg (above the 8 cpg rate), it will earn approximately almost $40 million more annually. If the increase were 20 cpg, the additional revenue would total about $77 million annually. Once these increases are in effect, the rate should be adjusted

[4] The states vast area, sparse roadway network, small population, scattered communities, federal control of 69 percent of its land, and high dependence on marine and air modes.

[5] An example illustrating the incidence of different fuel tax rates occurs along the state boundary between New York and New Jersey. New York has one of the highest gas tax rates in the county (42 cents per gallon) while New Jersey has one of the lowest (about 14 cents a gallon). New York and New Jersey gas stations located within a block on each, however, charge the same price for gas. New York has the nation's best public transit system, which it funds largely with fuel tax revenues. New Jersey's transit and roadway infrastructure in is much poorer condition.

annually to track to an index that tracks with the weighted cost of Alaska's multimodal construction, maintenance, operations expenditures. This indexing of fuel tax should apply to all existing and new revenue sources. The reason is that Alaska needs adequate and reliable funding. Predictable and dependable multi-year funding sources give the State's planners the assurance that large capital projects can be funded reliably over time. Current funding depends on oil prices and global demand, which ensures episodic conflicts with the ongoing maintenance obligations because of erratic fluctuations in public revenues from petroleum sales.

Increase Vehicle Registration Fees

Vehicle registration, license and title fees represent the second largest revenue source for many state DOTs (after the motor fuel taxes). Alaska's vehicle registration fees generated $41.4 million and driver license fees generated about $3.4 million. This revenue comes from a flat vehicle registration fee of $100 every two years for passenger cars and a heavy vehicle registration fees which is based on weight: from $180 for vehicles up to 5,000 pounds to $662 for vehicles over 18,000 pounds. Assuming that the number of vehicle grows in line with population growth projections and the existing fees increase $5 per year for all vehicle classes, Alaska could levy an additional $4.8 million by 2015.

We recommend the State consider an increase in the fees across all categories from 50 to 100 percent. Such increases would generate between $23 million to $46 million more in annual revenue. The vehicle registration fees are one of three user fees in the State's portfolio and fuel taxes are the only one that generates significant revenues. (Revenues from driver license fees are sufficient to cover only administrative costs.) Unlike fuel taxes which are concealed in the retail price of gas or diesel, vehicle registrations fees are paid directly by the owner and therefore provide a clear price signal.

General Taxes and Trust Funds

There are compelling reasons for the State to migrate from a general tax-based funding approach to a portfolio more inclusive of user fees. Nevertheless, the significantly higher rates for direct and indirect user-fees that would be necessary to close the gap between needs and revenues would impose a significant burden on travelers and likely undermine economic development. Given the modest gains from increases in these user fee sources, the state and local governments should consider a portfolio of funding options that includes increasing general taxes to meet their transportation needs.

Alaska Transportation Fund

In 2008, the Governor of Alaska introduced legislation to create an endowment fund for transportation capital needs. The Alaska Transportation Fund (ATF) would be capitalized with $1 billion from oil taxes, with an expectation that the fund would earn dividends of eight percent or more, based on historic returns from other similar state funds. The State would be allowed to use up to five

percent of the fund's total value for capital projects. Based on this assumption, the ATF could yield over $50 million in the first year for transportation capital investments, and increasing over time as the value of the fund grows. The expectation is that the ATF would grow both from surplus earnings and from further deposits of oil tax revenues if budget surpluses continue in the future. It is anticipated that the fund would be managed to be inflation proof. All modes of transportation would be eligible, and funding would be allocated based on merit.

With the current drop in the price of oil below the break-even price of oil used to develop the State's budget, there is some uncertainty whether a bill on the ATF would be reintroduced and later approved by the legislature and if funding would be available to capitalize this fund in the 2009 legislative session.

Constitutional Budget Reserve

The Constitutional Budget Reserve (CBR) Fund allows the State to borrow money to balance the state budget when General Fund revenues fall short of actual expenditures. The State repays any funds borrowed with general fund surpluses. The CBR was funded by proceeds of settlement of tax and royalty disputes with the oil companies. By the close of fiscal year 2008, the CBR had almost $8.1 billion in reserve, which included a $3 billion transfer from the general fund. An alternative funding option would be to set aside a portion of the interest and/or earnings of the CBR for transportation.

State General Fund Match to Local Funding

The state match needed to secure Federal funding for highway projects come from annual legislative appropriations from Alaska's General Fund. In 2006, about $4.9 billion (6.8 percent) of the state funding match for highways came from General Fund appropriations. The 2007, National Transit Database (NTD) reported that state governments provided $2.6 billion in General Fund appropriations for transit, accounting for almost 30 percent of the state funding for public transportation. The past year's dramatic increases in oil prices have increased Alaska's General Fund revenues significantly. Nevertheless, local communities in general and small municipalities and villages in particular have a much harder time meeting the matching requirement of Federal funding and earmarks for their transportation needs. Furthermore, there is no state program that consistently provides funding for public transportation in Alaska.

We recommend a state program that ensures local communities will have access to sufficient state funding to match Federal funds. This funding program should include these features:

- Provide funding to cover a specified portion of the non-Federal share (e.g., state to provide 60 percent of the non-Federal share), and require commitment of local funding; and
- Grants awarded to specific projects based on merit, with an application process that may include eligibility criteria and evaluation of project benefits (e.g.,

economic development, job creation, connectivity improvements in rural communities, etc.), among other requirements.

As proposed in ADOT&PF's 2030 Plan and by staff from the Denali Commission, we also recommend that the State reinstitute the Local Service Roads and Trails (LSR&T) program to provide funding for local roads. Although local roads are eligible for the Community Transportation Program (CTP), funding through this program is tied to Federal regulations, making it difficult for rural communities to use. In addition, the future of the Denali Commission's roads program is uncertain, and continuing support from the Commission will require a commitment from the State for joint-funded and state-supported rural road projects. SAFETEA-LU provided $15 million for roads and $10 million for ports and harbors through the Denali Commission per year. The Commission estimates that between $30 and $40 million over the next five to eight years are needed to address most rural and local street transportation needs, with $10 to $15 million per year coming from the State.

Even if the Legislature accepts this recommendation, a number of difficult issues will remain. In a subsection within section 2.2 (Tensions between Surface Transportation Needs) of this report, we describe four issues of which the last two would need to be understood and possibly remedied for the recommendation to have its full effect. These two issues are: a) the demand of limited funding for state and locally owned roads; and b) local versus state ownership and control of transportation facilities. Key stakeholders believe the sizeable amount of transportation facilities still under state ownership and control force the State to dilute its focus on major state infrastructure. On the flip side, the lack of local control on many local facilities makes it difficult for local municipalities to force state officials to attend to problems that concern local residents, but fail to raise to a level of concern for the State.

1.6 STUDY OBJECTIVES AND STRUCTURE

The Alaska Municipal League (AML) commissioned Cambridge Systematics, Inc. to conduct an objective assessment of the current finance trends, challenges, and possible future solutions to meet Alaska's surface transportation finance needs. Specifically, the Transportation Finance Study is intended to answer the AML's six questions (see Section 1.1) were reorganized and addressed into the following sections:

- **Section 2.0 – Current Transportation Finance Trends and Issues in Alaska.** This section summarizes current financial trends by mode (highway, ferry, and transit) and highlights interesting and unique trends in Alaska transportation finance compared to the United States. A summary of transportation issues that would affect future transportation funding are provided based on input from interviews of Alaska's transportation stakeholders and a comprehensive literature review. This section concludes with a summary of the current methods used by the ADOT&PF for ranking transportation

projects. It also suggests enhancements to the existing system to incorporate safety, efficiency, congestion reduction, community and economic stability, and economic diversification and job creation.

- **Section 3.0 – The Future of the Federal Transportation Program.** This section summarizes current proposals and studies related to the next authorization of the Federal transportation program. Common themes are identified among these studies and proposals that could impact Alaska's transportation funding. The summary provides recommendations on how Alaska may react to address the potential impacts.
- **Section 4.0 – Transportation Funding and Financing Options for Alaska.** This section presents possible funding and financing alternatives at the state and local level for transportation infrastructure. The feasibility and revenue potential of these funding and financing options are evaluated if these options are widely applied at the state and local levels.
- **Section 5.0 – Funding Options.** This section summarizes study findings and recommendations, which are intended to address the six questions posed by the AML.

1.7 STUDY APPROACH

The study gathered information from two major sources: 1) data mining from available sources and literature review; and 2) stakeholders interviews. This information provided the foundation for formulating our responses to the study questions. Both tasks are briefly summarized below.

Data Collection and Literature Review

The data collection effort for this project included gathering data from national and Alaskan data sources. The data was analyzed to assess the transportation funding trends by mode (i.e., highway, ferry, and transit), by level of government (i.e., Federal, state, and local), and by funding source. The data also provided a base for revenue forecast for the potential funding options.

The data sources used included:

- National:
  - FHWA Highway Statistics;
  - FTA National Transit Database (NTD);
  - U.S. Bureau of Census;
  - U.S. Bureau of Economic Analysis
  - U.S. Bureau of Labor Statistics;
  - U.S. Department of Energy (DOE) – Energy Information Administration;

- U.S. Forest Service;
- U.S. Department of the Interior – Bureau of Indian Affairs;
- U.S. National Parks Service;
- U.S. Federal Aviation Administration;
- Denali Commission;
- American Association of State and Highway Officials (AASHTO);
- American Petroleum Institute;
- National Automobile Dealers Association;
- American Association of Port Authorities; and
- Woods and Poole (2008 Forecast).

- State:
  - Alaska Department of Transportation and Public Facilities (ADOT&PF);
  - Alaska Department of Administration, Division of Motor Vehicles (DMV);
  - Alaska Department of Labor and Workforce Development;
  - Alaska Department of Commerce, Community and Economic Development;
  - Alaska Department of Revenue, Tax Division; and
  - Alaska Permanent Fund Corporation.

Table 1.6 summarizes the data collected and the sources from which data was obtained.

Table 1.6 Data Collected and Sources

Data	Data Source	
	Historical	Projection
Population	• U.S. Census Bureau • Alaska Department of Labor and Workforce Development	Alaska Department of Labor and Workforce Development
Consumer Price Index (CPI)	• Bureau of Labor Statistics (through 2007)	Congressional Budget Office (through 2018)
Fuel Prices	• U.S. Department of Energy, Energy Information Administration • Alaska Department of Commerce, Community and Economic Development, *Division of Community & Regional Affairs (DCRA)*	N/A
Gross State Product	• U.S. Bureau of Economic Analysis	N/A
Motor Fuels Tax Revenues	• Alaska Department of Revenue (1997-2007)	N/A
Fuel Consumption	• FHWA Highway Statistics, Tables MF-2 and MF-21 (1996-2006)	ADOT&PF (2006-2030)

Data	Data Source	
	Historical	Projection
Lane-Miles	• FHWA Highway Statistics, HM-60 (1997-2006)	N/A
VMT	• FHWA Highway Statistics, VM-2 (1997-2006)	N/A
Port of Anchorage Container Traffic in TEUs	• American Association of Port Authorities/Port of Anchorage (1980-2007)	N/A
Registered Vehicles	• Alaska DMV (2000-2007) • FHWA Highway Statistics, Table MV-201	N/A
Aviation Funding	• Federal Aviation Administration (1997-2007)	N/A
Transit Funding	• FHWA Highway Statistics, MT-2A and MT-2B (1997-2006) • FTA National Transit Database, 2005 • FTA Statistical Summaries (1998-2007)	N/A
Ferry Funding and Expenditures	• AMHS Annual Financial Report, FY 2007 (1996-2007) • ADOT&PF 2030 Plan	N/A
Federal Lands Highway Funding	• Department of the Interior • National Parks Service • Federal Transit Administration (2006-2008) • U.S. Forest Service (2003-2009)	N/A
Federal-Aid Highway Funding	• FHWA Highway Statistics, FA-4 (1997-2006)	N/A
State Highway Funding and Expenditures	• FHWA Highway Statistics, SF-1, SF-2, SF-21 (1997-2006)	N/A
Local Highway Funding and Expenditures	• FHWA Highway Statistics, LGF-2 (1996-2006)	N/A
Denali Commission Funding	• Denali Commission	N/A

The study team also reviewed national reports related to transportation funding proposals and studies for the next authorization of the Federal transportation program. Studies and reports on Alaska transportation and finance issues also were reviewed to better understand the challenges faced by the state and local governments. Table 1.7 summarizes some of the documents reviewed for this study.

Table 1.7 Literature Review

Organization	Report Name
National and State Studies on Transportation Finance and Funding Options	
National Cooperative Highway Research Program	Web Document 102: Future Financing Options to Meet Highway and Transit Needs (December 2006) Report 569: Comparative Review and Analysis of State Transit Funding Programs (2006)
National Chamber Foundation	Future Highway and Public Transportation Financing (2005)

Organization	Report Name
National Conference of State Legislatures	Surface Transportation Funding: Options for States (May 2006)
American Association of State and Highway Officials (AASHTO)	Survey of State Funding for Public Transportation 2007 (February 2008)
American Road and Transportation Builders Association	2008 Ballot Initiatives Report
Oregon Department of Transportation	Oregon's Mileage Fee Concept and Road User Fee Pilot Program
Alaska Reports	
Alaska Department of Transportation and Public Facilities	Let's Get Moving 2030: Alaska Statewide Long-Range Transportation Policy Plan (February 2008)
TRIP	Future Mobility in Alaska: Meeting the State's Need for Safe and Efficient Mobility
Alaska Department of Revenue, Tax Division	Spring 2008 Forecast Annual Report (1999 through 2007)
Alaska Department of Commerce, Community, and Economic Development	Alaska Taxable 2007 Current Community Conditions: Fuel Prices Across Alaska, November 2008 Update
Alaska Mobility Coalition (AMC)	AMC Annual Report, 2007 Statewide Transportation Survey
Alaska General Contractors Association	Alaska's Construction Spending, 2008 Forecast
Fairbanks North Star Borough	Coordinated Transportation Plan, 2007-2009
University of Alaska Anchorage, Institute of Social and Economic Research (ISER)	How Vulnerable is Alaska's Economy to Reduced Federal Spending? (July 2008) Estimating the Future Costs for Alaska Public Infrastructure at Risk from Climate Change (June 2007)
National Studies and Reports on Reauthorization of the Federal Transportation Program	
Association of American Railroads (ARR)	National Freight Infrastructure Capacity and Investment Study Final AAR Principles on Federal Funding of Freight Rail
American Association of State Highway and Transportation Officials (AASHTO)	Authorization Principles and Vision Policies
American Public Transportation Association (APTA)	A Vision of 2050: Interim Report of APTA's TransitVision 2050 Task Force
American Road and Transportation Builders Association (ARTBA)	A New Vision and Mission for America's Federal Surface Transportation Program
Brookings Institute	A Bridge to Somewhere: Rethinking American Transportation for the 21st Century
Building America's Future Coalition	Building America's Future – Investing in Infrastructure
United States Government Accountability Office (GAO)	Surface Transportation: Restructured Federal Approach Needed for More Focused, Performance-Based, and Sustainable Programs Surface Transportation Programs: Proposals Highlight Key Issues and Challenges in Restructuring the Programs
GO21	Growth Options for the 21st Century
Center for Clean Air Policy	Green-TEA: Linkages to Climate Policy
National Academy of Public Administration	Financing Transportation in the 21st Century: An Intergovernmental Perspective

Organization	Report Name
National Surface Transportation Infrastructure Financing Commission	The Path Forward: Funding and Financing Our Surface Transportation System
Passenger Rail Working Group	Vision for the Future: U.S. Intercity Passenger Rail Network through 2050
Transportation Transformation Group	Principles for a New National Surface Transportation System
National Surface Transportation Policy and Revenue Study Commission	Transportation for Tomorrow
United States Chamber of Commerce	Surface Transportation Needs, Funding, and Economic Linkages
United States Department of Transportation	Refocus, Reform, Renew: A New Transportation Approach for America
National Transportation Policy Project (NTTP)	Commentary on the July 28 U.S. DOT Transportation Policy Proposal
Reconnecting America	Jumpstarting the Transit Space Race
Transportation Transformation Group	T2 October Discussion Draft – October 2008

Stakeholders Interviews

In collaboration with AML, Cambridge Systematics identified and developed a list of key stakeholders to interview about transportation funding needs and issues. A total of 22 interviews were conducted over the period of November 10 to 25, 2008. Most of the interviews were conducted by telephone, and a few individuals provided their responses via e-mail. Table 1.8 is a list of agencies and organizations interviewed for this study, including the individuals interviewed at each organization.

Table 1.8 List of Key Stakeholders Interviewed

Agency/Organization	Contact Person
Alaska Chamber of Commerce	Wayne Stevens
Alaska Energy Authority	Steve Haagenson
Alaska Industrial Development and Export Authority (AIDEA)	James Hemsath/Valerie Walker
Alaska Knik Arm Bridge and Toll Authority	Kevin Hemenway
Alaska Miners Association	Steve Borell
Alaska Mobility Coalition	David Levy
Alaska Oil and Gas Association	Marilyn Crockett
Alaska Railroad	Bruce Carr
Anchorage MATS	Craig Lyon
Anchorage People Mover	Jody Karcz
Association of General Contractors – Alaska	John MacKinnon

Agency/Organization	Contact Person
Chickaloon	Jennifer Harrison
Craig	Sam Thomas
Denali Commission	Mike McKinnon
Federal Aviation Administration	Byron Huffman
Fairbanks MPO	Donna Gardino
Fairbanks North Star Borough	David Leone
Federal Transit Administration, Region X	Rick Korchalis
Juneau Capital Transit	John Kern
Tribal Representative	Julianne Baltar
University of Alaska, Institute of Social and Economic Research	Scott Goldsmith
Western Federal Lands Highway Division	Phyllis Chun

In addition, the report was reviewed by AML and its partners (Table 1.9), who provided valuable input on the transportation finance issues in Alaska.

Table 1.9 Study Reviewers

Agency/Organization	Contact Person
Alaska Municipal League (AML)	Kathie Wasserman Peter Freer
AML Lobbyist	Ray Gillespie
Former ADOT&PF Commissioner	Mark Hickey
Former ADOT&PF Commissioner	Joe Perkins
Federal Highway Administration (FHWA) Alaska Division	David Miller
HDR	Tom Brigham
CH2M Hill	Dan Sterley
Former ADOT&PF Commissioner	Mike Barton
Matanuska-Susitna Borough	John Duffy
Association of General Contractors – Alaska	John MacKinnon

2.0 Current Transportation Finance Trends and Issues

2.1 TRANSPORTATION FINANCE TRENDS IN ALASKA

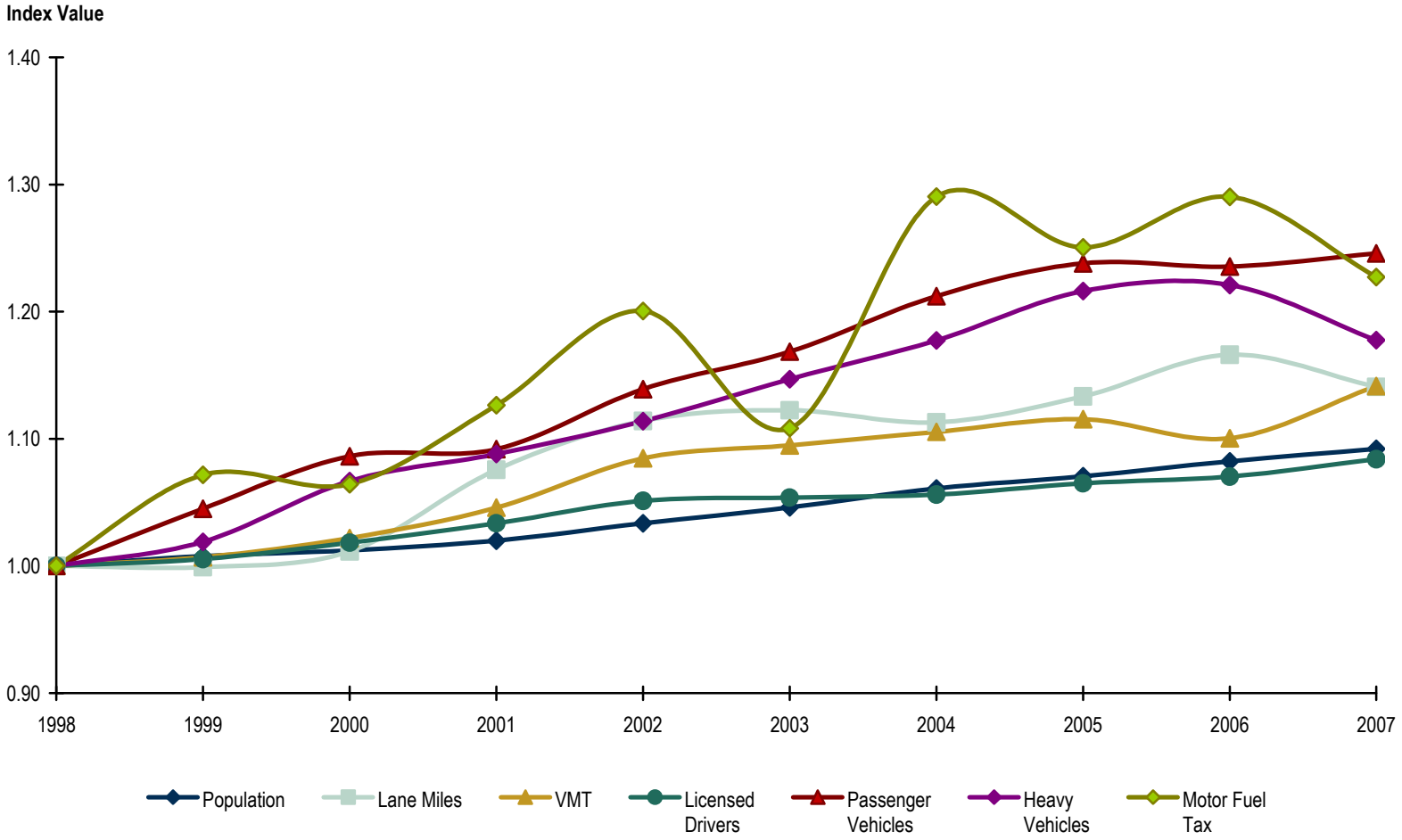
This section presents the past 10 years of trends in transportation finance in Alaska. The historical trends for the State of Alaska include:

- Demand for transportation;
- Historical revenues;
- Federal-Aid apportionment;
- Transit funding;
- Aviation funding;
- Denali Commission;
- Federal Lands Highway Program; and
- Highway and Transit Needs.

Historical Transportation Demand

Alaska's population has grown at a steady one percent rate over the past 10 years. A similar growth rate also has been observed in the number of licensed drivers. Vehicle-miles driven and lane miles of roadway have increased at a similar rate, but faster than population. The number of private registered vehicles has grown much faster than population, mainly driven by a significant growth in SUVs and pick-up truck in the vehicle fleet. Figure 2.1 shows a summary of transportation demand statistics.

Figure 2.1 Alaska's Trends in Transportation Demand

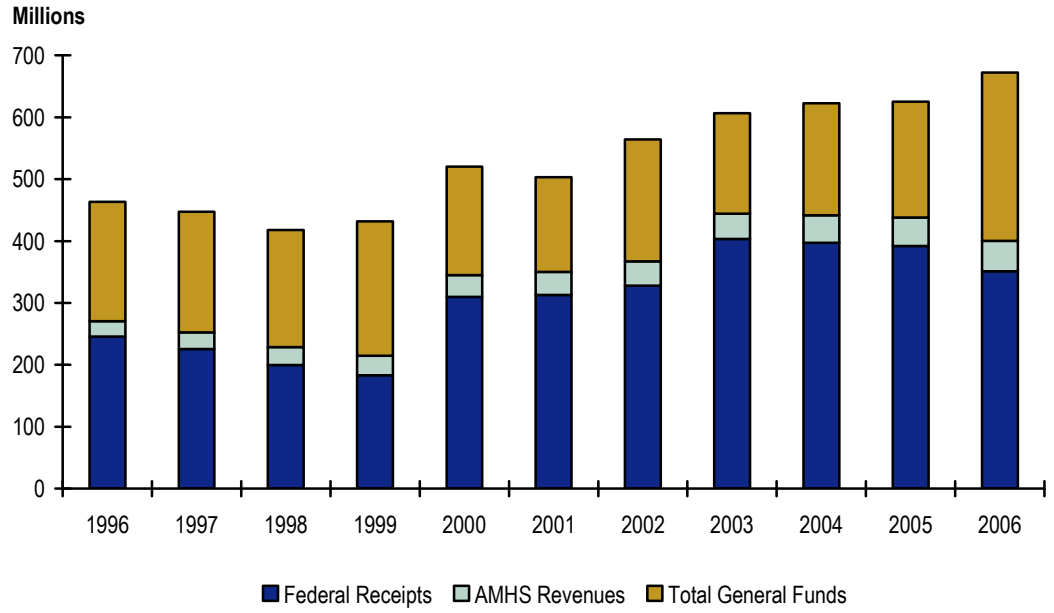


Source: Alaska Department of Labor and Workforce Development; Highway Statistics Series, Federal Highway Administration, Tables HM-60, VM-2, DL-22, MV-1, MV-9; Alaska Department of Revenue Tax Division.

Historical Revenues

The State has historically depended on Federal funds to meet the capital transportation needs of the State. These funds, however, peaked in 2003 and have been declining since. A fraction of funds are collected from Alaska Marine Highway System (AMHS) farebox revenues. The General Fund is used primarily for state matches on Federal funds, operations and maintenance on highways and rural airport, and to subsidize AMHS operating costs. Federal funding is used primarily for capital improvement, although some of funding has been allocated in the past for preventive maintenance. Figure 2.2 shows the latest information on historical revenues for ADOT&PF for highways, bridges and ferries as provided in the most recent statewide long-range plan[6] and reported to FHWA Highway Statistics.

Figure 2.2 ADOT&PF Historical Revenues for Highways



Source: AMHS Revenues from ADOT&PF 2030 Plan, Technical Appendix (p.64); General Fund and Federal Receipts from Highway Statistics Series, Federal Highway Administration, Tables SF-21 and SF-3B (for state funding adjustments for AMHS revenues reported to FHWA).

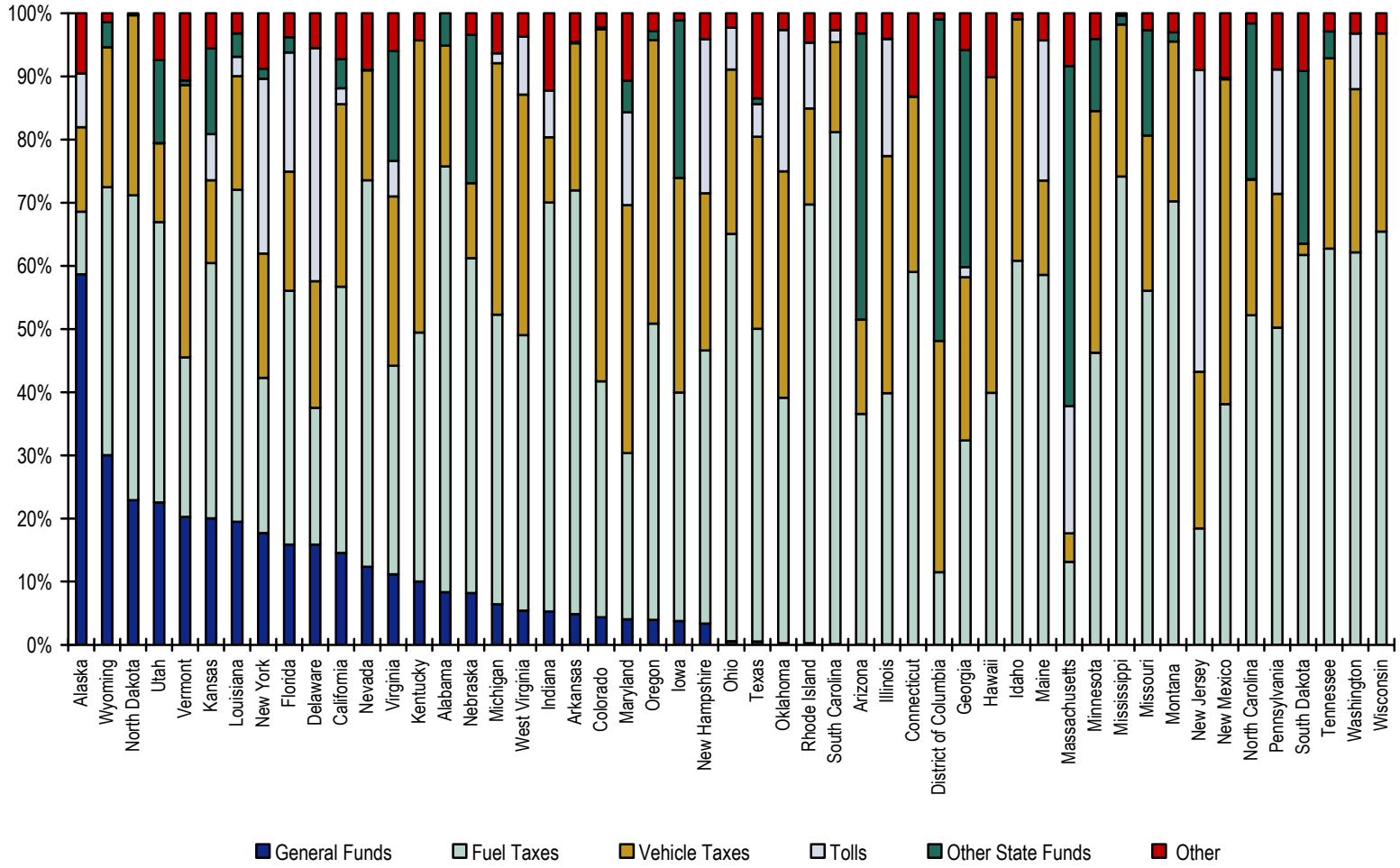
Figure 2.3 shows that the General Fund comprises the largest portion of state highway funding in Alaska. On a percentage basis, Alaska's General Fund contributes twice of that of the next highest state, Wyoming. Only Alaska does not

[6] Alaska Department of Transportation and Public Facilities, *Let's Get Moving 2030: Technical Appendix, System Level Needs Analysis and Finance Analysis*, February 2008.

dedicate motor fuel tax levies to transportation. Table 2.1 summarizes the current fuel tax rates for all 50 states and the District of Columbia and indicates if fuel taxes can be used for nonhighway transportation needs, such as public transportation and bicycle. Although revenues from motor fuel taxes in some states are deposited into the State's general fund (e.g., Georgia), a portion or all revenues are appropriated and transferred into dedicated highway funds. Nineteen states do not use their general fund to fund transportation projects (Figure 2.3), but most of their highway funding comes from motor fuel taxes, vehicle fees and other state revenues.

The State, however, earns only 10 percent of its highway funding from fuel taxes, which is the lowest of the 50 states. Only the District of Columbia, Massachusetts, and New Jersey have percentages less than 20 percent.

Figure 2.3 State Highway Funding, State by State, 2006 (Shares of State Budget from Each Source)



Source: Highway Statistics Series, Federal Highway Administration, Table SF-1.

Table 2.1 Fuel Tax Rates

Cents per Gallon as of January 2009

State	Gasoline Excise	Diesel Excise	Other Motor Fuels Taxes	Dedicated to Transportation Purposes	Comments
Alabama	16.00	19.00	2.00	Yes	• Other taxes include average city and county taxes.
Alaska	8.00	8.00		No	• Net proceeds of motor-fuel taxation are deposited in the general fund. Legislature appropriates funds from these accounts for specific activities. • Motor fuel tax suspended through August 2009.
Arizona	18.00	18.00	9.0 (diesel)	Yes	• Additional 9 cpg on diesel for vehicle over 26,000 pounds.
Arkansas	21.50	22.50		Yes	
California	18.00	18.00	16.1 (gasoline)/ 20.0 (diesel)	Yes	• Other taxes include a six percent state sales tax and 1.25 percent county, plus additional local sales taxes. • Other nonhighway uses include: bike, public transportation, and State Park roadway system.
Colorado	22.00	20.50		Yes	
Connecticut	25.00	37.00	9.3 (gasoline)	Yes	• Other taxes include a seven percent tax on petroleum products gross earnings, scheduled to increase to 8.1 percent by July 2013. • Other nonhighway uses include rail and bus operations.
Delaware	23.00	22.00		Yes	
District of Columbia	20.00	20.00		Yes	
Florida	4.00	4.00	30.5 (gasoline)/ 25.8 (diesel)	Yes	• Other gasoline and diesel taxes include sales tax, State Comprehensive Enhanced Transportation System tax (SCETS), and local option taxes. • Other nonhighway uses include public transportation.
Georgia	7.50	7.50	4.9 (gasoline)/ 7.2 (diesel)	Yes	• Other taxes include a sales tax on motor fuel (four percent, of which three percent is dedicated to transportation) and local option taxes. • Motor fuel tax revenues are deposited in the General Fund. General Fund appropriations for highway purposes for a given fiscal year must equal or exceed motor-fuel tax revenues (less refunds, rebate, and collection costs) received during the preceding fiscal year. Sales tax revenue from the "second motor-fuel tax" is counted as part of motor-fuel tax revenues.

State	Gasoline Excise	Diesel Excise	Other Motor Fuels Taxes	Dedicated to Transportation Purposes	Comments
Hawaii	17.00	17.00	16.5 (gasoline)/ 29.2 (diesel)	Yes	• Other taxes include county taxes for gasoline and diesel; for diesel, it also includes a four percent sales tax on the price of fuel, excluding Federal and state excise taxes.
Idaho	25.00	25.00		Yes	
Illinois	19.00	21.50	13.4 (gasoline)/ 17.4 (diesel)	Yes	• Other taxes include 6.25 percent sales tax on retail price (excluding Federal and state excise taxes) and local sales and local excise fuel taxes. • Nonhighway transportation uses include bike and mass transit (operations).
Indiana	18.00	16.00	11.2 (gasoline)/ 24.3 (diesel)	Yes	• Other taxes include seven percent sales on retail price (excluding Federal and state excise taxes). For diesel, there is an additional 11 cpg surcharge.
Iowa	21.00	22.50		Yes	
Kansas	24.00	26.00		Yes	
Kentucky	21.00	18.00		Yes	
Louisiana	20.00	20.00		Yes	• Other nonhighway uses include public transportation.
Maine	28.40	29.60		Yes	
Maryland	23.50	24.25		Yes	• Other nonhighway uses include ports, airport, and public transportation.
Massachusetts	21.00	21.00		Yes	• Other nonhighway uses include public transportation.
Michigan	19.00	15.00	11.5 (gasoline)/ 14.6 (diesel)	Yes	• Other fuel taxes include six percent sales tax. • Other nonhighway uses include small bus and specialized services, intercity passenger and freight rail.
Minnesota	25.50	25.50		Yes	
Mississippi	18.40	18.40		Yes	
Missouri	17.00	17.00		Yes	
Montana	27.00	27.00		Yes	
Nebraska	26.40	26.40		Yes	
Nevada	23.00	27.00	9.3 (gasoline)	Yes	• Other fuel taxes include county taxes on gasoline.
New Hampshire	18.00	18.00		Yes	

State	Gasoline Excise	Diesel Excise	Other Motor Fuels Taxes	Dedicated to Transportation Purposes	Comments
New Jersey	10.50	13.50	4.00	Yes	• Other fuel taxes include 4 cpg on Petroleum Products Gross Receipt Tax. • Other nonhighway uses include public transportation.
New Mexico	17.00	21.00		Yes	
New York	8.00	8.00	33.3 (gasoline)/ 35.4 (diesel)	Yes	• Other taxes include Petroleum Business Tax. It also includes local county sales tax of between 3.125 percent to 4.75 percent, or between six to 10 cpg for the few localities that do not use a percentage tax. • Other nonhighway uses includes public transportation (capital and operations).
North Carolina	29.85	29.85		Yes	
North Dakota	23.00	23.00		Yes	
Ohio	28.00	28.00		Yes	
Oklahoma	16.00	13.00		Yes	• Other nonhighway uses include public transportation and rail.
Oregon	24.00	24.00	1.0 (gasoline)/ 0.3 (diesel)	Yes	• Other taxes include additional optional county gasoline (ranging from 1 to 3 cpg and city gasoline and diesel taxes (ranging from 1 to 5 cpg).
Pennsylvania	12.00	12.00	19.2 (gasoline)/ 26.1 (diesel)	Yes	• Other fuel taxes include 19.2 cpg oil company franchise tax on liquid fuels (primarily gasoline) and 26.1 cpg oil company franchise tax on fuels (primarily diesel).
Rhode Island	30.00	30.00		Yes	• One-third of the revenues (10 cents) are allocated to the State General Fund and some appropriations for highway purposes are made from the General Fund. • Other nonhighway uses include public transportation and the Elderly and Disabled Transportation program.
South Carolina	16.00	16.00		Yes	• Other nonhighway uses include public transportation.
South Dakota	22.00	22.00		Yes	
Tennessee	20.00	18.00		Yes	
Texas	20.00	20.00		Yes	• Twenty-five percent of fuel tax revenues are dedicated to education.
Utah	24.50	24.50		Yes	
Vermont	20.00	26.00		Yes	

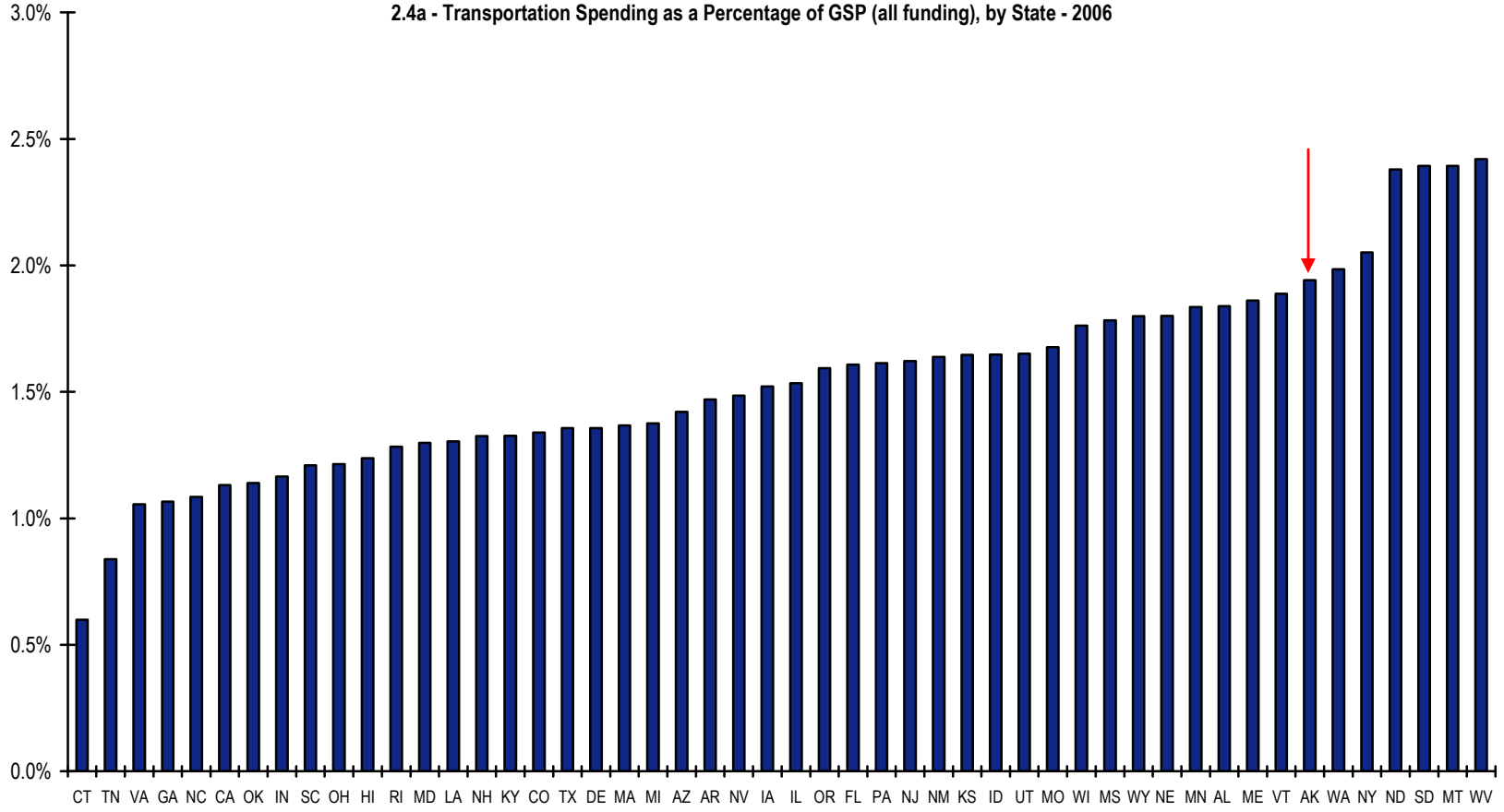
State	Gasoline Excise	Diesel Excise	Other Motor Fuels Taxes	Dedicated to Transportation Purposes	Comments
Virginia	17.50	17.50		Yes	• Localities within the Northern Virginia Transportation District or localities in a transportation district contiguous to that district levy a two percent sales tax on motor fuel. • Other nonhighway uses include public transportation (capital and operations).
Washington	37.50	37.50		Yes	
West Virginia	20.50	20.40	11.70	Yes	• Other fuel taxes include a five percent variable tax rate based on statewide average wholesale price of gasoline, with a minimum price of $2.20 per gallon.
Wisconsin	30.90	30.90		Yes	• Other nonhighway uses include public transportation, railroad and airport development, and intercity rail.
Wyoming	13.00	13.00		Yes	

Source: FHWA Highway Statistics, Table MF-121T; FHWA *Highway Taxes and Fees 2008: How are they collected and distributed*, Table MF-106; American Petroleum Institute.

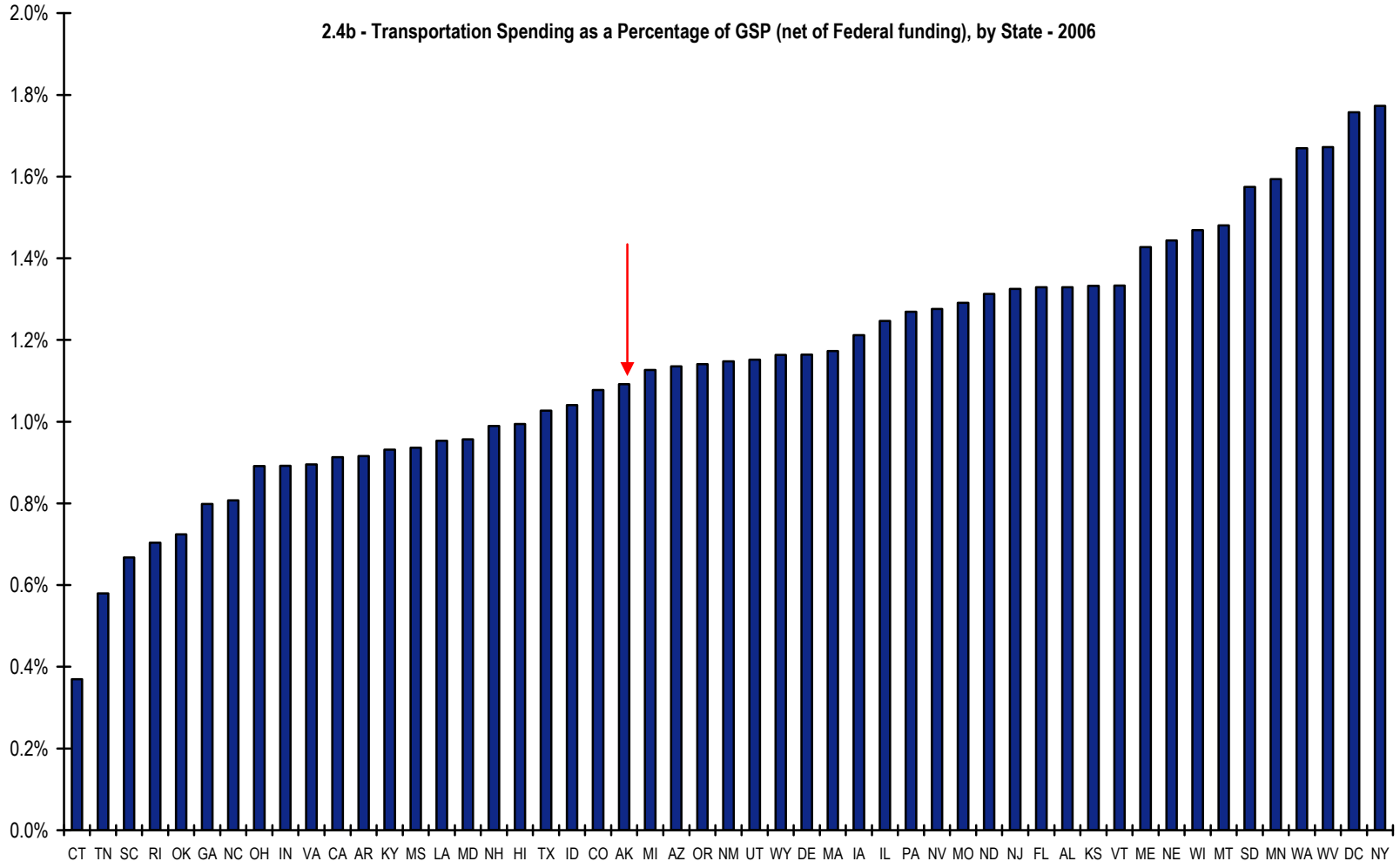
Figure 2.4a shows surface transportation spending in 2006 (highway and transit), by state, as a percentage of gross state product (GSP). When Federal funding for transportation is included, Alaska is in the top 10 states, with transportation spending accounting for 1.94 percent of the GSP. In average, transportation spending was about 1.55 percent of the states' GSP, including Federal funding contributions. Figure 2.4b shows state and local transportation spending as a percentage of GSP, net of Federal funding. In this case, Alaska's spending in transportation fell below the national average (1.14 percent), estimated at 1.09 percent in 2006.

A final comparison on transportation spending as a percentage of GSP is shown in Figure 2.4c, which accounts only for capital spending. In that case, Alaska falls in the bottom five states, with capital transportation spending at 0.15 percent of the GSP, underscoring the reliance of Alaska on Federal funding to support transportation capital investments. Table 2.2 summarizes the data in Figures 2.4a, 2.4b, 2.4c for Alaska and its peer states. Alaska's transportation spending as a percent of GSP is generally on the lower end when compared to its peer states when excluding Federal funding.

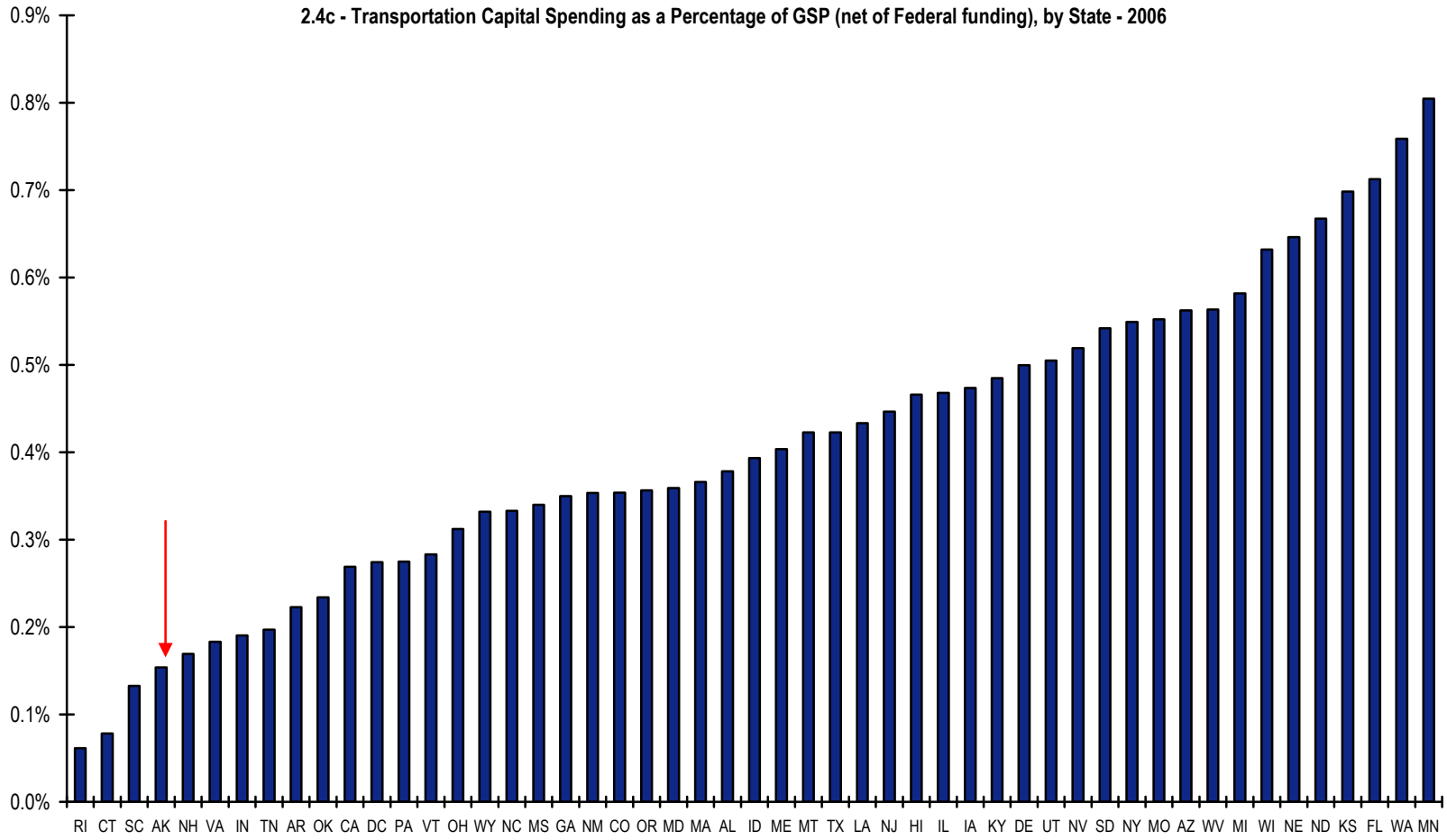
Figure 2.4 Surface Transportation Spending as a Percentage of Gross State Product (GSP) in 2006
By State



Sources: Cambridge Systematics analysis of data from: Bureau of Economic Analysis; FHWA Highway Statistics, Tables SF-1, SF-2, LGF-1, LGF-2, MT-2a, and MT-2b.



Sources: Cambridge Systematics analysis of data from: Bureau of Economic Analysis; FHWA Highway Statistics, Tables SF-1, SF-2, LGF-1, LGF-2, MT-2a, and MT-2b.



Sources: Cambridge Systematics analysis of data from: Bureau of Economic Analysis; FHWA Highway Statistics, Tables SF-1, SF-2, LGF-1, LGF-2, MT-2a, and MT-2b.

Table 2.2 Surface Transportation Spending as a Percentage of Gross State Product (GSP) in 2006, for Alaska and Top Nine States

State	Total Transportation Spending	Ranking	Total Transportation Spending (Net of Federal)	Ranking	Capital Spending (Net of Federal)	Ranking
Montana	2.39%	1	1.48%	2	0.42%	3
South Dakota	2.39%	1	1.57%	1	0.54%	2
North Dakota	2.38%	3	1.31%	5	0.67%	1
Alaska	**1.94%**	**4**	**1.09%**	**7**	**0.15%**	**9**
Vermont	1.89%	5	1.33%	4	0.28%	7
Maine	1.86%	6	1.43%	3	0.40%	4
Wyoming	1.80%	7	1.16%	6	0.33%	6
Idaho	1.65%	8	1.04%	8	0.39%	5
New Hampshire	1.33%	9	0.99%	9	0.17%	8
National Average	1.45%		1.14%			

Source: Cambridge Systematics analysis of data from: Bureau of Economic Analysis; FHWA Highway Statistics, Tables SF-1, SF-2, LGF-1, LGF-2, MT-2a, and MT-2b.

Federal-Aid Apportionment

Table 2.3 shows that the total overall Federal-aid highway funding for Alaska has declined slightly in recent years when compared to the beginning of the decade. Whereas a minimum guarantee was indicated in the years before the last reauthorization it was replaced with the equity bonus under SAFETEA-LU. In 2007, the core programs – Interstate Maintenance, National Highway System (NHS), Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and the Highway Safety Improvement Program (HSIP) each have larger levels of apportioned funds than in previous years because they include equity bonus distributions for each program.

Table 2.4 shows obligations of FTA program funding for public transportation in Alaska. Funding increased significantly in 2001, doubling the obligations from Urbanized Area funding, bus capital and New Starts grant funding. Funding levels declined and fluctuated thereafter with another significant infusion of capital funding from Bus and New Starts grant programs in 2006. According to FTA information, recent apportionments of New Starts funding in Alaska are designated to the AMHS and the Denali Commission.

Transit Funding

ADOT&PF policy supports public transportation, however, operations are conducted by each community's local government or by a nonprofit agency. Transit

does not receive dedicated state assistance in support of operations or capital programs, which is unique among Alaska's modes of transportation.

Figures 2.5 and 2.6 show Alaskan public transportation is highly dependent on local funds for operations and on Federal funds for capital projects. Note that although the graphic shows state funding for both capital and operations, Alaska Mobility Coalition (AMC) indicated that these are Federal funds coming through ADOT&PF. Only funding and revenue data from Anchorage People Mover and Fairbanks North Star Borough transit services, along with the Alaska Railroad Corporation (ARR), are captured on Figures 2.5 and 2.6, and excludes rural transit services. ARR receives significant Federal funding for capital expenses from the U.S. DOT.

Rural transit services, including Juneau's Capital Transit reported a total of $9.0 million in transportation funding and revenues in fiscal year 2006, of which only $162,171 was for capital expenses. Juneau's Capital Transit reported over half of the funding ($5.1 million), including $80,000 from local assistance for capital expenses. About two-thirds of Juneau's transit funding came through local assistance; other rural (and smaller) transit service providers relay primarily on Federal funding to supports its operating needs. Figure 2.7 shows funding for rural transit. Overall, about 35 percent of the total funding came through Federal grants, and almost 44 percent of the funding was provided by local governments.

Table 2.3 Alaska's Federal-Aid Highway Funding Program Apportionment

1998 to 2007 (Thousands of Nominal Dollars)

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Interstate Maintenance[c]	17,663	20,208	19,423	20,466	20,779	19,799	21,293	24,880	24,617	53,452
National Highway System[c]	21,804	25,167	24,312	25,308	25,914	24,939	26,820	30,711	30,194	65,030
Surface Transportation Program[c]	23,275	26,883	27,138	27,676	28,109	28,010	30,123	32,336	29,831	65,558
Bridge[c]	9,335	13,503	12,940	10,118	9,109	9,877	10,622	17,677	15,264	34,025
Congestion Mitigation and Air Quality[c]	5,818	6,557	6,619	6,753	6,858	6,834	7,349	7,890	8,084	18,970
Recreation Trails	365	487	708	694	655	733	789	898	1,031	1,114
Metropolitan Planning	812	935	944	963	978	974	1,193	1,469	1,434	1,473
Border Infrastructure[a]								808	952	1,103
Safe Routes to School[a]								1,000	990	1,000
Equity Bonus[a, b, c]								163,758	163,270	58,899
Highway Safety Improvement Program[a, c]									5,028	11,601
Rail Highway Crossings Program[a]									1,089	1,100
Minimum Guarantee[b]	181,235	208,848	215,982	218,402	218,635	216,615	233,076			
Revenue Aligned Budget Authority			15,871	34,458	41,676		48,690			
Total	**260,307**	**302,588**	**323,937**	**344,838**	**352,712**	**307,781**	**379,955**	**281,428**	**281,784**	**313,325**

Source: Highway Statistics Series, Federal Highway Administration, Table FA-4.

[a] Funding program created under SAFETEA-LU.

[b] Minimum Guarantee was replaced by Equity Bonus.

[c] In 2007, Equity Bonus does not include the core programs. These funds are included in the core programs: Interstate Maintenance, NHS, STP, Bridge, CMAQ, and Highway Safety Improvement Program.

Table 2.4 Alaska's FTA Funding Obligations

1998 to 2007 (Thousands of Nominal Dollars)

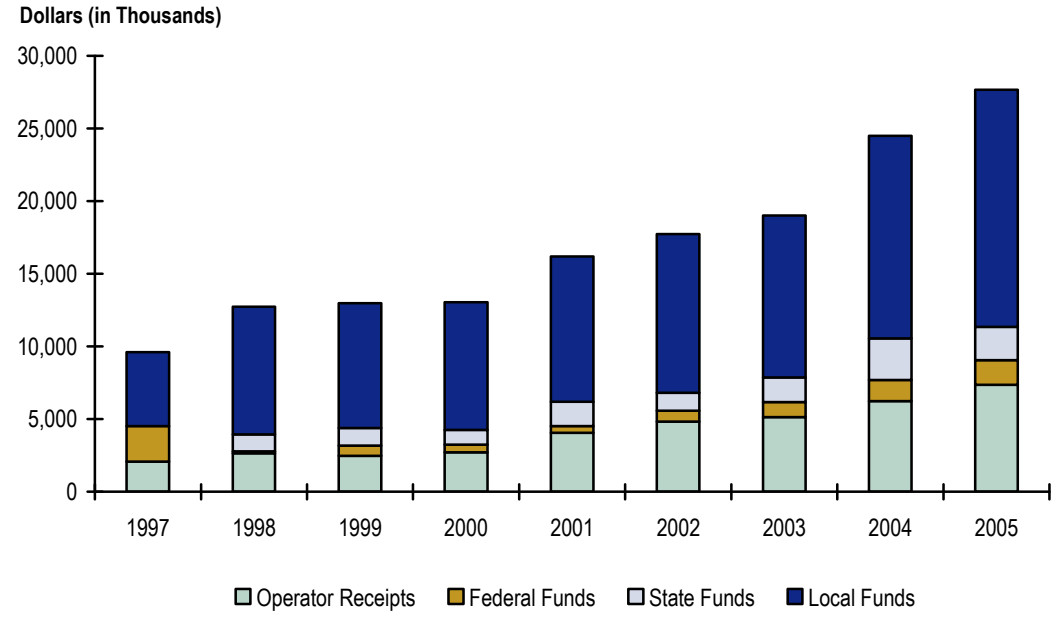
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Section 5307 – Urbanized Area Formula Program	1,478	0	8,154	17,891	0	15,825	5,030	15,166	16,340	19,676
Section 5311 – Nonurbanized Area Formula Program	1,566	3,319	686	2,991	2,913	1,122	15,177	2,295	6,070	7,435
Section 5311(b)(3) – Rural Transit Assistance Program	57	72	70	72	72	72	54	65	103	81
Section 5316 – Job Access/Reverse Commute	0	0	800	60	699	1,097	844	1,462	743	1,131
Section 5310 – Elderly and Persons with Disabilities	458	413	419	469	476	547	695	745	506	0
Section 3038 – Over-the-Road Bus Program	0	0	0	0	0	0	26	0	25	26
Section 5309 – Fixed Guideway Modernization	0	0	0	0	4,640	4,335	3,805	10,302	13,033	15,704
Section 5309 – Bus and Bus Facilities	0	0	0	14,798	14,214	19,362	7,431	8,041	25,795	4,741
Section 5309 – New Starts	0	6,345	0	30,622	9,044	10,579	2,475	0	19,908	9,060
Section 5303/5304 – State/Metropolitan Planning	0	0	274	253	268	305	342	441	159	390
Section 5317 – New Freedom Program[a]									0	0
Alternative Transportation in Parks and Public Lands[a]										4,700
Total	**3,560**	**10,150**	**10,404**	**67,156**	**32,326**	**53,243**	**35,880**	**38,517**	**82,684**	**63,944**

Source: Federal Transit Administration, Statistical Summaries, http://www.fta.dot.gov/funding/data/grants_financing_1090.html.

[a] Funding program created under SAFETEA-LU.

Figure 2.5 Alaska's Revenues for Transit Operations

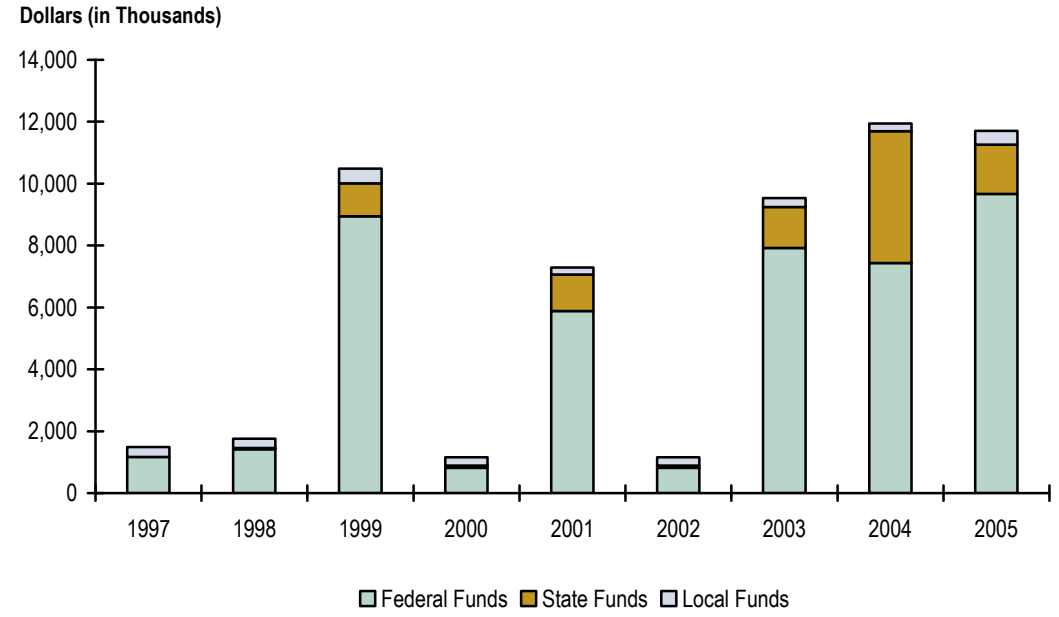
Thousands of Nominal Dollars



Source: Highway Statistics Series, Federal Highway Administration, Table MT-2B.

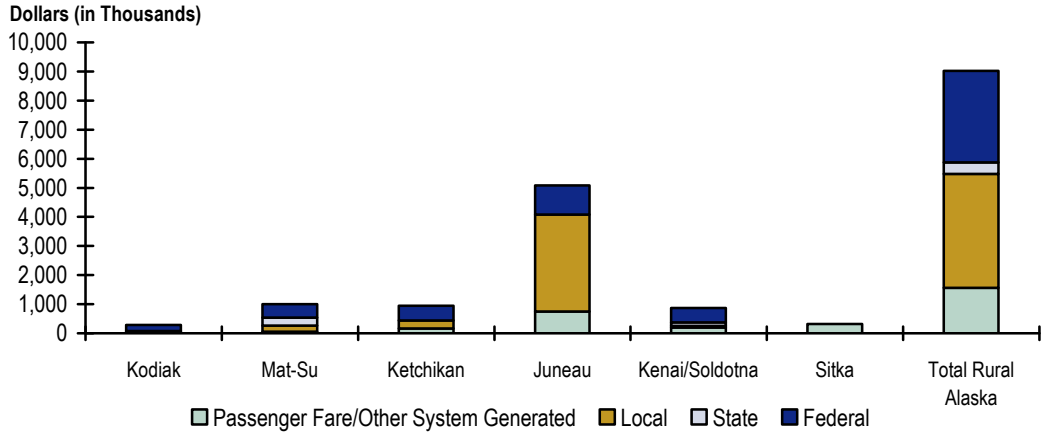
Figure 2.6 Alaska's Transit Capital Projects Revenues

Thousands of Nominal Dollars



Source: Highway Statistics Series, Federal Highway Administration, Table MT-2A.

Figure 2.7 Alaska'a Revenues for Rural Transit Services
2006



Source: Alaska Department of Transportation and Public Facilities.

Transit in Parks

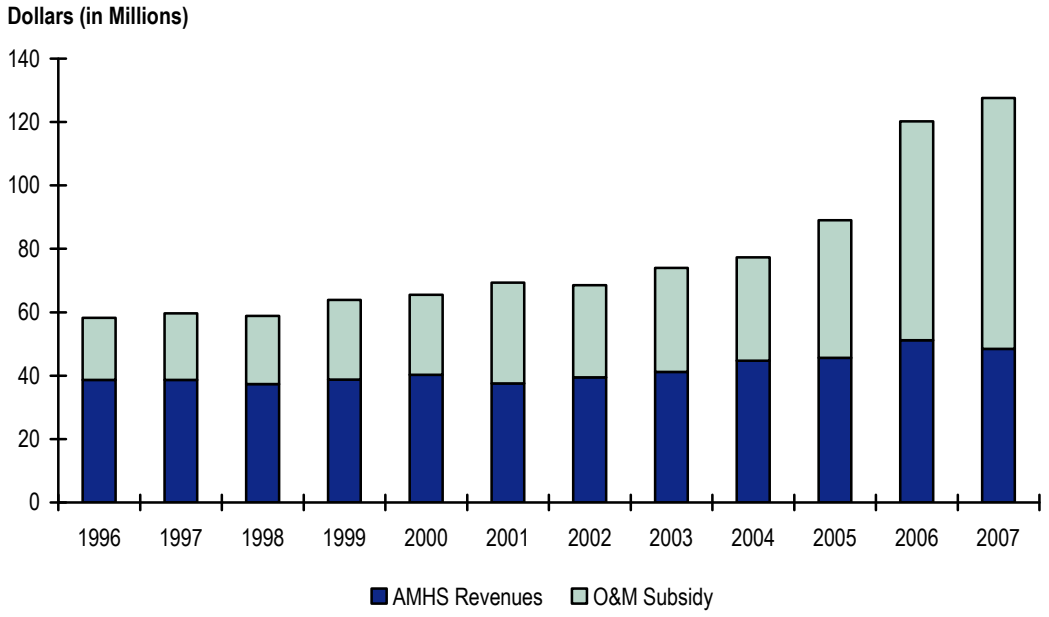
Transit in the Parks Program, formerly the Alternative Transportation in Parks and Public Lands (ATPPL) Program, is designed to address traffic delay, noise and air pollution issues that detract from the visitor's experience to popular national parks, wildlife refuges, national forests, and other Federal lands. The Federal Transit Administration, along with the Department of the Interior and the Forest Service, administer this competitive-grant program. Table 2.5 shows that Alaska has received a few grants from this program.

Table 2.5 Transit in Parks Grants

Year	Awards	Location
2006	5,900,000	Chugach National Forest ($4.7M railroad), Glacier Bay ($1.2M boat dock)
2007	3,500,000	Glacier Bay ($3.0M boat dock), Tongass National Forest (ITS System)
2008	400,000	Chugach National Forest (Native Village of Eyak Transportation Planning Grant)

Source: Federal Transit Administration, Alternative Transportation in Parks and Public Lands (5320), http://www.fta.dot.gov/funding/grants/grants_financing_6106.html.

Figure 2.8 AMHS Operating Expenditures[a]



Source: AMHS Annual Financial Report, Fiscal Year 2007.

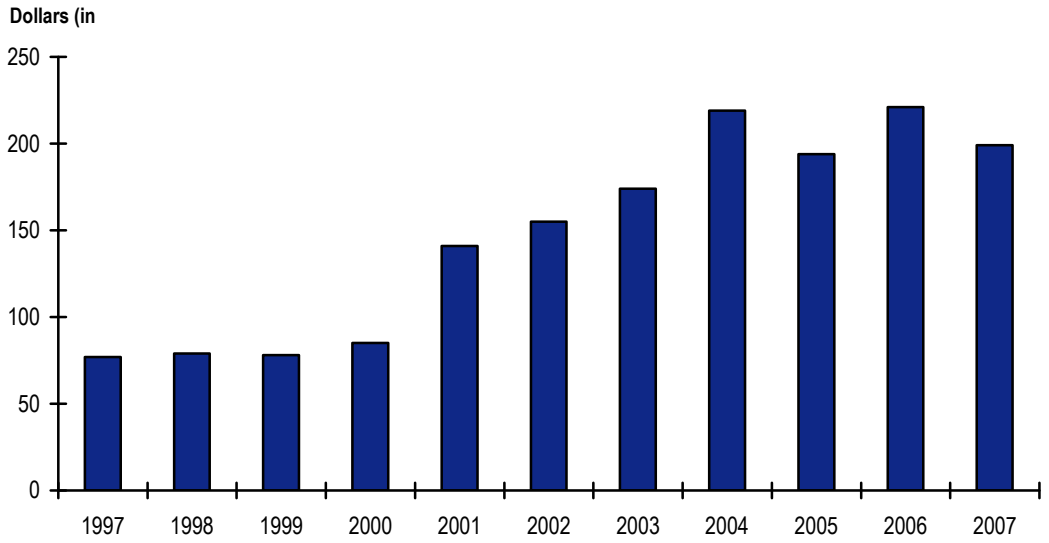
[a] Does not include expenditures from Marine Engineering, Operations Management, Reservations and Marketing, and Shore Operations.

Aviation Funding

Aviation revenues for ADOT&PF are primarily collected in the form of Airport Improvement Plan (AIP) revenues from the Federal Aviation Administration (FAA). In 2007, the AIP provided $199 million in grants for 51 projects at Alaska airports, the third highest funding total in the nation behind California and Texas. Figure 2.9 shows AIP funds for Alaska Airports since 1997.

Similar to the Federal Highway Trust Fund issue, the aviation trust fund is also getting depleted and Federal reauthorization of aviation funding has been stalled, with FAA operating with short-term extensions since 2007. The last extension is set to expire in March 2009.

Figure 2.9 Alaska Receipts of FAA Airport Improvement Program Funding
Millions of Nominal Dollars



Source: Federal Aviation Administration, Airport Improvement Program, http://www.faa.gov/airports_airtraffic/airports/aip/.

Denali Commission

The Denali Commission is a Federal-state partnership that was formed in 1998 providing cost-shared infrastructure projects throughout the State. Transportation is one of the programs that the Commission offers and it focuses on two primary elements: roads and waterfront development. All transportation projects target rural communities. The Commission is generally responsible for project selection, and then assigns projects to design and construction partners that are responsible for executing these projects. The Commission follows project development through project oversight and reporting by partners and/or sponsors.

In an effort to respond to local community interests, the Commission has chosen to work with local governments, including tribes and cities, and tribal regional nonprofits, as well as traditional Federal and state transportation agencies to develop selected projects. SAFETEA-LU authorized $15 million for roads and $10 million for waterfront development per year through 2009. In the three years that Transportation has been a program beginning in 2006, the U.S. Department of Transportation has provided almost $70 million in funding. The Commission funding is often combined with tribal funds (Tribal Shares), city funds, and other state/Federal money to fully fund projects.

It became clear over time that some rural communities did not have Tribal Shares or other funding to provide matching funds. In response, the State of Alaska

provided a General Fund appropriation to ADOT&PF to provide matching funds to appropriate Commission projects.

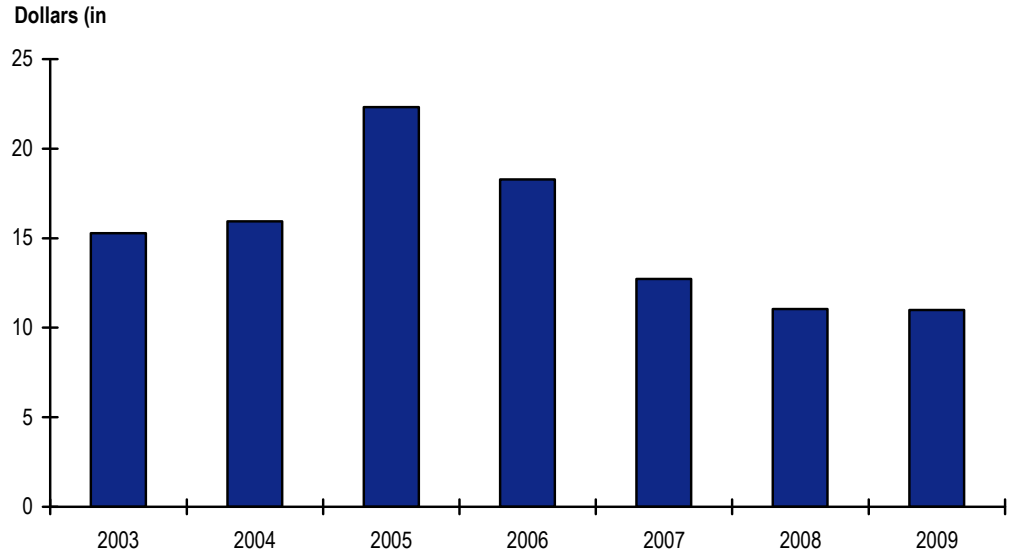
Federal Lands Highway Program

The Office of Federal Lands Highway (FLH) is in charge of overseeing the planning, design, construction, and rehabilitation of the highways and bridges that provide access to and through Federally owned lands. About 70 percent of Alaska's land is under Federal jurisdiction; therefore, funding by FLH is an important piece of transportation finance puzzle in the State. Among the programs within FLH are Forest Highways, Park Roads and Parkways, and Indian Reservation Roads (IRR). About 112 miles of roadways fall under the FLHP. Authorized funding between 1998 and 2007 for Alaska was $380.6 million.

Forest Highways

A portion of the National Forest Service (NFS) budget is dedicated to roads, with priorities to address public safety needs, resource protection, and access to important NFS sites and features. The specific priorities are maintaining passenger car roads, maintaining high clearance and closed roads, the decommissioning of roads, and the improvement of roadways. Figure 2.10 shows that funding for roadway improvements in National Forest Service lands peaked in 2005 and has declined by 40 percent.

Figure 2.10 NFS Funding for Roadways – Region 10 (Alaska)



Source: United States Forest Service, http://www.fs.fed.us/aboutus/budget/.

Park Roads and Parkways

The Park Roads and Parkways Program (PRPP) is a jointly managed effort between the National Park Service (NPS) and the Federal Highway Administration with the purpose of addressing critical transportation system deficiencies in parks, including: preservation of existing facilities, completion of incomplete parkways, and support for alternative transportation systems.

The Highway Trust Fund funds the PRPP, with the majority of funding directed towards system preservation. Nationally, the PRPP program is authorized by SAFETEA-LU a total of $1.215 billion in new funds between fiscal years 2004 and 2009, with Alaska receiving a minimum allocation of two percent in each year of the program. This equates to approximately $146 million of available funding over the six program years.

Indian Reservation Roads (IRR)

The Indian Reservation Roads program is a joint program between the Federal Highway Administration and the Bureau of Indian Affairs. The program provides funds for transportation planning, research, engineering, and construction of the highways, roads, and parkways, or of transit facilities within Indian reservations.

Nationwide, SAFETEA-LU has authorized a total of $450 million for IRR projects for fiscal year 2009. The authorization amount has increased steadily in recent years; in 2005, the amount was $300 million. In 2008, Alaska received an allocation of $39.4 million, or 13 percent of the national allocation of IRR funds. Table 2.6 summarizes the funding allocations by borough or Native Regional Corporation (for tribal governments within unorganized boroughs). About 28 percent of the IRR funding in 2008 went to tribal governments within the Bering Straits Native Corporation, followed by 27 percent allocated to tribal governments in the Sealaska Corporation.

Table 2.6 Indian Reservation Roads Funding Allocated to Alaska
2008 (In Thousands of Dollars)

Borough/Native Regional Corporation	Allocation (000s)	Percent
Aleutians East Borough	$449.8	1.1%
Municipality of Anchorage	45.8	0.1%
Bristol Bay Borough	652.9	1.7%
Denali Borough	2.9	0.01%
Kenai Peninsula Borough	926.2	2.3%
Kodiak Island Borough	538.5	1.4%
Lake and Peninsula Borough	2,365.6	6.0%
Matanuska-Susitna Borough	710.2	1.8%

Borough/Native Regional Corporation	Allocation (000s)	Percent
Northwest Arctic Borough	1,769.5	4.5%
North Slope Borough	1,369.4	3.5%
Ahtna Corporation	103.4	0.3%
Aleut Corporation	568.4	1.4%
Bering Straits Native Corporation	11,102.9	28.2%
Bristol Bay Native Corporation	760.5	1.9%
Calista Corporation	3,530.6	9.0%
Chugach Corporation	654.6	1.7%
Doyon Corporation	3,090.7	7.8%
Sealaska Corporation	10,794.3	27.4%
Total	**$39,436.1**	

Source: Cambridge Systematics Analysis of RNDF Report.

Local Transportation Funding

Figure 2.11 shows that local transportation funding is highly dependent on bond proceeds as well as property taxes and special assessments. Over the 10-year period from 1997 to 2006, bonds funded 36 percent of local government spending on highways, while property taxes and special assessments contributed 34 percent. It is important to note, however, that bond proceeds are not actual revenue, and that debt must be repaid over time, possibly through general fund revenues. Appropriations from the general funds of local municipalities also are prominent in highway funding, contributing 18 percent of highway funding from 1997 to 2006. Collectively state and Federal funds contributed approximately four percent of local transportation funding during the same 10-year period, however, these funds are for roadways off the national and state highway systems. It should be noted that a great number of major thoroughfares in major urban areas belong to the state highway system and are funded by state and Federal agencies. Revenues also are collected for local option fuel transfer and motor vehicle taxes, which include car rental taxes.

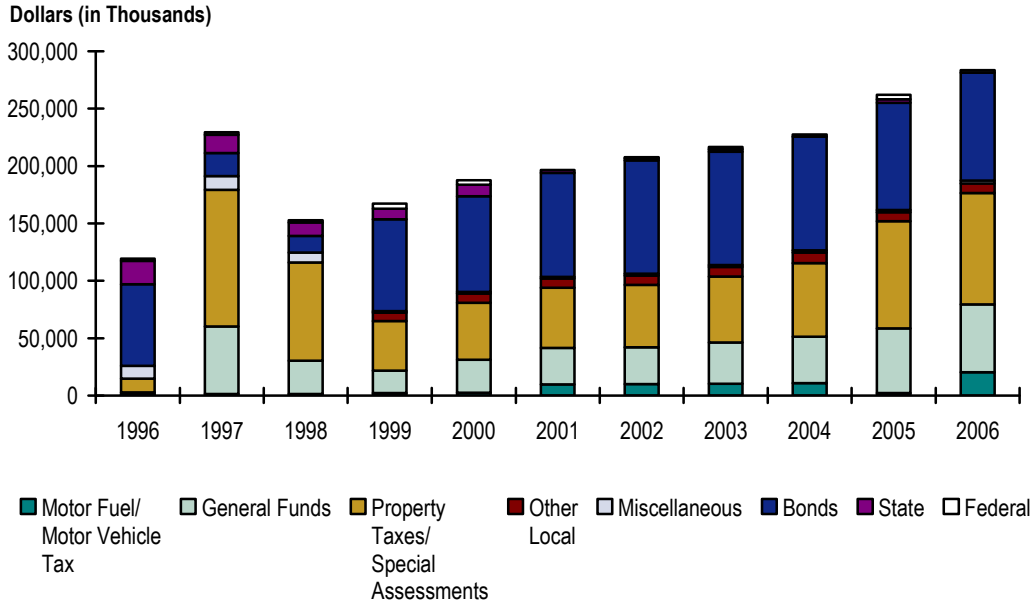
State and Local Expenditures on Transportation (Disbursements)

State expenditures may be dividend into six categories, with about two-third going to capital outlays for Federal Aid roadways (37 percent) and maintenance (31 percent). Total expenditures have remained at their highest level over the past four years (2003 through 2006). Most categories of state transportation expenditures show erratic trends over the past 10 years. Disbursements for Administration, Police, and Safety, however, have shown a steady increase over this period, gaining 68 percent over the past 10 years. Grants, which constitute less than half a percent of total disbursements, have declined 56 percent over the

past decade. Figure 2.12 shows the past 10 years of expenditures for the six categories.

FHWA Highway Statistics data shows that Alaska spent $124.5 million in highway maintenance in 1997. By 2006, highway maintenance expenditures had increased to $201.3 million. Maintenance expenditures have increased significantly since 2001, at an average compound annual growth rate of 11 percent over the last five years. However, these figures only show maintenance expenses, and do not reflect maintenance needs that remain unfunded. According to the statewide long-range transportation plan,[7] there was a backlog in life-cycle needs of $750 million through 2007, and routine maintenance is underfunded by almost $36 million annually. The plan estimated life-cycle and routine maintenance needs at $500 million (2007 dollars) annually, which is more than twice the level of funding dedicated to highway maintenance in the past.

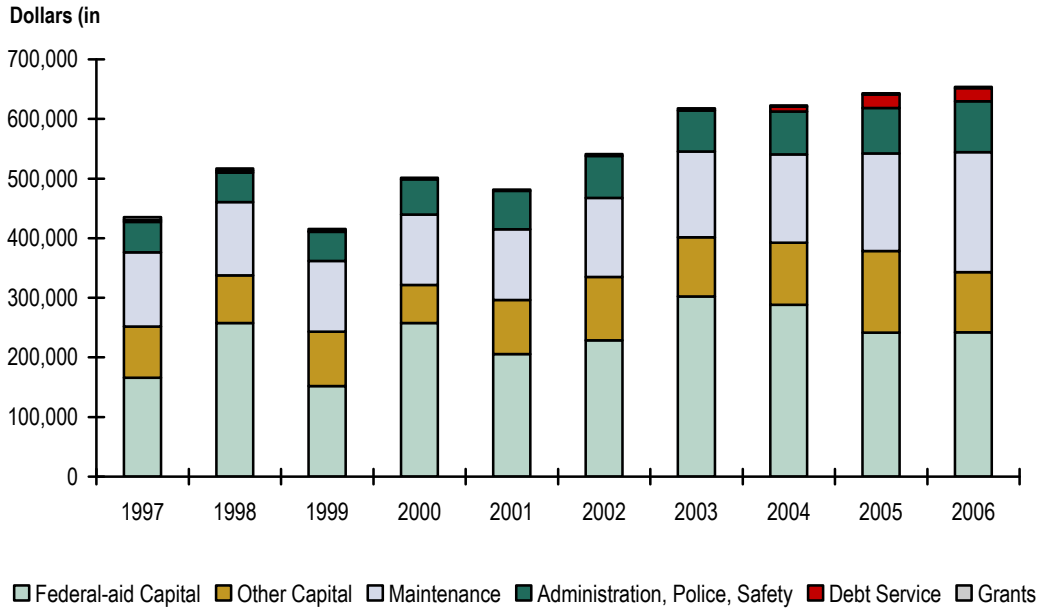
Figure 2.11 Alaska Sources of Local Highway Funds
Thousands of Dollars



Source: Highway Statistics Series, Federal Highway Administration, Table LGF-2.

[7] Alaska Department of Transportation and Public Facilities, *Let's Get Moving 2030: Alaska Statewide Long-Range Transportation Policy Plan*, February 2008.

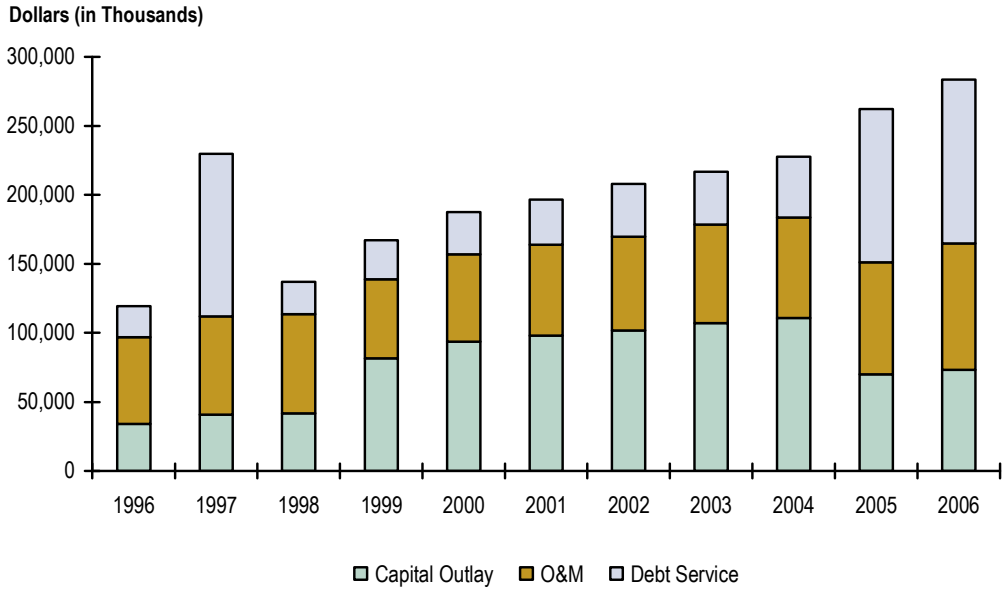
Figure 2.12 Alaska State Expenditures for Highways and Ferries
Thousands of Dollars



Source: Highway Statistics Series, Federal Highway Administration, Table SF-2.

Figure 2.13 shows local spending on highways. Capital outlay peaked in 2004, declining over the last couple of years. O&M expenditures continue to escalate at the local level, at an annual rate of approximately four percent between 1996 and 2006. In the last two years, however, debt service payments have exceeded both capital and O&M spending, with further reinforces the heavy reliance on bond proceeds to support local highway spending as shown in Figure 2.11 (local funding for highways). This also has led to a reduced level on capital spending in roads and streets at the local level.

Figure 2.13 Alaska's Local Expenditure for Highways
Thousands of Dollars



Source: Highway Statistics Series, Federal Highway Administration, Table LGF-21.

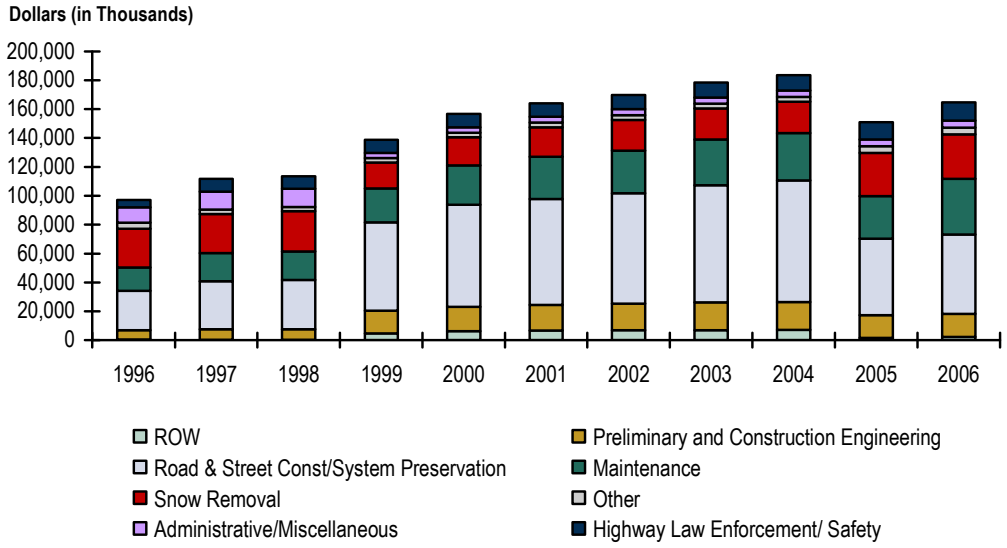
Figure 2.14 shows the breakdown of capital outlay and operating costs for local roads and streets. Right-of-way acquisitions, preliminary and construction engineering, and road and street construction and system preservation are the three components of capital outlay, while the other five categories are the components of operating costs. Road and street construction and system preservation is consistently the largest local highway expenditure; annual expenditures in this area have doubled since the mid-1990s. Maintenance costs also have increased; maintenance expenditures in 2006 are 2.4 times that of 1996.

Needs and Funding Gap for Highway, Bridge, AMHS and Transit

At the national level, funding for transportation investments typically falls short of needs, and Alaska is not an exception. As mentioned earlier, highway routine maintenance remains under funded and the backlog in life-cycle needs is over three times the level of spending in annual highway maintenance needs at the state level. These figures do not include needs on the AMHS, transit, and locally funded roads, both in urban and rural areas of the state. Furthermore, it does not include any transportation capacity needs to meet travel demand growth in the future.

Based on data from ADOT&PF long range plan,[8] and input from transit and rural transportation stakeholders, the funding gap for surface transportation in Alaska is estimated at almost $600 million per year, which only includes state-funded highways and bridge, transit and rural roads and streets; it does not include AMHS or urban roads and street needs from local governments. Adding the AMHS unfunded needs, Alaska's transportation funding gap increases to $720 million. Table 2.14 summarizes the funding gap by mode.

Figure 2.14 Alaska's Local Expenditures for Highways (Detailed)
Thousands of Dollars



Source: Highway Statistics Series, Federal Highway Administration, Table LGF-2.

[8] Ibid.

Table 2.7 Alaska's Annual Funding Gap

Mode	Annual Funding Gap (Millions)	Comments
Highway and Bridges	$533	Based on ADOT&PF 2030 Plan. Highway and bridge needs include: • System Development – projects aimed at reducing congestion, improving safety, providing better connectivity or enabling economic development, such as new highway construction. • Life-cycle management – periodic rehabilitation work to preserve value of assets. • Routine maintenance – these are annual activities, typically seasonal in nature, such as snow and ice removal, pothole patching, striping, mowing, and sign repair, among others. Highway and bridge needs are estimated at $1,051 million, of which $518 million is funded with projected Federal and state funding.
Rural Roads and Streets	$20	Based on estimates provided by stakeholders, including the Denali Commission. Calculated as the average, with estimates ranging from $10 to $30 million for rural needs.
Urban Roads and Streets	N/A	Not available. Current AMATS and FMATS long-range plans are financially constrained, and do not include unfunded needs over the long-term.
Transit	$32	Based on estimates provided by AMC. The estimates provided are the funding needed above and beyond what transit providers receive from Federal, local governments, and passenger fares. Transit needs include: • Capital ($20 million), for bus replacement and capital needs of existing assets, service expansion for existing transit providers, and new rural and tribal transit services. • Operations and Maintenance ($12 million), for existing and new transit services, based on projected growth.
Total	**$585**	
AMHS	$135	Based on ADOT&PF 2030 Plan. It includes: system development (terminal additions and replacements); life-cycle management (vessel replacement, refurbishment and recertification); and routine maintenance. AMHS annual needs are estimated at $179 million; AMHS revenues were estimated at $44 million.
Total (including AMHS)	**$720**	

Source: ADOT&PF 2030 Plan; Denali Commission; Alaska Mobility Coalition.

2.2 TRANSPORTATION ISSUES AND THEIR IMPACT TO FUTURE TRANSPORTATION FINANCE IN ALASKA

Over the last several years, studies at the national and state levels have painted a dire picture of transportation funding over the long term. At the national level, the average funding gap was estimated at almost $60 billion annually through 2017 (10-year average) to maintain the current condition and performance of the nation's surface transportation system.[9] In its recent statewide long-range transportation plan (referred herein as the 2030 Transportation Plan),[10] the Alaska Department of Transportation and Public Facilities (ADOT&PF) estimated its annual highway and bridge needs at approximately $1.1 billion per year of which about $530 million is unfunded on state-owned facilities alone (excluding local roads and street needs), with Federal and state funding covering about half of the needs.

All states are facing similar funding gaps for transportation investments primarily for four reasons:

1. Revenues have remained flat or declined (measured in nominal or current dollars) because fuel tax rates have not been increased to account for inflation (i.e., indexed), increased travel per household, population growth, or maintenance and preservation of aging infrastructure (see below), and declining fuel consumption due to improved fuel efficiency in the vehicle fleet and transitioning to alternate fuels.
2. Increases in travel resulting from population growth and increased cars per household and miles driven per household (measured as vehicle miles of travel or VMT per household).
3. Rapid and dramatic escalation of construction costs because of the increased international demand for raw materials from developing industrial nations such as China and India.
4. The higher cost of maintaining and preserving aging infrastructure compared to newer facilities (separate from the rapid escalation of construction costs).

Nevertheless, there are additional issues and challenges faced by each state that are unique. Alaska's transportation challenges have been identified in the 2030

[9] Transportation Research Board, National Cooperative Highway Research Program (NCHRP) Project 20-24(49), *Web-Only Document 102: Future Financing Options to Meet Highway and Transit Needs*, prepared by Cambridge Systematics, Inc., December 2006.

[10] Alaska Department of Transportation and Public Facilities, *Let's Get Moving 2030: Alaska Statewide Long-Range Transportation Policy Plan*, February 2008.

Transportation Plan, the TRIP report,[11] and through interviews with stakeholders. These unique issues relate mostly to the State's size, sparse and remote population, adverse weather, extensive dependence on marine and air modes, and a funding system that depends disproportionately on oil revenues and Federal largess. These issues and challenges are divided into two groups and described below: current and future transportation issues.

Alaska's Current Transportation Issues

We have organized the issues identified through the stakeholder interviews currently facing the State into seven areas of concern:

1. Extent of transportation network;
2. Cost of construction;
3. Federal and state requirements;
4. Tensions between surface transportation needs;
5. Rural transportation;
6. Transit expansions; and
7. Safety.

Extent of Transportation Network

Although Alaska is the largest State in the nation in terms of size, it is the fourth smallest State in terms of population and with many of its citizens distributed sparsely across this vast State (42 percent of the total population located in Anchorage).

Alaska is a young State, and its transportation infrastructure is significantly less developed compared to other states in the lower 48. The current roadway network consists of less than 30,000 lane-miles, placing it in the bottom five compared to other states. To put this in perspective, both Alaska and Vermont have similar population and lane-miles, but Alaska is over 60 times larger than Vermont.

The lack of connectivity or reliable transportation infrastructure was mentioned frequently as one of the biggest transportation issues by most stakeholders. The quality of connectivity is a far more critical matter in rural Alaska than the lower 48 because it determines whether most communities can sustain themselves in the future.

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[11] TRIP, *Future Mobility in Alaska: Meeting the State's Need for Safe and Efficient Mobility*, October 2008. Available at http://www.tripnet.org, last accessed on December 3, 2008.

Generally, Federal aid-highway funding can be used only for capital expenses on eligible roads (i.e., the National Highway System (NHS)[12] and other roads), excluding rural minor collectors and local roads. Federal statutes expand eligibility of Federal-aid highway funds in Alaska and Puerto Rico for the "construction of access and development roads that will serve resource development, recreational, residential, commercial, industrial, or other like purposes."[13] Although this flexibility may appear beneficial, it also increases the total lane-miles eligible for Federal funding, adding pressures on the demand for limited Federal-aid funds. In Alaska, it nearly tripled the number of road miles eligible for Federal-aid funds and has affected ADOT&PF's ability to sustain NHS and other major roads.

The Federal-aid highway program is further strained by Preventive Maintenance work, which was formerly paid through state funding. State budget cuts through the annual appropriations process has led ADOT&PF to shift Federal resources that would typically pay for upgrades and capacity expansion to pay for preventive maintenances. The state currently uses $50 million annually in Federal funding for this purpose.

High Cost of Construction

The cost of construction has increased significantly over the last few years, outpacing inflation at rates between three to tenfold higher nationally. In Alaska, these increases are even higher compared to the national average. For example, the cost of hot mix asphalt has increased over 80 percent in the last six years, compared to 40 percent average increase nationwide. Topography, soil, and weather conditions also drive the cost of construction up, compared to other states. For example, the cost of mobilization in rural Alaska is very high, and the current project programming process provides very few opportunities to implement transportation projects in sequence, such that mobilization costs can be shared among projects. Other factors cited through stakeholder interviews as contributing to the high cost of highway construction include the vast amount of wetlands, short construction season, permafrost, ADOT&PF design standards that should be met on state-funded roads, the cost of the NEPA process and environmental mitigation, compliance with Section 4f and the cost of litigation over contested projects (opposition from environmental and neighborhood groups), among others.

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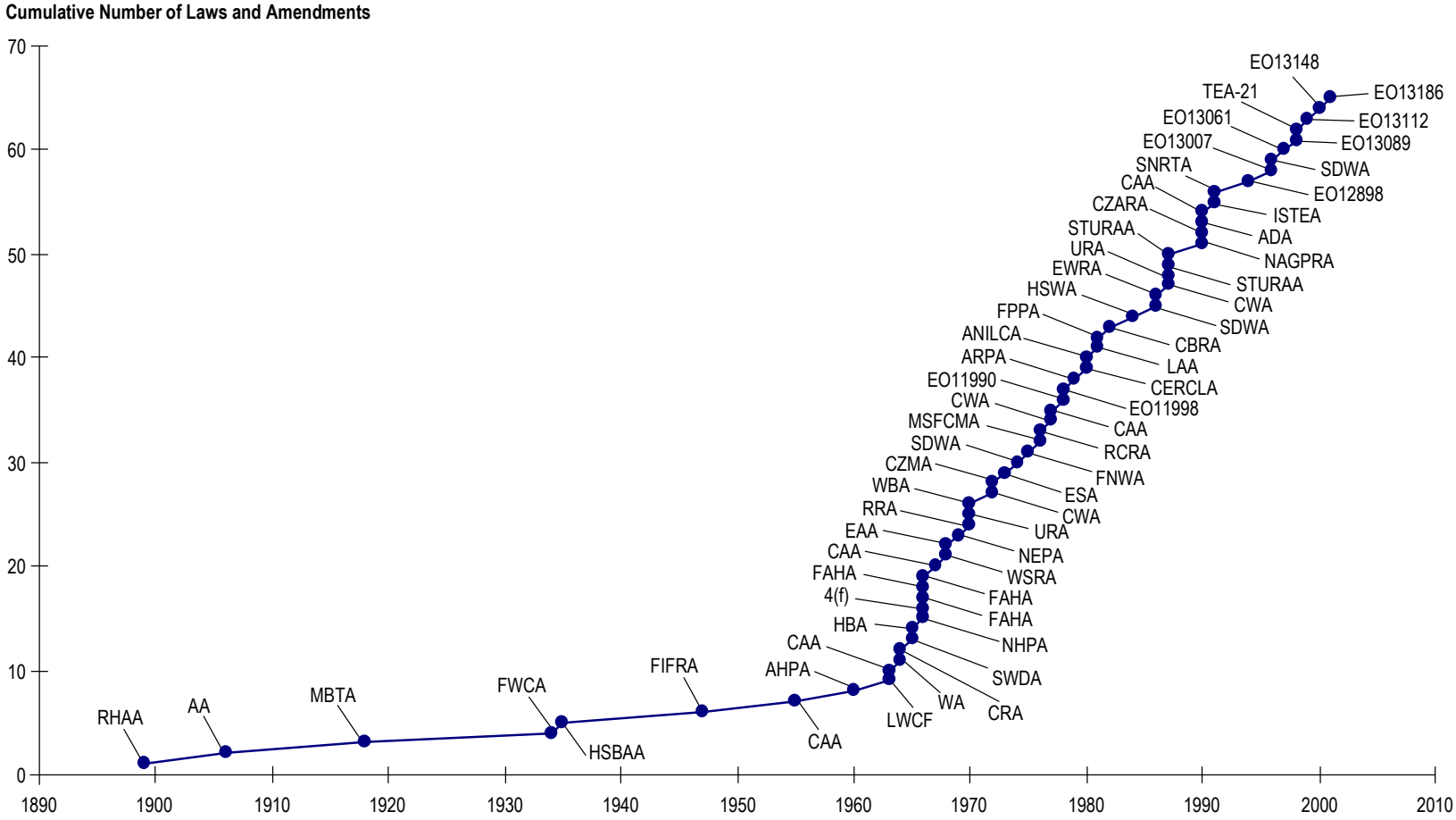
[12] The NHS is comprised of: 1) the Interstate System; 2) the Strategic Highway Network (STRAHNET); 3) other principal arterials not designated as part of the Interstate or STRAHNET systems; and 4) connections from the NHS to intermodal or strategic military facilities.

[13] 23 U.S.C. 118(e).

Expensive Federal and State Requirement

Federal requirements, including environmental clearance and the permitting process were cited by several groups interviewed as a main challenge for advancing transportation projects, particularly for rural communities. Figure 2.15 shows how Federal environmental requirements for transportation projects have increased significantly over the last four decades. State design standards also are applicable when ADOT&PF funding is used, which also drives up the cost of construction compared to a private sector project. On the other hand, private sector projects may require to be rehabilitated, replaced or expanded much sooner than a project that applied ADOT&PF design standards, and may lack safety and traffic management features that are desirable for public roads.

Figure 2.15 Federal Environmental Requirements Affecting Transportation



Source: Federal Highway Administration, 2003.

Tensions between Surface Transportation Needs

Many stakeholders see four primary sources of tension between their State's transportation needs: 1) capital versus maintenance needs; 2) urban versus rural needs; 3) demand of limited funding for state and locally owned roads; and 4) ownership and control of road facilities.

- **Capital Versus Maintenance Needs.** Investment in new capacity is regarded as vital for serving projected growth in travel demand and supporting economic development opportunities. On the other hand, a study recently conducted by TRIP[14] reported that almost half of the major roads are in poor or mediocre condition and 28 percent of the bridges are structurally deficient or obsolete. The cost of life-cycle management and routine maintenance was estimated at almost $500 million per year (2007 dollars) through 2030. Maintenance issues are exacerbated with the effects global warming, such as melting of permafrost layers and erosion. The level of funding available for either capital expansion or maintenance is far below the estimated needs. In recent years, ADOT&PF has spent a portion of its Federal-aid highway funding on life-cycle management (preventive maintenance), as an alternative to use Federal funding that do not require meeting environmental requirements, and freeing state money for capital projects.
- **Urban versus Rural.** Urban transportation needs include upgrading the existing road system to address demand growth, and maintenance on existing roadways. Rural transportation needs include extending the roadway system to access rural areas, improving or providing connections among rural communities, and providing access to resources. The funding shortfalls are forcing hard choices between these competing needs. Urban stakeholders have questioned if providing an improved transportation network in rural Alaska will be cost-effective in some cases. Rural stakeholders contend their communities cannot sustain themselves without the maintenance of current spending levels.
- **Demand of limited funding for state and locally owned roads.** Federal-aid highway funding may be used for all roadway facilities in Alaska, including local streets and roads. Section 118(e) of Title 23 added flexibility in the use of Federal funds, but did not bring additional funding to the state. This creates competition for scarce resources that could be either used on major facilities or on roads. The priorities of state transportation infrastructure are difficult to compare with the priorities for local communities. As a matter of financial planning, local communities have access to funding sources that the ADOT&PF does not – particularly property taxes and assessment districts.

[14] TRIP, *Future Mobility in Alaska: Meeting the State's Need for Safe and Efficient Mobility*, October 2008. Available at http://www.tripnet.org, last accessed on December 3, 2008.

These sources, along with possible funding from local sales taxes and public-private partnerships provide local jurisdictions with a toolbox for funding their priorities. Restricting the Federal-aid funding to major, state infrastructure has been an effective separation for most states and one that has motivated local jurisdiction to leverage their access to funding sources most appropriate for meeting local priorities.

- **Ownership and control of transportation facilities.** The State owns and controls many transportation facilities (including roadways and small airports) that primarily serve local needs. A 1988 transportation study found that when the state controls local transportation facilities, it may affect the ADOT&PF's decision-making on what is in the best interest of the state versus local interests. In addition, state control of local transportation facilities forces local interests to compete at the statewide level against other state programs, putting local needs in disadvantage.

Rural Transportation Issues

Transportation issues reported by representatives from tribal communities and the Denali Commission in Alaska through the stakeholders interviews included the following:

- Some tribes had difficulty getting Indian Reservation Roads (IRR) funding through the Bureau of Indian Affairs in the past. However, legislation changes in SAFETEA-LU have made it easier for tribes to get funding through FHWA (requirement of mature contractor status through clean single audit).
- Difficulty in providing local matching for certain projects. IRR funds are typically used as match for transportation funding coming through the State.
- Difficulty in establishing partnerships on state-funded projects, as both tribes and the State have differing expectations and legal requirements they must account for. The State requires waivers of mutual sovereignty to work in partnership with tribes. However, a task force of ADOT&PF and tribal representatives is working to find solutions at this time.
- Small communities and tribes lack engineering capability to implement projects. The Denali Commission has partnered with the Corps of Engineers and FHWA's Western Federal Lands Highway Division to do design and construction. These Federal partners are encouraged by the Commission to ensure that communities are fully integrated in the project development process.
- Limited or no state funding for local roads. The Local Service Roads and Trails (LSR&T) program provided state funding support for local development of transportation infrastructure, based by formula. The LSR&T currently is unfunded, but the Denali Commission estimates that an allocation of $10 to $15 million per year could help advance joint-funded

project at the Denali Commission and stand-alone ADOT&PF local projects, based on what could be reasonably expected to be approved by the Legislature. Other Alaska transportation stakeholders, however, have suggested that the state would need to invest between $25 and $30 million annually to both restart the LSR&T program and help advance Denali Commission projects.

Transit-Related Issues

Transit services in Alaska are limited to three fixed-route bus services in Anchorage, Fairbanks, and Juneau, and demand response services in a few communities. Since population densities are low, providing more extensive fixed route transit services may not be a cost-effective option. Furthermore, the limited road system also constrains the level of transit service that can be provided. Given the existing service levels are low, many potential riders are discouraged from using transit. Ridership levels, however, increased this summer with the high cost of fuel, a trend that was similarly experienced in transit agencies across the nation.

Nevertheless, the high price of fuel also increased operating costs for transit agencies. The fuel cost for nine transit providers in Alaska increased by 40 percent. In Fairbanks, for example, the potential for expansion, such as park-and-ride facilities with plug-in systems to keep vehicle warm when temperatures fall well below 0ºF, remain unfunded.

Safety Issues

In 2006, the fatality rate in Alaska was higher than the national average, at 1.49 fatalities per 100 million vehicle miles traveled compared to 1.41 nationally.[15] In some cases, accidents are the result of poor roadway design, and some roadway improvements may help reduce the severity and frequency of accidents. The Strategic Highway Safety Plan includes various roadway improvement measures to improve safety. In rural areas, lack of adequate roads requires the use of ATVs for transportation, which in many cases results in significant fatalities and injuries. The preliminary fatality data for 2008 suggests that there is a large drop from a five-year average of 85 fatalities to a low in 2008 of 63. It is too early, however, to identify the factors that might have led to this 26 percent decline.

Factors Affecting Future Transportation Investments and Funding

There are a number of factors at the national and state level that will impact transportation and funding for transportation investments in the future.

[15] TRIP, *Future Mobility in Alaska: Meeting the State's Need for Safe and Efficient Mobility*, October 2008. Available at http://www.tripnet.org, last accessed on December 3, 2008.

Understanding these issues is important as Alaska considers changes to its current portfolio of funding sources and develops a financing plan to address the transportation issues and needs identified above. We have organized the issues identified through the stakeholder interviews that they believe may face the State in the future into 11 areas of concern:

1. Lack of dedicated funding for transportation;
2. Heavily subsidized transportation system;
3. Lack of state funding for public transportation;
4. Reliance on Federal Funding and Earmarking;
5. Alaska's Financial Capacity;
6. Future Transportation Infrastructure Needs in the North Slope and Future Heavy Traffic Growth;
7. Access to Natural Resources and Alternative Energy Sources;
8. Climate Change and Options for GHG Reduction;
9. Endangered Species;
10. High Cost of Construction in Rural Alaska; and
11. High Cost of Fuel and Goods in Rural Areas.

Lack of Dedicated Funding for Transportation

The State of Alaska does not have a dedicated source for transportation funding. In fact, the State Constitution prohibits the State from dedicating revenues to specific uses, except if the "dedicated revenues" were in effect prior to the adoption of the State Constitution. Although a dedicated transportation fund existed prior to the adoption of the Constitution, it was eliminated in 1961, after the motor fuel tax rate was adjusted. Transportation-related revenues, such as fuel gas tax revenues and motor vehicle fees go into the General Fund. State funding for transportation is provided through annual legislative appropriations from the General Fund; therefore, transportation competes with other state needs for funding.

This will become a major issue as revenues going into the General Fund are projected to decline in the future. Oil royalties are the main revenue source going into the General Fund. The State's future forecast of oil royalties shows a decrease linked to continued decline in oil production on the North Slope, even if the high cost of oil experienced in recent years is sustained. The General Fund forecast does not include potential additional revenues if the natural gas pipeline is built as planned.

Another issue affecting General Fund revenues (and its reliability to support transportation) is the volatility of oil prices, which in the past have generated surpluses or shortfalls depending on the actual price of oil compared to the

assumed price in the state budget. For FY 2008 and 2009, the price of oil in the state budget was forecasted at $85.73 and $83.04 per barrel, respectively.[16] By the second week of October 2008, the price of oil had fallen below the forecast price; by the last week of November 2008, the price of oil was less than $44 per barrel.[17] Whereas the State saw significant surpluses last year, this fiscal year the General Fund revenues will fall short of projections, affecting all government expenditure, including transportation.

Finally, Alaska has neither taxes nor highway user fees dedicated to transportation needs, thus the State is dependent on the General Fund to adhere to the required state contribution to Federal projects and to provide operating subsidies for the AMHS. The expected decline in General Fund revenues presents a significant challenge for the State to provide sufficient matching revenues in order to secure the maximum Federal funding and to pay for operating and maintenance expenses.

Heavily Subsidized Transportation System

The highway transportation system is heavily subsidized by the State General Fund. User fees such as tolls and gas taxes that would send stronger price signals to users currently are not levied in Alaska for transportation. User fees encourage users and providers to minimize unproductive travel and thus ensure that the capacity serves demand for activities that maximize economic growth.

Although the current prices charged of users of transportation in all states is below the cost of providing such services, Alaska's users are being charged far below the true costs. This significant subsidy is even more extreme for remote communities served by ferry and air service. If pure economic criteria were applied to ranking effective transportation investments, many remote communities would fall far below a benefit/cost threshold.

At the national level, there has been significant discussion about the application of pricing that comes closer to the real costs of providing transportation services. This debate is especially intense regarding the expansion of capacity in congested corridors where the cost of adding capacity is high and there are effective opportunities to divert peak demand through imposing pricing at the true marginal cost. While there have been no conversions of free mixed-flow lanes to tolled lanes, many states led by California and Texas are constructing only high-occupancy toll (HOT) lanes. In California, the HOT lanes on the I-15 corridor in San Diego County use dynamic pricing to maintain flows at posted speeds and use tolls to help fund bus rapid transit (BRT). Although many studies have been

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[16] Alaska Department of Revenue-Tax Division, Spring 2008 Forecast.

[17] U.S. Department of Energy, Energy Information Administration, U.S. crude oil prices. Available at http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm, last accessed December 3, 2008.

completed over the past two decades, the majority of recent transportation policies agree in transitioning into a system of direct user fees (such as tolls and VMT fees) that manage the demand for scarce existing capacity as well as generate more revenue to fund new capacity.

For the State of Alaska, this debate could have profound effects on future Federal funding levels. The near complete subsidy of some state transportation services (ferry and air fares are a clear exception) would become a significant impediment to future Federal apportionments. Nationally, future Federal policy may force states to price transportation more like a utility than a public good. Regardless of the State's Constitutional prohibition of dedicating revenues to specific public services, states that have reduced their subsidies and transitioned to user fees would have a strong competitive advantage for Federal matching funds.

Lack of State Funding for Public Transportation

Currently, no state money is dedicated to public transit. Public transportation currently is funded with Federal, local, and private nonprofit funding (demand response services). Other peer states provide an average of $2.18 per capita for public transportation (Table 2.8).[18] An AASHTO survey[19] indicated that the State provided $500,000 through the Alaska Mental Health Trust Authority in 2006. The Alaska Mobility Coalition (AMC) currently is supporting three recommendations to the legislature that are aimed at providing state funding for transit needs, including:

- Fuel reimbursement for Alaska's transit providers: the operating costs of transit providers increased significantly as fuel costs rose during the summer. AMC is proposing an allocation of $1 million for fuel reimbursement. This proposal was supported by the legislature in the past session, but it was vetoed by the governor.
- State capital funding match for Community Transportation Systems – AMC is proposing $2.5 million in state money to match Federal funds, with a 10 percent requirement from local funds to match the state funding.
- Community Transportation Trust Fund – this proposal, also supported by local governments of Anchorage and Kodiak, would create a trust fund from General Fund surpluses.

[18] Transportation Research Board, National Cooperative Highway Research Program (NCHRP), *Report 569: Comparative Review and Analysis of State Transit Funding Programs*, prepared by ICF International, 2006.

[19] American Association of State and Highway Officials (AASHTO), Survey of State Funding for Public Transportation 2007, February 2008.

Table 2.8 State and Federal Transit Funding for Alaska and Peer States

State	State Funding (Thousand)	Per Capita State Funding	Federal Funding (Thousands)	Per Capita Federal Funding
Alaska	$0	$0.00	$35,880	$54.74
New Hampshire	225	0.17	6,516	5.01
South Dakota	996	1.29	3,777	4.90
North Dakota	1,546	2.44	4,891	7.71
Vermont	6,103	9.82	12,667	20.38
Montana	390	0.42	2,812	3.03
Maine	505	0.38	14,330	10.88
Idaho	312	0.22	11,444	8.21
Wyoming	2466	4.87	4,215	8.32
Peer States Average	**$1,394**	**$2.18**	**$10,726**	**$16.78[a]**

Source: NCHRP Report 569*: Comparative Review and Analysis of State Transit Funding Programs*.

[a] The average per capita Federal funding represents a weighted average by population.

Transit services also are underfunded at the local level, especially in rural areas. Currently, Anchorage and Fairbanks transit systems are funded at the local level with property taxes, and Juneau transit is funded with sales tax revenues. These funding sources, however, also are used to pay other local services, such as education and police, limiting the available funding to support transit services.

Reliance on Federal Funding and Earmarking

Most of the funding for both highway and transit investments comes from the Federal government, through both formula allocations and earmarks. The Highway Trust Fund (HTF) will be bankrupt in 2009 without any reforms and/or increases to Federal highway user fees that fund the HTF. If this were to occur, which is unlikely, Alaska could expect significant cuts in Federal funding levels, compared to the last decade.

A significant share of the Federal funding for transportation in Alaska comes through earmarking. Earmarks are tied to specific transportation projects. There are two types of earmarks: "above" and "below the line."

- "Below the line" earmarks: These funds are taken out of the appropriation of Federal money that would otherwise come to the State for transportation. This appropriation is allocated among all states based on a formula applied to revenues earned from the 18.3 cpg Federal gas tax. Federal Highway Administration (FHWA) allocated $2.12 billion over five years under the formula. So for example, $327.4 million (of the proposed $596 million) earmarks that included new bridges in Anchorage and Ketchikan would have been taken out of the $2.12 billion that was allocated to Alaska under the formula that splits Federal gasoline taxes among the states. This means the

high-priority earmarks directly reduce the money available to the State for other projects around Alaska. SAFETEA-LU apportionments of "below the mark" earmarks (through the High Priority Projects program) for Alaska accounted for over one-fourth of the total SAFETEA-LU apportionments, compared to the national average of eight percent.

- "Above the line" earmarks: These funds in the highway bill provide money over and above the $2.12 billion that Alaska was guaranteed under the bill's formula, so they are not deducted from what the State would otherwise have available to program for its needs.

Stakeholders indicated that earmarking is beneficial when the funds are for high-priority projects in the State or region, which have been evaluated, approved by public officials, and included in the transportation improvement program or long-range plan. Nevertheless, earmarks are sometimes for projects that are not included in local plans or the level of funding provided through the earmark is insufficient to implement the project. In that case, the state or local government must divert resources from other priorities to fully fund the project. Furthermore, earmarking in general and for Alaska in particular has become politically difficult and likely to diminish significantly.

In addition, the leadership of Alaska's former senior Senator and the congressional delegation has been key in the creation of the Denali Commission and in the allocation of earmarks for transportation projects. It is quite likely that with Senator Stevens losing reelection that the level of earmarking will significantly decline in the future. That is in addition to proposed earmarking reform as part of the next transportation bill authorization (see Section 3.0).

Another issue with the Federal-aid highway program relates to Section 102(c) of Title 23, which requires that a state repay Federal funds used on preliminary engineering (PE) for projects if construction has not been completed within 10 years since Federal funding were disbursed for PE, otherwise known as the "*time trap*" rule. Recent policy guidance indicates that FHWA will enforce this rule and extensions will only be granted under strict circumstances. ADOT&PF expects that time traps will be a significant factor for development of the next Statewide Transportation Improvement Program (STIP). In this case, ADOT&PF must either complete this backlog of old project or else find state funds to repay the Federal-aid money.

Alaska's Financial Capacity

Federal support for Alaska's transportation needs is being challenged by other states because of the perception that Alaska's financial capacity is substantially better off than other states. The view from the lower 48 sees record tax revenues generated by high oil prices. They see the Alaska Permanent Fund currently has

almost $28 billion,[20] and generates annual dividends that are returned to Alaska residents. Alaska is the only State that does not collect income taxes or sales taxes (although sales taxes are levied at the local level). Furthermore, the State recently suspended the 8 cpg gas tax until August 2009, but the rate already was the lowest in the country. This strong fiscal condition not only suggests the State does not need the Federal largess, but also indicates significant head room to raise fuel taxes and impose sales and income taxes should Federal funds be reduced. The lower 48 do not often balance this view with the compensation condition the state must contend with. These include Federal ownership of 69 percent of its land, the small population, the dispersed communities that depend on transportation for their existence, inclement weather and it effects on roadway construction and maintenance costs, and dependence on very expensive marine and air service for a significant part of its transportation infrastructure. In addition, the massive construction of the interstate network was more or less completed before Alaska achieved statehood.

Future Transportation Infrastructure Needs in the North Slope and Future Heavy Traffic Growth

The construction of the natural gas pipeline from the North Slope into the lower 48 will require significant improvements to the existing transportation infrastructure. Under the current schedule, construction on the gas pipeline could begin by 2015, which would leave about six years to upgrade transportation infrastructure. Transportation improvements include:

- Upgrades and enhancements to the load capacity of bridges to support movement of heavy pipes and modules;
- Reconstruction and rehabilitation of roadways (including Alaska Highway, Richardson Highway, Steese Highway, and Dalton Highway); and
- Relocation of rail line through Fairbanks to minimize the impact at urban at-grade highway-rail crossings from increased rail traffic carrying materials for the pipeline.

In addition, truck traffic is expected to increase in the near term due to a new requirement to use low sulfur diesel for operations in the North Slope. Because there are no refineries producing this type of fuel in the area, the low sulfur diesel will have to be transported by truck from Fairbanks via the Dalton Highway. The proposed rail extension into Port MacKenzie would allow for rail shipments of low sulfur diesel at lower costs.

[20] As of December 2, 2008. Information available at http://www.apfc.org/.

Access to Natural Resources and Alternative Energy Sources

The mining as well as oil and gas industries generally expect to pay for their own transportation access needs. There are multiple reasons for this including not having to share the road with the general public, and having the ability to avoid laws, including size and weight on vehicles, CDL drivers laws, taxation on fuels and vehicles and security considerations and possibly lower design standards. However, in some cases this separation is not possible and in those cases the mines would prefer the state pay for the improvements. There may also be a state role when the roads needed would be shared with a number of resource owners and thus no one firm wants to make the upfront investment that is then open to other users.

Alaska's natural resources are plentiful, and plans to access these resources would require improvements and expansion of the existing transportation network. Growth in mining activity, for instance, continues, with new mines starting production recently, and exploration underway in various sites. Typically, mines pay for their own infrastructure, with few exceptions. The roadway into Red Dog mine was funded and built by the Alaska Industrial Development and Export Authority (AIDEA). The mining company pays for use and operations and maintenance of the facility. In addition, access improvements to Rock Creek mine were paid by ADOT&PF. The mining industry expects to continue paying for their transportation access needs. Usually these are low-cost access roads that do not meet ADOT&PF standards but meet industry needs. Public sector investment would be mainly to improve and maintain public roads that connect mines to ports, and the resulting increase in heavy vehicles traveling on these connectors.

Other access needs are related to energy production sites, such as geothermal and tidal locations. The State currently is reassessing plans for hydroelectric power from sites in Susitna and Chakachamna, both of which were studied in the 1980s. In British Columbia, the government entered into a public-private partnership to design and upgrade the Sierra Yoyo Desan resource road. This is an approximately 117-mile long roadway, beginning south of Fort Nelson and passing through oil, gas, and forestry terrain in northeast British Columbia. The roadway connects to the Alaska Highway, via the Clarke Lake Road. The private sector designed, constructed, financed, and ultimately maintains the roadway, and the government reimburses the private investors through payments from oil and gas industries in the area. The road was designed per government standards and is open to public use.

Climate Change and Options for GHG Reduction

The transportation sector is one of the main contributors of greenhouse gases (GHG). Future efforts to address climate change and reduce GHG will certainly impact the transportation industry. In Alaska, access to some rural areas is only feasible through air and/or marine transportation, both of which have large carbon footprints per person mile traveled, compared to highway or transit. The

implementation of carbon taxes or cap-and-trade would only add to the cost of transportation and goods in rural areas and for industries that are highly depend on transportation, such as fishing, mining, and oil. On the other hand, revenues generated through carbon taxes or cap-and-trade strategies could be invested in areas that reduce the carbon footprint and that encourage reduced VMT, such as public transportation.

Another aspect of climate change is the additional adaptation costs that will further impact the high cost of construction. The effects of climate change include melting of permafrost layer, coastal erosion, and both increased frequency and severity of weather events, all of which would require adapting infrastructure to changing conditions. A study by the Institute of Social and Economic Research (ISER)[21] concluded that climate change could add 10 to 20 percent to infrastructure costs by 2030 and 10 to 12 percent by 2080, under different climate projections and taking design adaptations into account. The additional costs are relatively higher in the short run, because agencies haven't had as much time to adapt infrastructure to changing conditions. Strategic design adaptations have much more potential to reduce extra costs in the long run. Between now and 2030, adaptations might reduce costs related to climate change by anywhere from zero to as much as 13 percent, depending on the extent of climate warming. But between now and 2080, adaptations could save anywhere from 10 to 45 percent of costs resulting from climate change.

According to the ISER study, transportation infrastructure, especially roads and airport runways, will account for most of the additional costs between now and 2030. That is because transportation infrastructure is expensive to build and maintain in Alaska under any circumstances, and many airports and some roads are in areas that will be most affected by a warming climate.

Endangered Species

Recent designation of the polar bear as threatened and the beluga whale as endangered species will have mixed impacts transportation. In the case of the polar bear, the designation cannot be used to regulate GHG from transportation and other sources. The designation of the Cook Inlet beluga whale as an endangered species, however, is expected to impact projects in the Seward Highway, the Knik Arm Bridge, and expansion of the ports in Anchorage and at Point MacKenzie.

High Cost of Construction in Rural Alaska

The high cost of construction materials, especially in rural and remote areas, limits the State's ability in investing in transportation improvement because in many

[21] Institute of Social and Economic Research, *Estimating Future Costs for Alaska Public Infrastructure at Risk from Climate Change,* June 2007.

cases these improvements do not generate sufficient benefits that justify investment. Some of this investment, however, is vital for sustainability and survival of these communities. The Denali Commission currently provides funding for roads and barge landings. Funding for roads is targeted mainly to local roads. Although roads connecting communities and access to resources are eligible, they are too expensive and controversial.

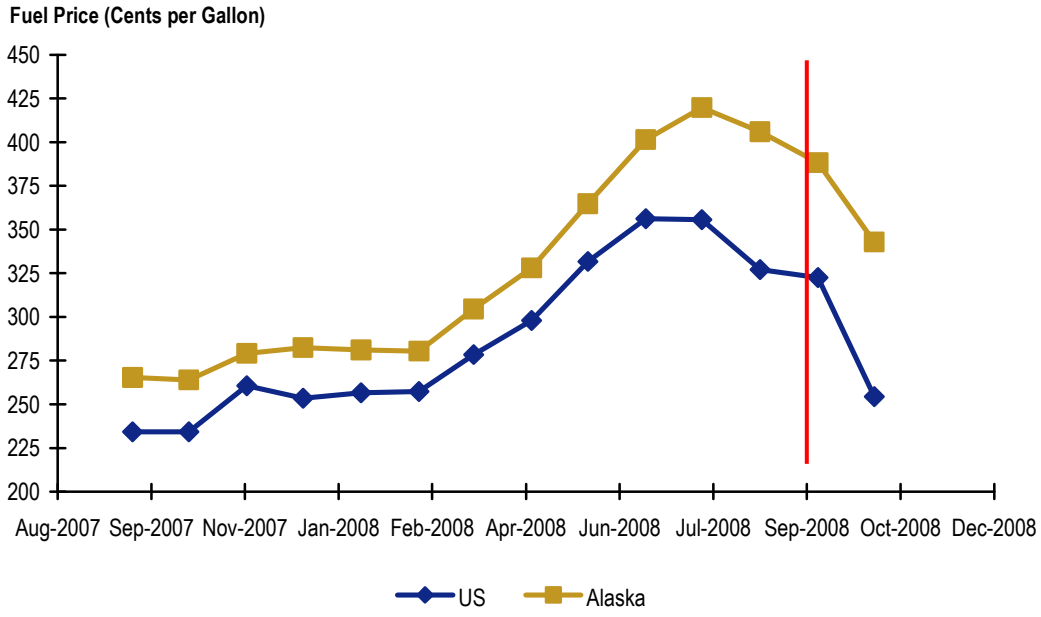
High Cost of Fuel and Goods in Rural Areas

Fuel prices are higher in Alaska when compared to the national average, as shown in Figure 2.16. Over the last year, fuel prices in Alaska have exceeded the U.S. average by seven to 35 percent, according to data from the Energy Information Administration (EIA). In October 2008, EIA reported the average price of gasoline at $3.43 per gallon in Alaska, compared to the U.S, average price of $2.54 per gallon.

EIA data, however, does not seem to capture the higher prices of gasoline in Alaska, especially in rural communities of the state. A recent survey of fuel prices from the Division of Community and Regional Affairs reported the average retail price of gasoline in Alaska ranging between $4.71 per gallon in the Southeast communities and $6.76 per gallon in the Western Region, and a statewide average of $5.80 per gallon in November 2008. These average gasoline retail prices are much higher than the national average of approximately $2.21 per gallon reported by EIA during November 2008. The price of gasoline in communities located in the Interior, South coastal and Southeast Alaska has dropped over the last month; it has increased, however, in Western and North Slope communities.

The cost of fuel is significantly higher in rural Alaska. Fuel is purchased in bulk and delivered by barge during the summer months to coastal communities in Western Alaska, when the price of fuel has a significant premium for its cost of transport. If fuel is delivered in the winter months, it is done by air, which is very expensive. More than transportation, the high fuel costs affects the cost of electric power and heating in these remote communities. The cost of goods also is very high in these communities, in large part due to the high cost of delivering goods in remote areas.

Figure 2.16 Comparison of Monthly Retail Price of Gasoline
Alaska and U.S.



Source: Cambridge Systematics analysis of Energy Information Administration data on gasoline prices.

Figure 2.16 shows the monthly retail gas prices for a national average and an average for Alaska. The 8 cents recision of the State's gas tax is shown as the vertical red line in September 2008. The figure shows U.S. and Alaska average fuel prices from August 2007 through October 2008 (all data from DOE). Notice that the price of fuel dropped in September 2008 (after Alaska ceased collection of the 8-cpg tax) which may be well explained by the significant drop in crude prices over the same period. Compared to the U.S. average price, the decline of fuel price in Alaska was three percentage points higher than in the U.S., and one could argue that it includes the effect of eliminating the fuel tax (in the short-term). The U.S. gas price dropped by almost 5 cpg, compared to almost 18 cpg in Alaska (August to September 2008). However, the impact is short lived, since decreasing prices in U.S. gasoline and crude has been more significant than the decline in Alaskan gas prices over the month of October 2008. The U.S. gas price dropped by about 68 cpg, compared to 45.5 cpg in Alaska (September to October 2008).

The Future of Transportation Funding in Alaska

The issues and challenges summarized above indicate some insufficiency and growing uncertainty in the State's current approach to funding transportation. Significantly more funding will be needed to implement the State's

transportation infrastructure needs, both capital and maintenance. The AML and its partners,[22] therefore, have commissioned this study to better understand the advantages and disadvantages of how transportation is funded currently, and explore funding options that will provide a sufficient and reliable funding stream.

More specifically, the AML and its partners have indicated that the State's current reliance on Federal funding must be revisited, and options to leverage Federal dollars should be explored and pursued. In response to these concerns, we have prepared some options for more funding and/or different sources of funding, which may be considered by state and local governments (Section 4.0).

[22] AML study partners are the Alaska Department of Transportation and Public Facilities (ADOT&PF) and the Matanuska-Susitna Borough.

3.0 The Future of the Federal Transportation Program

In 2006, Federal funding accounted for 54 percent of Alaska's highway spending at the state level, providing about $351 million, compared to 30 percent for the national average. Federal funding for transit accounted for 18 percent of total revenues in 2007 for transit agencies in Anchorage and Fairbanks, bringing a total of $6.0 million, according to NTD data.

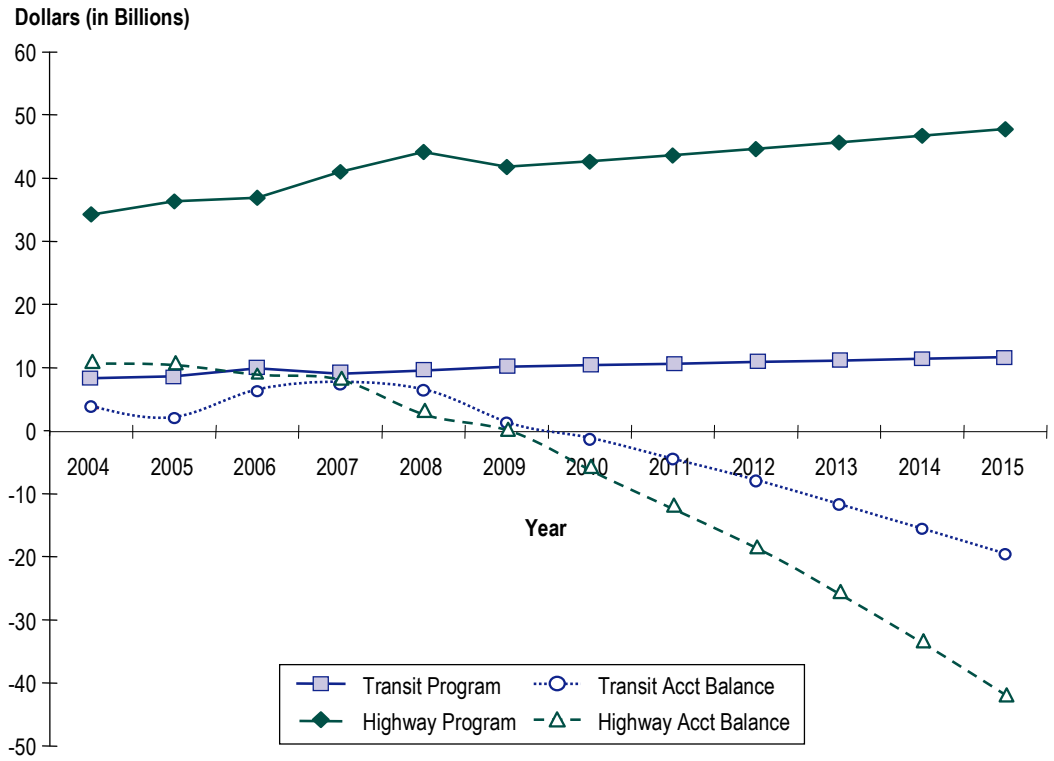
Much of the Federal highway funding coming to Alaska is through earmarks, which are intended to fund specific projects. Alaska is considered a donee state, meaning that it receives more Federal highway funding than it contributes from Federal fuel gas taxes and vehicle fees deposited into the Highway Trust Fund (HTF). In 2006, HTF receipts from Alaska amounted to approximately $720 million. It is estimated that Alaska receives about $6 for each $1 levied on HTF revenues.

Nevertheless, there is much speculation about the future of Federal funding in Alaska for several reasons. First, revenues into the HTF have fallen below the expenditure levels established in SAFETEA-LU. Under SAFETEA-LU, expending levels increased significantly, but Federal fuel taxes and heavy vehicle fees remained at the same level. The motor fuel tax, which is the main revenue source of the HTF, has not increased since 1993, thus losing half of its purchasing power to inflation ever since.

In addition, the yield of the fuel tax also has declined due to a vehicle fleet shift to more fuel efficient vehicles, the introduction of alternatives fuels, and, more recently, a decline in travel due to high fuel prices. Based on Treasury projections for the FY 2009 Budget, the HTF Highway Account was forecasted to have insufficient balances by 2010 to sustain the authorized program level, as shown in Figure 3.1.

The projected revenue shortfall, however, was accelerated with the increase in fuel prices during the spring and summer of 2008 that led to a decline in HTF receipts. In September 2008, the President approved a transfer of $8 billion from the General Fund into the HTF to maintain its solvency. It is clear that the current levels of spending are unsustainable over the long term, unless taxes are increased in the short term and more effective revenue sources are implemented over the long term.

Figure 3.1 Estimated Highway and Transit Program Levels and HTF Account Balances through 2015[a]



[a] Based on AASHTO modeling of FY 2009 Budget Proposal from the U.S. Treasury Department.

Another factor that will impact Federal funding in Alaska is the authorization of the next Federal transportation bill. SAFETEA-LU expires September 30, 2009. At this time, it is unknown whether a continuation of the existing legislation will be passed as a stop gap matter, or whether congress will be able to craft new legislation. Various transportation groups have presented different proposals, but most agree in a reform of the current Federal transportation funding program. A lot of discussion also has revolved around earmark reform and climate change.

Table 3.1 summarizes some of the proposals and studies that have been released to date in an effort to influence the outcome of the next transportation bill.

Table 3.1 Proposals and Studies of the Next Transportation Bill

Proposal	Key Recommendations/Highlights
American Association of State Highway and Transportation Officials (AASHTO) *Authorization Principles and Vision Policies*	• Strong Federal funding role and shared transportation funding responsibilities with state and local governments and the private sector. • Transition to a diversified portfolio of revenue sources. • Make greater use of tolls and public-private ventures. • Give priority to preserving and modernizing the system of highways, transit, and rail built during the last century. • Establish performance-based, outcome-driven programming of funding and focus investments in a limited number of core programs.
American Road and Transportation Builders Association (ARTBA) *A New Vision and Mission for America's Federal Surface Transportation Program*	• Increase the Federal motor fuels tax by at least 10 cpg and index the tax to inflation. • Provide states with toll financing options, including congestion pricing, HOT lanes, truck-only lanes, and ability to toll existing portions of the Interstate Highway System. • Debt financing should be used as a viable funding source for long-term capital improvements to compliment the core highway and transit programs. • A Critical Commerce Corridors (3C) program be created, which would provide new surface transportation system capacity and operational improvements exclusively focused on securing the safe and efficient movement of freight.
American Public Transportation Association (APTA) *A Vision of 2050: Interim Report of APTA's TransitVision 2050 Task Force*	• Use performance-based criteria in transportation decision-making. • Involve and integrate public transportation organizations into the regional planning process. • Work towards a single-payment method for all modes of transportation that allows seamless travel. • Explore private sector participation in the public transportation industry.
Association of American Railroads (AAR) *National Freight Infrastructure Capacity and Investment Study; Final AAR Principles on Federal Funding on Freight Rail*	• Federal funding and policies must not reduce and should encourage private investment in the nation's rail system. • In all public-private partnerships, public benefits should be funded by public funds and railroad benefits should be funded by railroad funds. • Freight railroads should not be required to assess or collect any fees, as the rail logistics system should not be saddled with increased costs to fund public benefits, either directly or through a freight fund. • Federal freight investment should focus on key transportation projects with significant public benefits, such as eliminating rail chokepoints, improving service to shippers, facilitating international trade, reducing greenhouse gases, cutting vehicle miles traveled, and improving safety.
Brookings Institute – Metropolitan Policy Program *A Bridge to Somewhere: Rethinking American Transportation for the 21st Century*	• Protect existing assets by making the preservation of the interstate highway system a priority. • Consider decommissioning or downsizing some portions of the Interstate system in center cities and older suburbs. • Focus on key freight hubs and trade corridors by developing a comprehensive National Freight Transportation Plan. • Commit to a comprehensive national plan for intermetro area passenger movement that focuses on integrating the rail network into the existing air and road transportation networks.

Proposal	Key Recommendations/Highlights
Building America's Future Coalition *Building America's Future: Investing in Infrastructure*	• Current Federal spending on infrastructure needs to be dramatically increased. • Infrastructure investments and sustainable transportation planning are critical elements in mitigating the growing concerns regarding global warming and climate change.
U.S. Government Accountability Office (GAO) *Surface Transportation Programs: Proposals Highlight Key Issues and Challenges in Restructuring the Programs*	• Distribution of surface transportation funds should require detailed benefit/cost analyses. • Tools to make better use of existing infrastructure, such as intelligent transportation systems and congestion pricing, should be deployed to their full potential. • Increases in Federal spending for transportation appear to reduce state spending for the same purpose, reducing the return on the Federal investment. • The following should help guide assessment of options for transforming Federal surface transportation programs: 1) ensuring goals are well-defined and focused on the Federal interest; 2) ensuring the Federal role in achieving each goal is clearly defined; 3) ensuring accountability for results by entities receiving Federal funds; 4) employing the best tools and approaches to emphasize return on targeted Federal investment; and 5) Ensuring fiscal sustainability. • Consider reexamining and refocusing surface transportation programs to be responsive to these principles so that they: 1) have well-defined goals with direct links to an identified Federal interest and Federal role; 2) institute processes to make grantees more accountable by establishing more performance-based links between funding and program outcomes; 3) institute tools and approaches that emphasize the return on the Federal investment; and 4) address the current imbalance between Federal surface transportation revenues and spending (e.g., Highway Trust Fund).
Center for Clean Air Policy *Green TEA: Linkages to Climate Policy*	• Link Federal transportation funding to energy conservation and GHG reduction. • Change Federal funding ratios for new highway and transit to tilt the balance toward transit operations, bicycling, walking, and travel demand management while decreasing the share of transportation funding for new road construction. • Increase support for regional transportation and land use planning, scenario analyses, and blueprint visioning processes. • Require alternative land use and transportation scenario analyses for Transportation Improvement Programs (TIP) and Long-Range Transportation Plans (LRTP). • Require metropolitan planning organizations to establish GHG/petroleum reduction and mode-split goals as part of LRTPs.
GO21 *Growth Options for the 21st Century*	• Pass the Freight Rail Infrastructure Capacity Expansion Act, which would substantially increase investment in the nation's freight rail infrastructure and would give a 25 percent tax credit to businesses that invest in new freight rail infrastructure that expands system capacity. • Prevent the passage of S. 953 and H.R. 2125 legislation, which would give Federal government authority over railroad operations.

Proposal	Key Recommendations/Highlights
National Academy of Public Administration *Financing Transportation in the 21st Century: An Intergovernmental Perspective*	• Any new financing system should incentivize state and local governments that take innovative steps to address their own needs. • De-emphasize Federal and state legislative earmarking of unplanned projects. • Amend the "fiscal notes" portion of the Unfunded Mandates Reform Act of 1996 to increase Federal and state capacity to perform intergovernmental impact assessments.
National Surface Transportation Policy and Review Study Commission *Transportation for Tomorrow*	• Investing at least $225 billion annually from all sources over the next 50 years to upgrade the existing transportation system and to create a more advanced surface transportation system (2.5 times today's level). • Spend Federal funding through outcome-based, performance-driven programs supported by cost/benefit evaluations rather than political "earmarking." • Replace over 100 current programs with 10 new programs focused on the national interest. • Increase the Federal fuel tax by up to 40 cpg over the next five years, and then index the tax rate to inflation.
National Surface Transportation Infrastructure Financing Commission *The Path Forward: Funding and Financing Our Surface Transportation System*	• Current funding mechanisms and levels of revenue are not closely linked to use of the transportation system, allowing demand and costs to grow faster than revenue. • More direct user charges and increases in fuel taxes should be explored.
Passenger Rail Working Group *Vision for the Future: U.S. Intercity Passenger Rail Network Through 2050* Transportation Transformation Group *Principles for a New National Surface Transportation*	• Creating a national freight and passenger rail strategy. • Creating a new Federal Intercity Passenger Rail Program to fund construction of the passenger rail system with annual funding of $5 billion for intercity passenger rail. • The Federal government should encourage and provide incentives for implementation of any and all tools to meet transportation goals. • Future transportation systems should adopt new intelligent transportation system technologies while maintaining flexibility to adapt to emerging technologies.
U.S. Chamber of Commerce *Surface Transportation Needs, Funding, and Economic Linkages*	• Ensure that Highway Trust Fund (HTF) revenues are sufficient to support the guaranteed funding levels in SAFETEA-LU. • Indexing Federal motor fuel taxes would have the most immediate impact on the HTF revenue shortfall. • Give states greater authority for tolling and public/private partnerships and encourage other innovative finance options. • The Federal government should provide leadership for states and local governments to implement new systems of financing that reduce reliance on motor fuels taxes, such as vehicle-miles traveled fees. • The nation must increase its emphasis on freight transportation investments that support commerce.

Proposal	Key Recommendations/Highlights
U.S. Department of Transportation *Refocus, Reform, Renew: A New Transportation Approach for America*	• Most Federal formula funding should be spent on the following areas: transportation safety; the Interstate Highway System and other highway facilities of national interest; and major metropolitan areas. • Consolidate dozens of stove-piped highway and transit programs into three multimodal funding programs. • Empower a single institutional body, chosen through consensus, to plan and fund major metropolitan area's transportation projects, regardless of mode. • Offer the potential for additional Federal grant funds to high performing grant recipients. • Create a Metro Mobility (MM) Program, which would address transportation challenges faced by metropolitan areas by providing substantial amounts of performance-based transportation funding directly to metropolitan areas with populations greater than 500,000. • Allow jurisdictions to toll Interstates and other major highways (while conditioning their use of toll revenues) and allow jurisdictions greater flexibility to create and use state infrastructure banks. • Expand the use of public-private partnerships. • Remove the volume cap of private activity bonds and make them more flexible. • Create a pilot program under which participating state and metro areas are required to meet Federally designated performance targets, in exchange for which they receive substantial regulatory relief and a clear mandate to consider impacts other than those to historic properties and parkland when selecting a transportation alternative. The proposal would allow states, localities, and other jurisdictions to "opt out" of the Federal interest in any transportation project that would have previously received Federal funds.
Reconnecting America *Jumpstarting the Transit Space Race*	• "Level the playing field" between highways and transit by providing equal Federal funding matching. • Enact a transit public works project similar to the National Interstate and Defense Highways Act of 1956 to help stimulate the economy with investment and create jobs.
Transportation for America *Build for America*	• Restore crumbling transit systems, bridges, and highways before building new roads, then modernize and expand the nation's rail and transit networks. • Integrate energy-efficient, sustainable development, and institute requirements for cleaner vehicles and new fuels. • Ask private developers who reap real estate rewards from new rail stations and transit lines to contribute towards transit service.

3.1 COMMON THEMES FOR FUTURE FEDERAL TRANSPORTATION FUNDING

Overall, most of these proposals share a number of common themes, including:

- Transition to a diverse portfolio of revenue sources to fund transportation;
- Increase Federal motor fuel tax and include price indexing;
- Shift funding towards preserving and modernizing the national transit and rail networks;

- Emphasis on freight and goods movements, and investment on freight corridors of national and regional significance;
- Provide states with toll/user fee financing options, including congestion pricing, High-Occupancy Toll (HOT) lanes, and truck-only lanes on the existing Interstate Highway System;
- Take prompt action to sustain the Highway Trust Fund;
- Make greater use of public-private ventures;
- Shift to performance-based funding/monitoring with additional funding incentives available;
- Reduce the number of funding programs and allow for more flexibility to shift between modes;
- Address climate change concerns and GHG reduction through increased fuel efficiency, cleaner fuels and shift to transit;
- Promote regional transportation planning efforts (e.g., Regional Blueprint Planning); and
- De-emphasis of Federal and state legislative earmarking.

3.2 IMPACTS TO FUTURE FEDERAL FUNDING FOR ALASKA

The emphasis for transportation funding is shifting towards tolling or other user fees and metropolitan transit/transportation networks, rather than highway funding or legislative earmarking. If this emphasis prevails, Alaska may be at risk of losing Federal funding given their reliance on Federal highway funds and poor prospects for deriving significant revenues from user fees. Some of these proposals recommend implementing a variety of funding mechanisms at the state, regional, or local level for transportation projects, which could mean shifting greater responsibilities to states or cities for financing their transportation improvements. This could pressure Alaska to institute new or raise existing taxes or fees to fund their transportation projects.

A recent study by the Institute of Social and Economic Research (ISER) estimated that Alaska could be vulnerable to Federal spending cuts between $450 million and $1.25 billion, which could translate into a reduction of 7,000 to 20,000 in jobs. Federal spending in the form of grants (which includes transportation, among other sectors) is the most vulnerable to cuts, especially those grants allocated in the form of earmarks, which account for a significant portion of the Federal transportation funding coming to Alaska. SAFETEA-LU apportionments of "below the mark" earmarks (through the High Priority Projects program) alone accounted for over one-fourth of the total SAFETEA-LU apportionments, compared to the national average of eight percent.

SAFETEA-LU provided $15 million per year through the Denali Access System Program for roads, and $10 million for ports and harbors. The future of this program in the next Federal authorization for transportation is uncertain. The Denali Commission has played a key role in funding transportation need in rural areas, along with other Federal funding through the Indian Reservation Roads, National Park Service, and Forest Service programs. Nevertheless, local communities and native tribes struggle to meet the matching requirements and lack the technical capacity to implement their projects. The State could decide to play a larger role in supporting local road projects by providing funding for the non-Federal share of projects, and also by creating a joint-funded program for local roads. Also, as support for public transportation grows at the Federal level as an alternative to reduce VMT and reduce the carbon footprint of transportation, the State also may consider investing in public transportation.

Earmark reform is seen by many stakeholders in a positive light. About 60 percent of past earmarks have been taken out of what the State would have received from is allocation of Federal fuel tax revenues and so these are only useful when available for high-priority projects, or when the level of funding allocated can be match by the State and/or local government receiving the funding.

4.0 Transportation Funding and Financing Options for Alaska

Across the nation, state departments of transportation (DOT), local governments, and public transportation service providers are continuously evaluating and implementing strategies to expand their current portfolio of revenue sources available for transportation investments. This section presents a menu of revenue options and innovative finance techniques that could be considered in Alaska to address its surface transportation needs.

It should be noted that the implementation of any of these proposed revenue sources may require legislative action before implementation. Furthermore, the constitutional prohibition on dedicated revenues would have to be considered, and policy decisions and strategies will have to be in place to ensure that new revenue sources are used to support Alaska's transportation infrastructure.

4.1 TYPOLOGY FOR POTENTIAL REVENUE SOURCES

There are many different ways to organize the universe of potential funding sources into discrete categories. For this study, four categories have been defined that separate funding sources based on who pays and how the revenue is collected in relation to the transportation service funded. In economic terms, these four categories are arrayed along a spectrum based on the "benefit principle." This principle of taxation posits that user fees should be based on the benefits received by people using the good which would otherwise be funded with the general tax.

The benefit principle is often difficult to implement because by their very nature, many government-produced goods (public goods) do not have easily measured benefits. National defense, for example, is a pure public good because the benefits flow to all citizens; and one citizen's use or "consumption" of national defense does not exclude anyone else from using the same national defense. But in those cases where direct benefits can be provided to specific users, government has imposed taxes, fees, or charges calibrated to a greater or lesser degree with the benefits received. Public college tuition, national park admission fees, and gasoline excise taxes are three common examples. The beneficiaries of education, a wilderness experience, and highway use are asked (required) to pay accordingly.

Proponents of the benefits principal will most often cite its inherent equity as its justification, but a more relevant advantage for its application to transportation funding may be efficiency: The more direct and calibrated a usage fee or tax for use of the roadway, the stronger the price signal sent to a user regarding the real

cost of when, where, and how they use the State's transportation system. This price signal, therefore, compels the more efficient use of existing and future transportation facilities and services.

Nevertheless, user fees place a larger burden on lower-income households. This hardship is often regarded as unfair and contrary to the principles of progressive taxation. While there is no final resolution to this dilemma, there have been various proposals to mitigate the hardships on lower-income households disadvantaged by more aggressive use of tolling and other transportation user fees and still enforce greater efficiency through pricing. The most common proposals involved subsidized transit, ridesharing, and preserving alternative non-tolled routes (albeit requiring longer or less reliable travel times).

In certain situations, user fees should be set at much lower amounts that would be necessary to recover all of even a majority of the cost of a transportation investment. This is often the case in Alaska, where the state's large size and small population produces small vehicle volumes on roads and low ridership on transit and ferries. Distributing the entire cost of roadway or transit systems to the small number of users would be impractical. The significant subsidy of construction costs is justified because much of the transportation infrastructure constructed in the lower 48 was completely subsidized by Federal gas tax collected over an extended period.[23] One a few transit systems recover more than 40 percent of their operating costs through farebox revenues and none have repaid their construction costs. Less developed regions such as the Appalachia region are still receiving setasides in Federal highway funds has been a given for 50 years. Nevertheless, as these initial investments are completed and the burden of paying for ongoing operations becomes routine, partial funding for the operating and maintenance costs from user fees may be appropriate.

Our typology for organizing existing and potential funding sources identifies the following four major categories of revenues, ranked according to the strength of their price signal and the closeness of their nexus between users and the benefits they derive. The following four categories, however, may be more accurately thought of as a continuum, with the first being the most effective implementation of the benefit principle and where the distinction between one category and the next blur at the boundaries between them:

1. **Direct User Fees –** This category includes fees directly associated with a trip. Tolls and transit and ferry fares are the most common examples. Nevertheless, the specific fees in this category range from pure user fees that vary according to the marginal cost of accommodating a driver or rider at a specific time of day on a particular roadway or transit system to flat fees that

[23] An analogous situation is the rural electric program, which was set up for exactly the same type of problem. The rural area could not self finance their electrification, due to too few customers and too many miles of line needed.

charge users for the average cost. With modern electronic technology, tolls can vary with demand to help manage congestion, or they can be set at a flat rate, which sends a weaker price signal. Direct freight user charges, while now rare, could be in this category. In Alaska, current direct user fees consist of toll revenues from the Whittier Tunnel and ferry fares.

2. **Indirect User Fees –** Indirect user fees are collected from transportation users, but are termed indirect because they are not collected in association with an actual trip itself. They differ from direct user fees like tolls, which are charged directly at the point of use. Motor fuel taxes are the largest of the indirect sources. Other indirect user fees include vehicle registration fees and excise taxes, and replacement parts taxes such as the Federal tax on tires for large vehicles. In Alaska, the motor fuel tax has been suspended until August 2009.

3. **Specialized Taxes –** These sources are distinct from user fees because they are applied to and collected based upon nontransportation activities, but are dedicated to transportation. The major sources now utilized in this category are state and local option taxes, including sales and property taxes, but this category also includes leases and some forms of improvement district taxes or fees. This category also includes value capture techniques such as special assessment districts, and impact fees, although the latter is calibrated to the impact of specific categories of land use on the need for new transportation capital, and thus could be considered a form of direct or indirect user fees. Their critical difference from general taxes is the assurance given to voters who must approve them that that the money will be spent only on transportation. While this linkage raises the consciousness of the voters for the need for more transportation investment, once in place the tax feels almost identical as general taxes (the fourth category) for the payer. Because taxes cannot be dedicated to specific uses in Alaska, there are no existing specialized taxes for transportation, with the exception of special service areas, where property taxes are dedicated to fund road improvements. The existing revenue options listed under specialized taxes in the next section currently are deposited into the General fund, from where annual appropriations are made to support transportation investments.

4. **General Taxes –** These sources are those that are collected and used for broad purposes, of which transportation may be one purpose. The largest sources in this category are income taxes (not imposed in Alaska), property taxes, general sales taxes, and other ad valorem taxes that are allocated to transportation through the Legislature's discretion during its biennial budgeting process. In Alaska, oil revenues make up over 85 percent of the state General Fund. As described in Section 2.1, funding for transportation at the state level currently is provided through General Fund appropriations.

Roughly 4 percent of the state funding comes from ferry fares and tolls, which are considered direct user fees. If the 54 percent share of Federal funding derived from the Federal fuel tax, then this plus the 11 percent derived from the

state gas tax amounts to about 65 percent coming from indirect user fees. This leaves about 31 percent of the state funding is derived from general taxes.

Based on previous studies that have described revenue options for transportation and discussions with AML, funding options for transportation in Alaska were narrowed down to the following options:

- **Direct User Fees –** Tolls, vehicle-mile traveled fees, and weight-distance fees.
- **Indirect User Fees –** Motor fuel taxes, vehicle registration and license fees, personal property tax on vehicles, and sales tax on motor vehicles.
- **Specialized Taxes:**
  a. Local Option Taxes – Local vehicle registration fees, fuel transfer fees, property taxes and special service areas, local sales taxes, severance taxes, local gas taxes, income and payroll taxes, hotel taxes, rental car taxes; and
  b. Other – Impact fees and local and private in-kind contributions.
- **General Taxes –** Alaska Transportation Fund and state general fund match to local funding.

In addition to funding options, financing tools are included in the discussion, as methods that can help accelerate project implementation and leverage both existing and proposed funding sources.

4.2 DIRECT USER FEES

Tolling and Pricing

As of December 2007, toll facilities in the United States accounted for slightly over 5,100 miles of roads, bridges, and tunnels. The most promising candidates for future toll facilities are for new roads or when adding new lanes on existing roads. The revenue generation potential of a toll facility depends on its potential to attract drivers. In fast growing states like Texas, toll roads could serve as an alternative to currently congested freeways, especially when traffic demand is expected to grow significantly in the future.

Alaska reported $25.0 million in toll revenues in 2006, most of which come from fees collected on the Marine Highway System (i.e., ferries). The Whittier Tunnel generated $1.8 million in toll revenues.

The case for toll roads in Alaska cannot be considered as strong as in other states. In the lower 48, both Florida and Texas have extensive programs to toll new roads. The per capita VMT in both states was at least 39 percent higher than Alaska in 2006, and both states are expecting significant traffic growth over the next 20 years, which will significantly impact travel, particularly in areas that

currently are experiencing significant congestion issues. According to the 2007 Urban Mobility Report,[24] the average annual delay per traveler in Anchorage was estimated at 10 hours, and only two small urban areas included in the report fared lower on this measure (Brownsville, Texas and Spokane, Washington). The average annual delay per traveler in urban areas of Florida and Texas was estimated between 10 percent and over 400 percent of Anchorage's level. Given these levels of congestion and the expected growth in travel demand in urban areas of Florida and Texas, toll road financing is an option to be considered, especially if travel-time savings are substantial, compared to alternative routes.

The Knik Arm Crossing Project is a proposed toll bridge that will improve access between the Port of MacKenzie and the Port of Anchorage, which is expected to reduce travel time by 30 minutes compared to the current alternative. The project currently is planned as a public-private partnership, under Design-Build-Finance-Operate-Maintain (DBFOM) contract with an expected term of 60 years. It is anticipated that the developer will collect the tolls and take substantially the revenue and financing risk. The project cost is estimated at $600 to $700 million. Funding for the project includes approximately $70 million of state and Federal grants. The U.S. DOT had approved up to $261 million in TIFIA credit and up to $600 million in private activity bonds (PAB) to finance this project. However, TIFIA availability currently is constrained since there are more applicants than funding is available, and the PABs were contingent upon completion of the NEPA process and award of a Record of Decision (ROD), and recently revoked. Two concession teams were short listed to compete for the contract and the TIFIA and PABs were being made equally available to both teams. The procurement process currently is on hold, awaiting for ROD on the NEPA process.

According to the Knik Arm Bridge and Toll Authority (KABATA), the recent credit crisis may impact the proposed PPP and financing structure, possibly requiring additional state funding or support. There is a possibility that KABATA might be moved to modify the DBFOM concession somewhat, perhaps including retaining toll revenue risk and changing to a lowest bid availability payment approach, which will be more financially feasible and attractive to private investors with the current marketplace conditions. Another alternative proposed by KABATA is to obtain some form of credit enhancement or deeply subordinated debt layer from the State of Alaska that will attract investment.

A project like KABATA might be one of the very few potential applications of tolling in the state of Alaska; the high costs and low number of potential users negates this approach elsewhere.

[24] Texas A&M University, Texas Transportation Institute, *2007 Urban Mobility Report*, September 2007.

Vehicle-Miles Traveled (VMT) Fees

The long-term viability of fuel taxes has been called into question as fuel consumption declines with more fuel efficient and alternative fuel vehicles penetrate the market. VMT fees have been proposed as an alternative to the fuel tax; a transportation fee that supports the "user pays" concept. The 2005 National Chamber Foundation study, "Future Highway and Public Transportation Financing" recommended VMT fees as a long-term system of funding that would reduce reliance on the fuel tax. The study recommended a two-tier VMT fee system: a state VMT fee that would gradually replace motor fuel taxes and a local option VMT fee (presumably with variable pricing) to manage congestion in metropolitan areas.[25] The VMT fee also can be based on axle weight or emissions class, with users who purchase and operate vehicles that cause less damage to roadways or the environment paying a lower fee. Oregon DOT recently conducted a pilot study to demonstrate the technical and administrative feasibility of implementing mileage-based user fees. The study concluded that VMT fees are feasible, but it would require acceptance and cooperation of the automobile and gasoline distribution system (the latter for VMT fee collection equipment at gas stations), and support from Federal government.[26]

VMT on all functional classes of highway in Alaska was estimated at almost five billion in 2006, a slight decline from 2005 (1.4 percent decrease). Based on this statistic, the yield of one cent per VMT is about $49.7 million, which is almost $19 million more than the yield of the eight-cent motor fuel tax in 2006. On a per capita basis, VMT is estimated at 7,400 vehicle-miles traveled per capita (in 2006); assuming a $0.01/VMT, the annual VMT payment is estimated at $74 per capita. By 2015, the VMT fee could generate almost $59 million, assuming a rate of $0.01/VMT. The VMT fee also could be adjusted by inflation, as proposed earlier for the motor fuel tax.

A disadvantage of VMT fees is that it also is susceptible to increase in fuel prices, as recently experienced over the last year, with VMT levels declining as fuel prices rose, but it would fare better compared to motor fuel taxes, since improvements in fuel efficiency (a long-term effect of high fuel prices) will not erode its yield.

Weight-Distance Fees

Some states, including Oregon, New Mexico, New York, and Kentucky, collect weight-distance fees from heavy vehicles. The weight-distance fee is based on vehicle weight, number of axles, and distance traveled. Proponents of this type

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[25] National Chamber Foundation, *Future Highway and Public Transportation Financing,* 2005.

[26] Oregon Department of Transportation, "Oregon's Mileage Fee Concept and Road User Fee Pilot Program," November 2007.

of fee argue that this is a more equitable way of charging trucks based on actual road use and wear. The trucking industry, however, strongly opposes this type of fee. Several states have repealed weight-distance fees, primarily as a result of unrelenting legal challenges by the trucking industry.

In Oregon, weight-distance taxes are levied in lieu of a diesel tax. The weight-distance fee is based on truck weight and distance traveled for vehicles weighing between 26,000 and 80,000 pounds. For truck weighing over 80,000, the fee also varies based on the number of axles.

One of the main disadvantages of weight-distance fees is the administrative burden, requiring the trucking industries to maintain accurate records of weight-mile traveled and the states to have a revenue collection process that minimizes tax evasion. Recent innovations in GPS-based charging in Europe, such as Germany's truck toll (based on mileage, number of axles, and the vehicle's emission category) seem to have overcome some of the administrative obstacles with mileage-based fees.

This new source of revenue would have potential for Alaska, especially if it were the revenue were dedicated to funding the maintenance cost for highways damaged by trucking. Furthermore, increased development of mining and other resource extraction businesses has necessitated the need for significant improvements to access roads and highways serving marine terminals. This industrial activity offers the opportunity to impose direct user fees in the form of tolls or weight-distance fees to fund these improvements. Nevertheless, the trucking industry's vehement opposition to weight-distance taxes has limited its implementation to four states.

4.3 INDIRECT USER FEES

Motor Fuel Taxes

Motor fuel taxes account for most of the Federal revenues used for highway and transit programs and for almost half of the revenues used by states to fund highway needs. In 2006, $31.9 billion in motor fuel tax levies were spent at the state level for highways in the United States. In general motor fuel tax revenues are dedicated to transportation by statute, and in some states, these revenues are restricted for highways. In addition to being one of the main revenue sources for state highway expenditures, state motor fuel tax levies also are commonly distributed to local governments and are used to pay debt service on bonds issued for transportation projects.

At the local level, locally generated motor fuel taxes account for a small share of the funding used for highways. Highway Statistics reported that locally generated motor fuel taxes accounted for approximately three percent of the total local revenues for highways. Similarly, motor fuel taxes account for a small share of the revenue used for transit expenditures, accounting for two percent of the state

and local revenues. At the local level, motor fuel tax revenues include those levies at the state level that are directly transferred to counties and municipalities, and local option gas taxes approved by voters at the local level.

Until recently, all 50 states and the District of Columbia levied motor fuel excise taxes on a per-gallon basis. Some states have a fixed rate and an adjustable rate, which could vary with changes in motor fuel price or other factors. In Alaska, the motor fuel tax was implemented in 1945 at 1 cpg. By 1961, it had increased to 8 cpg; it was then lowered to 7 cpg in 1964, and then increased again to 8 cpg in 1970. The fuel tax rate had not been adjusted since then, until recently, when it was suspended for a period of one year (through August 2009). Revenues from the motor fuel tax in Alaska are not dedicated to transportation and are deposited into the State's General Fund.

In 2007, the Alaska Department of Revenue reported receipts from the motor fuel tax at $39.2 million, of which $29.4 million was from highway fuel. Therefore, each penny of fuel tax generated about $3.7 million in 2007.[27] The yield per penny of fuel tax depends on fuel consumption, which is a direct function of VMT and fuel efficiency of the vehicle fleet. Forecasts developed for ADOT&PF 2030 Plan estimate that fuel consumption will grow at about 1.2 percent through year 2020. Based on this assumption, one cent of motor fuel tax would generate about $4.0 million by 2015, or $32.2 million at the current rate of 8 cpg.

Indexing of Motor Fuel Tax

In addition to reinstating the fuel excise tax in Alaska (at the 8 cpg rate), another revenue option is to index the motor fuel tax by adjusting the tax rate with changes on the Consumer Price Index (CPI) or a cost escalation factor that more closely tracks roadway construction and maintenance costs**.** The motor fuel tax in Alaska has not been increased or adjusted for inflation since 1961. At that time, it was the highest gasoline tax rate (and among the highest of diesel tax rates), at about two cents above the national average. If the motor fuel tax rate would have been adjusted annually for inflation, today's rate would be 58 cpg.

Indexing could be implemented in various ways, with some options presented below:

- Adjust fuel tax rate retroactively to capture loss value (e.g., capturing the value loss due to inflation over the last 10 years would increase the motor fuel tax by 2.3 cents), and continue indexing thereafter. If the motor fuel tax was indexed in 2010 to capture the revenue loss over the last 10 years, and indexed thereafter, the motor fuel tax rate by 2015 would be estimated at 11.5 cpg, and would generate $46.6 million, or an additional $14.2 million when compared to the 8 cpg rate.

[27] Assumption: Yield = $29.4 million/8 cents-per-gallon = $3.67 million per penny of motor fuel tax.

- Index annually using CPI or other factors. The compounded average annual growth (CAGR) in Anchorage's CPI over the last 10 years is estimated at 2.3 percent, a slightly lower annual growth rate compared to the U.S. 10-year CAGR (2.6 percent). Long-term CPI projections from the Congressional Budget Office estimate inflation increasing at 2.2 percent per year through 2018. If the fuel tax rate is indexed for inflation beginning in 2010, the fuel tax rate would be estimated at 9.1 cpg, and would generate $36.9 million by 2015, or an additional $4.5 million compared to the 8 cpg rate.
- Add a variable/adjustable rate to the excise fuel tax. For instance, some states have an adjustable rate,[28] which could vary with changes in motor fuel price or other factors.

Grandfathered Dedicated Fund for Maintenance

The Alaska Constitution prohibits dedication of revenues for specific uses/ projects, but there is an exception if "dedicated revenues" were in effect (or "grandfathered") at the time the Constitution was adopted. At that time there was a *dedicated* transportation fund, which was eliminated by the Legislature a few years after the Constitution was adopted, after the gas tax was increased from four to 8 cpg in 1961, under the advice of the Department of Law indicating that by changing the tax rate the funding source would lose its dedication. There has been some debate about whether the elimination of the transportation maintenance fund under those grounds was correct, and supporters of reinstating the dedicated fund for maintenance believe that the tax rate can be changed without the levies losing their designation. A precedent was set supporting this argument when the tobacco tax, which is dedicated to schools, was increased in the 1990s without losing its dedication. If this is the case, then it may be possible for the Legislature to implement a dedicated transportation fund legally based on the fact that there was a dedicated transportation fund in existence at the time the Constitution was adopted and the new dedicated fund legislation could be considered a reinstatement of the old fund and thereby grandfathered. Such action would require a court ruling from the Alaska Supreme Court to confirm that the dedication can be restored by legislative action since the change in 1961 was based on a ministerial error. A recent opinion[29] from the Division of Legal and Research Services of the Alaska Legislative Affairs Agency, however, continues to support the elimination of the motor fuel tax dedication to transportation, and that "[w]hile the motor fuel tax continues to be separately

[28] Kentucky, Nebraska, North Carolina, Pennsylvania, and West Virginia have a variable component of motor fuel tax that is adjusted based on the price of motor fuel. West Virginia, however, recently froze the tax rate until January 2010.

[29] Alaska Legislative Affairs Agency, Division of Legal and Research Services. Memorandum to Representative Berta Gardner from Tamara Brandt Cook, December 24, 2008.

accounted and used as a funding source of the (ADOT&PF) the legislature is free to appropriate money from the tax for any public purpose and **probably** cannot resume dedicating the revenue" (emphasis added).

Vehicle Registration/License Fees

Vehicle registration, license and title fees are commonly dedicated for transportation and represent the second largest revenue source for many state DOTs (after the motor fuel taxes).

In Alaska, vehicle registration fees generated $41.4 million and driver license fees generated about $3.4 million. Of the total motor vehicle taxes and fees levied, $39.4 million in 2006 were spent on highways.[30]

In Alaska, passenger cars pay a flat vehicle registration fee of $100 every two years. Heavy vehicle registration fees are calculated based by weight, from $180 for vehicles up to 5,000 pounds to $662 for vehicles over 18,000 pounds. In 2007, about 881,200 vehicles[31] were registered in Alaska. Assuming that the number of registered vehicle grows in line with population growth projections[32] and a $5 fee increase (per year) for all vehicle classes, Alaska could levy an additional $4.8 million by 2015.

License fees generate modest revenues, and where dedicated to transportation, they are mainly used to cover administrative costs, rather than provide a net source of revenue for capital projects or maintenance expenditures. There are 512,276 licensed drivers in Alaska, according to records from the Alaska Division of Motor Vehicles. The driver license fee is $20 for driver/motorcycle license and $100 for commercial license.

Personal Property Tax on Vehicles

Some states and localities levy a personal property tax based on the value of the vehicle. The amount generated is modestly responsive to inflation, because while the average value of new vehicles has continued to increase, the average value of the fleet is being depreciated each year. Unlike other taxes and fees, the assessed amount is tax-deductible for those who itemized when filing their Federal income taxes. Despite this advantage, some states have faced opposition, leading to repeal or reduction of such taxes. Vehicle property taxes currently are

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[30] FHWA Highway Statistics, 2006 data, Table SF-1, January 2008. Available at http://www.fhwa.dot.gov.

[31] It includes passenger vehicles, trailers, commercial trucks, pick-up trucks, buses, and snow mobiles. Data from Alaska Department of Administration, Division of Motor Vehicles.

[32] Population projections from the Alaska Department of Labor and Workforce Development.

not levied or authorized at the state level, although municipalities and boroughs may choose to levy vehicle property taxes.

Sales Tax on Motor Vehicles

Currently, some states collect vehicle taxes that are dedicated to transportation, including Iowa, Kansas, Michigan, Missouri, Nebraska, North Carolina, Oklahoma, and South Dakota. Vehicles sales and use taxes are normally levied as a percentage of the sales price of a vehicle when it is purchased or first registered in a state.

Alaska is one of few states that do not collect sales taxes at the state level; sales taxes are levied only at the local level. In 2007, it is estimated that retail sales of motor vehicles in Alaska generated about $1.8 billion.[33] In the long term, a 1 percent tax on motor vehicle retail sales is estimated to generate approximately $26.8 million by 2015, assuming that retail sales of motor vehicles increase at an annual average rate of 4.9 percent.[34]

4.4 SPECIALIZED TAXES: LOCAL OPTION TAXES

Local option taxes have been widely adopted by local government in most states (including Alaska) to support transportation investments. They include mechanisms such as local option sales, income, property, and vehicle taxes and fees. Its application and level could be at the local or regional level, and are often dedicated to specific transportation projects or programs.

In 2005, local governments in Alaska spent $161.8 million for highways from local sources,[35] most of which came from property taxes and special assessments ($93.2 million) and local general fund appropriations ($56.4 million). A 2001 survey of local option transportation taxes by the University of California at Berkeley[36] found that local vehicle registration fees, special assessments, and local motor fuel taxes have been used by local governments for transportation. Local governments also are authorized by legislation to implement fuel transfer taxes, car rental taxes, property taxes, local sales taxes, and severance taxes.

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[33] Woods & Poole data for 2008. Data from Bureau of Labor Statistics (CPI, inflation) and the National Automobile Dealers Association was used to adjust Woods & Poole data to present motor vehicle sales net of parts and services sales.

[34] 2008 Woods & Poole data on retail sales of motor vehicles.

[35] Excludes bond proceeds and Federal funding. Data from FHWA 2006 Highway Statistics (Table LGF-1).

[36] University of California at Berkeley, Institute of Transportation Studies, *Local Option Taxes in the United States, Part Two: State-by-State Findings*, March 2001.

Revenues from these tax options go into the General Fund to pay for local needs, including transportation.

Local Vehicle Registration Fees

In Alaska, local government can implement vehicle registration fees based on vehicle age or value. Six boroughs and four cities[37] currently levy vehicle registration fees based on vehicle age, whereas four[38] boroughs levy vehicle property taxes based on value. Of the latter, two boroughs levy the vehicle property tax on commercial vehicles only; private vehicles are exempt. Local vehicle registration fees must be approved by voters before implementation.

Fuel Transfer Taxes

Municipalities can implement fuel transfer taxes by local ordinance, but only two communities have them in place (Bettles at 2 cpg; Cold Bay at 4 cpg), generating about $46,800 in 2007.[39] Fairbanks North Star Borough had proposed a 2 cpg fuel transfer tax in 2002 aimed at reducing property taxes and expanding the borough's tax base, but the measure failed in a referendum. This source has low revenue potential.

Property Taxes/Road Service Areas

As mentioned above, property taxes and special assessments generated $93.2 million for local roads and streets in Alaska. All municipalities and boroughs in Alaska may choose to levy property taxes. For second class cities, property taxes require voter approval. Revenues from property taxes are used to pay general government services, and some boroughs and cities dedicate a portion of their property taxes for specific uses, such as education, police services, fire, health care, and debt service. No property taxes are dedicated to roads, with the exception of Anchorage, which has a dedicate mill rate of 2.59 (in 2007) for roads and drainage.[40]

Boroughs and unified municipalities also can create road service areas, where special property taxes are levied and dedicated to capital improvements, including transportation. Projects must be specified in advance, and implementation is subject to voter approval. The use of road service areas widely varies by

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[37] Alaska Department of Commerce, Community and Economic Development, *Alaska Taxable 2007*, January 2008. Boroughs/Unified Municipalities: Anchorage, Kenai Peninsula, Ketchikan Gateway, Kodiak Island, Matanuska-Susitna, and Sitka. Cities: Nenana, Nome, Unalaska, and Whittier.

[38] Ibid. Boroughs: Bristol Bay, Haines, Juneau, and North Slope.

[39] Ibid.

[40] Ibid.

borough. For example, Fairbanks North Star Borough has over 100 road service areas,[41] which are projected to generate $3.1 million in tax revenues for road maintenance and improvements; the Kenai Borough levied $4.6 million in property taxes in 2007 for its road service areas.

Local Sales Taxes

Currently, 87 municipalities Alaska have local sales taxes, which are used as a general revenue source. The tax rate is between one and seven percent. In 2007, local sales taxes generated $172.6 million.[42]

Using 2008 Woods and Poole forecast data on retail sales, we estimated the revenue potential of 0.5 percent sales tax. For the purpose of this analysis, total retail sales forecasts were adjusted, and it was assumed that retail sales from motor vehicles, food, gasoline, and health care items were exempt from sales taxes. By 2015, a 0.5 percent sales tax was estimated to generate $37.4 million statewide.

Severance Taxes

A severance tax is a type of levy on the extraction of natural resources, and is paid by the individuals and companies who profit from them. Municipalities and boroughs in Alaska are allowed to collect severance taxes; however, only the Denali and Kodiak Island boroughs currently levy severance taxes. In 2007, severance tax revenues were estimated at approximately $83,000 in Denali and $1.3 million in Kodiak Island.

Severance taxes may be considered as a transportation funding option by municipalities that are rich in natural resources and that need roadway improvements to support the movement of these resources. The states of Arkansas, Kentucky, New Mexico, Oklahoma, Tennessee, and Wyoming dedicate a portion of severance taxes to transportation. Most of these states dedicate those revenues to fund construction and/or maintenance of county roads. For example, severance taxes in Kentucky are deposited into the Local Economic Development Assistance Fund; 30 percent of the funds must be used on coal haul roads, and the remaining 70 percent can be used, among several eligible uses, for public transit, roads, and local streets.

Local Gas Taxes

Fifteen states, including Alaska, allow the use of gasoline taxes at the local level. No data was available on current gasoline taxes at the local level, and whether

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[41] Fairbanks Metropolitan Area Transportation (FMATS) *Long-Range Transportation Plan, 2005-2025*, August 2005.

[42] Alaska Department of Commerce, Community and Economic Development, *Alaska Taxable 2007*, January 2008.

local gas tax revenues were used for transportation. FHWA Highway Statistics data combines motor fuel taxes and motor vehicle fees, reporting a total of $19.3 million levied at the local level in 2005, of which $2.1 million and $11.3 million were used for highway and mass transit, respectively. Local gas taxes would face similar issues as the state gas tax, with flat or declining fuel consumption as fleet fuel efficiency improves over time.

Income/Payroll Taxes

Local income taxes are typically assessed at a fixed rate; the payroll tax is levied from employers on the total of all salaries paid. Fifteen states in the United States are authorized to collect income or payroll taxes, with four of them specifically dedicated for transportation purposes by statute. Five states have adopted income or payroll taxes and use the revenues for transportation, including Washington, Oregon, Indiana, Kentucky, and Ohio.

In Washington, taxes on employers are not exactly income or payroll taxes, but a tax that could be based on floor area, number of employees, type of business, or gross proceed. The tax is used to support congestion relief strategies, such a vanpool services. In Oregon, Indiana, Kentucky, and Ohio, the income and payroll taxes are used primarily for public transportation.

Hotel Taxes

Some municipalities in Alaska have adopted hotel and motel bed taxes, ranging from three percent (in Bethel) to 12 percent (Anchorage), although most municipalities levy between four and seven percent. Only Larsen Bay charges a flat rate of $5 per day. In 2007, revenues from hotel taxes were reported between a low $729 (Old Harbor) and a high $19.0 million (Anchorage). Hotel taxes in Alaska are not dedicated for transportation.

Hotel taxes are politically attractive because they are paid by out-of-towners. They have been used in Louisiana, Nevada, and South Carolina to support transportation improvements, but in general, they are used for tourism-related activities. In Reno, Nevada, hotel taxes are being used to pay off debt that was issued to finance the relocation of a freight rail line crossing through downtown. In Louisiana, the hotel tax was adopted to pay for streetcar capital costs.

Rental Car Taxes

Rental car taxes are in place in 30 states, and in some, the rental car tax is levied in lieu of a sales tax. Seven states dedicated all or a portion on vehicle rental taxes for roadways, including Florida, Hawaii, Iowa, Nevada, Oklahoma, South Dakota, and Utah. In North Carolina, vehicle rental fees have been adopted by Triangle Transit in Raleigh/Durham to pay for transit capital. Rental car taxes currently are levied in Anchorage, Cordova, and Yakutat.

4.5 SPECIALIZED TAXES: OTHER

Impact Fees

Impact fees consist of one-time charges to developers on new development. Revenues from impact fees are used to pay infrastructure improvements resulting from growth generated by new development, such as water, sewer, roads, parks, schools, and other infrastructure needs. Currently, 27 states have approved legislation that allows for the implementation of impact fee. Impact fees for transportation facilities may be calculated based on average trips, number of units in a residential project, square footage in a nonresidential project, or other factors.

A survey of impact fees in the United States estimated the average impact fee for various types of residential and commercial development. For example, the average impact fee was estimated at $3,077 for single family home and at $2,095 for a multifamily development. Impact fees for commercial development were estimated at $5,327 per 1,000 square feet for retail and $3,381 per 1,000 square fee for office space. Florida and California have made extensive use of impact fees to fund local transportation improvements. In California, for example, local jurisdictions imposed impact fees to replace more than two-thirds of the property tax revenues lost after the passage of Proposition 13 (1980). Nevertheless, the potential of this source is only significant for communities with rapid growth and can only be used for capital projects (not maintenance or operations).

Local/Private In-Kind Contributions

Matching funds to Federal and state funding can be provided through in-kind contributions, such as land/right-of-way donation and professional services. This source has strong potential for transportation improvements linked to large residential, commercial, or industrial development projects. Mining or other resource extractions projects, for example, may be required to dedicate right-of-way and fund a significant share (if not the entirety) of the construction. This practice has been codified in California's Subdivision Map Act whereby developers are required to dedicate right-of-way and construct a new lane, curb gutter and sidewalk on arterials abutting their development. These dedications are often used to match regional or state funding.

4.6 GENERAL TAXES

Alaska Transportation Fund

In 2008, the Governor of Alaska introduced legislation to create an endowment fund for transportation capital needs. The proposed Alaska Transportation Fund (ATF) would be capitalized with $1 billion from oil taxes, with an expectation that the fund would earn dividends of eight percent or more, based on historic

returns from other similar state funds. The State would be allowed to use up to five percent of the fund's total value for capital projects. Based on this assumption, the ATF could yield over $50 million in the first year for transportation capital investments, and increasing over time as the value of the fund grows. The expectation is that the ATF would grow both from surplus earnings and from further deposits of oil tax revenues if budget surpluses continue in the future. It is anticipated that the fund would be managed to be inflation proof. All modes of transportation would be eligible, and funding would be allocated based on merit.

With the current drop in the price of oil below the break-even price of oil used to develop the State's budget, there is some uncertainty whether a bill on the ATF would be reintroduced and later approved by the legislature and if funding would be available to capitalize this fund in the 2009 legislative session.

Constitutional Budget Reserve

The Constitutional Budget Reserve (CBR) Fund allows the state to borrow money to balance the state budget when General Fund revenues fall short of actual expenditures. The state repays any funds borrowed with general fund surpluses. The CBR was funded by proceeds of settlement of tax and royalty disputes with the oil companies. By the close of fiscal year 2008, the CBR had almost $8.1 billion in reserve, which included a $3 billion transfer from the general fund. An alternative funding option would be to set aside a portion of the interest and/or earnings of the CBR for transportation.

State General Fund Match to Local Funding

Transportation funding for highway projects at the state level come from annual legislative appropriations from Alaska's General Fund. In 2006, about $4.9 billion (6.8 percent) of the state funding for highways (at the national level) came from General Fund appropriations. The 2007 National Transit Database (NTD) reported that state governments provided $2.6 billion in General Fund appropriations for transit, accounting for almost 30 percent of the state funding for public transportation. State General Fund appropriations are particularly important for public transportation, because legislation in many states restricts the use of fuel taxes to highway investments only. In general, the ability of states to allocate additional funding from the General Fund into transportation is limited due to multiple demands from other state needs (e.g., education, health care).

Unlike other states in the lower 48, General Fund revenues in Alaska have grown significantly in recent year due to increases in the price of oil. On the other hand, local communities, in particular small municipalities and villages, have limited resources to meet the matching requirement of Federal funding and earmarks for their transportation needs. Furthermore, there is no state program that consistently provides funding for public transportation in Alaska. Many of the stakeholders interviewed strongly recommended that the State adopt a 70/30

matching program for transportation similar to the successful program for schools.

A state program that matches local funding may include some of these features:

- Provide funding to cover a specified portion of the non-Federal share (e.g., state to provide 70 percent of the non-Federal share), and require commitment of 30 percent local funding; and
- Grants awarded to specific projects based on merit, with an application process that may include eligibility criteria and evaluation of project benefits (e.g., economic development, job creation, connectivity improvements in rural communities, etc.), among other requirements.

As proposed in ADOT&PF's 2030 Plan and by staff from the Denali Commission, the State could reinstitute the Local Service Roads & Trails (LSR&T) program to provide funding for local roads. Although local roads are eligible for the Community Transportation Program (CTP), funding through this program is tied to Federal regulations, making it difficult for rural communities to use. In addition, the future of the Denali Commission's roads program is uncertain, and continuing support from the Commission will require a commitment from the State for joint-funded and state-supported rural road projects. SAFETEA-LU provided $15 million for roads and $10 million for ports and harbors through the Denali Commission per year. The Commission estimates that between $30 and $40 million over the next five to eight years are needed to address most rural and local street transportation needs, with $10 to $15 million per year coming from the State.

4.7 EVALUATION CRITERIA AND SCORING FOR POTENTIAL FUNDING SOURCES

All of the potential sources of revenues have advantages and disadvantages. In order to rank their feasibility for application in Alaska, we have developed the following criteria:

- **Yield and Reliability –** This criterion refers to both the overall magnitude of funds a funding source is capable of generating in addition to how reliable this yield is over time. Strategies are given a "high" rating if they are capable of producing a lot of revenue that can be predictably sustained over time. Sources or strategies are given a "low" rating if there is high uncertainty, or if the strategies are inherently short term or low yield. In particular, fuel taxes have been the mainstay of transportation revenues for decades ("high" yield), but in Alaska, and at the current level, they account for a small share of the current transportation funding. In addition, they may not be reliable over time because, if not indexed, their contribution degrades with inflation. If they are indexed, they degrade as cars become more fuel efficient.

- **Economic Efficiency –** This criterion refers to the extent that a strategy provides clear pricing signals that encourage users and providers to minimize unproductive travel and maximize economic growth. Therefore, strategies with "high" economic efficiency are those that help make the marginal prices of goods and services reflect their true costs. Strategies with "low" economic efficiency are those that distort the market by collecting fees that are unrelated to the services they help fund. This criterion must be applied cautiously in Alaska and in combination with the others, especially *regressivity* and *public acceptance*. The state's large number of small rural communities, often with Native majorities, justifies reducing this criteria's threshold so users receive some price signal but the burden is appropriate for their income, access to basic services, and opportunities for employment. In addition, Federal law requires that special minorities receive more subsidy and investment than would be required for the general population. These policies conflict often with State policy that must allocate resources based on more quantitative benefit measures. Finally, a robust measure of economic efficiency includes the full network effects that measure the full benefits to a network gained from completing a single segment of roadway. These comprehensive measurements, for example, would apply to the uneconomic Interstate segments in the empty intermountain and Great Plains states.
- **Regressivity –** This criterion refers to the extent that each strategy equitably burdens different groups of people financially, or unfairly restricts access to basic transportation services. Excise and sales taxes and user fees are all regressive, since they require those with lower incomes to expend a disproportionately higher share of their incomes to pay the tax or fee. The only funding strategies that receive a "high" rating are those that levy different fees based on income level, including income or payroll taxes, property taxes, and vehicle personal property.
- **Administrative Effectiveness –** This criterion refers to the cost and ease of administering each fee or tax system; that is, minimizing evasion and minimizing the logistical hassle imposed on the public in the process of paying the fee or tax in a cost-effective way. The easiest fee-collection systems, designated as having "high" administrative effectiveness in Table 4.1, are those that piggyback on other payments at the point of sale, including fuel taxes and sales taxes. Strategies are designated as "medium" if they require the user to make a unique payment solely for the purpose of paying fees or taxes, but where this process has been reasonably streamlined. VMT fees are the only strategy designated as "low," since current technologies provide no easy way to monitor individuals' mileage.
- **Public Acceptance –** Because all of the funding sources in Table 4.1 require the public to pay more, it is likely that they will all be generally unpopular, with a default "public acceptance" score of "low." Funding sources that are somewhat removed from the transportation project or service they are supporting tend to be particularly unpopular, such as sales, property, and

income taxes and general revenue. In a recent survey from ADOT&PF, almost 67 percent of respondents indicated that state funding for roadways should be increased.

The scoring is presented in Table 4.1 according to these five evaluation criteria.

Table 4.1 Funding Options for Transportation

Funding and Finance Strategy by Primary Purpose	Yield and Reliability	Economic Efficiency	Regressivity	Administrative Effectiveness	Public Acceptance
Indirect User Fees: Motor Fuel Taxes and Vehicle Registration/License Fees					
Reinstating the Motor Fuel Excise Tax (Per Gallon)	Medium	Medium	Medium	High	Medium
Indexing of the Motor Fuel Tax	Medium	Medium	Medium	High	Low
Grandfathered Dedicated Fund for Maintenance	High	Medium	Medium	High	Low
Raising Registration or License Fees	Medium	Medium	Medium	Medium	Low
Vehicle Personal Property Taxes	Medium	Medium	High	Medium	Low
Sales Tax on Motor Vehicles	High	Medium	Medium	Medium	Low
Direct User Fees					
Tolling New Roads and Bridges	Medium/ High	High	Medium	Medium	Medium
VMT Fees	High	High	Medium	Low	Low
Vehicle Weight Fees	Medium	Medium	Medium	Medium	Low
General Taxes					
Alaska Transportation Fund	High	Low	Low	High	Medium
Constitutional Budget Reserve	High	Low	Low	High	Medium
State General Fund to Match Local Funding	Medium	Low	Low	High	Low
Specialized Taxes – Local Option and Other					
Local Vehicle Registration Fees	Low	Medium	Medium	Medium	Low
Fuel Transfer Taxes	Low	Medium	Medium	Medium	Low
Property Taxes	Med	Low	Med	High	Low
Special Service Areas	Low	Medium	Low	Medium	Low/Medium
Local Sales Taxes	Medium	Low	High	High	Low/Medium
Severance Taxes	Low	Low	Low	Medium	Medium
Local Gas Taxes	Low	Medium	Medium	High	Low
Income and Payroll Taxes	Medium	Low	Medium	Low	Low
Hotel Taxes	Low/ Medium	Low	Medium	Medium	Medium/High
Rental Car Tax	Low	Medium	Medium	Medium	Medium
Impact Fees	Low	Medium	Low	Medium	Low/Medium
Local/In-Kind Contributions	Low	Low/ Medium	Low	Medium	Medium/High

Table 4.2 summarizes the revenue potential for most of the funding options described in this section.

Table 4.2 Summary of Revenue Potential for Transportation Funding Options

Revenue Forecast for 2015

Funding Source	Description	2015 Revenues
Motor Fuel Taxes	Yield per penny by 2015	$4.0 million
	Reinstate motor fuel tax rate at 8 cpg	$32.2 million
	Adjust by CPI starting in 2010	$36.9 million
	Adjust motor fuel tax rate to capture value loss due to inflation over the last 10 years by 2010, and index annually thereafter	$46.6 million
Grandfathered Dedicated Fund for Maintenance	It would allow reinstating a fund dedicated to transportation	N/A
Vehicle Registration/ License Fees	$10 biannual fee increase	$4.8 million
Personal Property Tax on Vehicles	Property tax at the state level based on value of vehicle	N/A
Sales Tax on Motor Vehicles	One percent sales tax on new and used vehicle sales	$26.8 million
VMT Fees	$0.01 per VMT; no indexing	$58.8 million
Weight-Distance Fee	Heavy vehicle fee based on vehicle weight, number of axles, and distance traveled	N/A
Alaska Transportation Fund	$1 billion dedicated from oil taxes	N/A
Constitutional Budget Reserve	Use a portion of interest/earnings from CBR	N/A
State General Fund Match to Local Funding	TBD	
Local Vehicle Registration Fees	$10 biannual fee; assume that is adopted by all communities	Up to $4.8 million
Fuel Transfer Taxes	Excise tax in cpg of fuel transferred	N/A
Property Taxes/ Road Service Areas	Ad valorem tax based on percentage of property values	N/A
Severance Taxes	Based on a percentage of profit from extraction of natural resources	N/A
Local Sales Taxes	0.5 percent sales tax adopted by all communities; excludes retail sales on motor vehicle, food, gasoline, and health care items	$37.4 million
Local Gas Taxes	Yield per penny by 2015, assuming that it is adopted by all communities	Up to $4 million
Income/Payroll Taxes	Percent of personal income, or percent of all salaries paid	N/A
Hotel Taxes	A percentage on room cost, or a flat rate per day	N/A
Rental Car Taxes	Flat rate per day, or x-% of rental	N/A
Impact Fees	Based on units for residential development, or square footage for nonresidential development	N/A
Local In-Kind Contributions	Land donations, professional services	N/A

Funding Scenarios

The funding gap has been estimated at $585 million annually for highway, bridges, and transit investments. As noted by the revenue estimates in Table 4.2 of potential funding options, no single revenue source would be able to close the funding gap on its own. Therefore, a combination of taxes and fees would be required to meet unfunded needs. This analysis assumes that transportation funding from Federal, state, and local governments remain at existing levels.

Three funding scenarios (Table 4.3) were developed to illustrate the need for a diverse portfolio of funding sources to provide at least $300 million per year (i.e., about half of the estimated gap).

Table 4.3 Funding Scenarios

Funding Source	Scenario #1	Scenario #2	Scenario #3	Comments
ATF	$1 billion dedicated to create fund	Same as Scenario #1	Same as Scenario #1	
Motor Fuel Tax	Add 10 cpg to baseline rate (i.e., 8 cpg)	Add 20 cpg to baseline rate (i.e., 8 cpg)	Same as Scenario #2	10 cpg is the required increase to meet the national average excise motor fuel tax (18 cpg)
Vehicle Registration Fees	Increase current vehicle registration fee by 50% (i.e., add $50 biannual fee)	Increase current vehicle registration fee by 100% (i.e., add $100 biannual fee)	Same as Scenario #2	
Sales Tax on Motor Vehicles	0.5%	1.5%	1.25%	Sales tax on new and used vehicle retail sales; applied statewide
Local Sales Tax	0.5%	1.5%	1.25%	Sales tax adopted by all communities; excludes retail sales on motor vehicle, food, gasoline, and health care items
LSR&T	$20 million	$20 million	$20 million	Assume that the state reinstitute the LSR&T program

Table 4.4 and Figure 4.1 show the revenue potential of the three funding scenarios. Only motor fuel taxes (before suspension in September 2008) and vehicle registration fees are collected at the state level, and although they are not dedicated to transportation, they have generally been used to pay for ADOT&PF expenses. Although local sales taxes currently exist (at varying rates across the State), these were not included under the baseline scenario, since they generally go into the local General Fund. Scenario #1 shows that closing the funding gap may not be achievable with a combination of taxes and fees at rates that could be generally acceptable by the public and decision-makers. Both Scenarios #2 and #3 assume aggressive implementation and significantly higher fees to close half

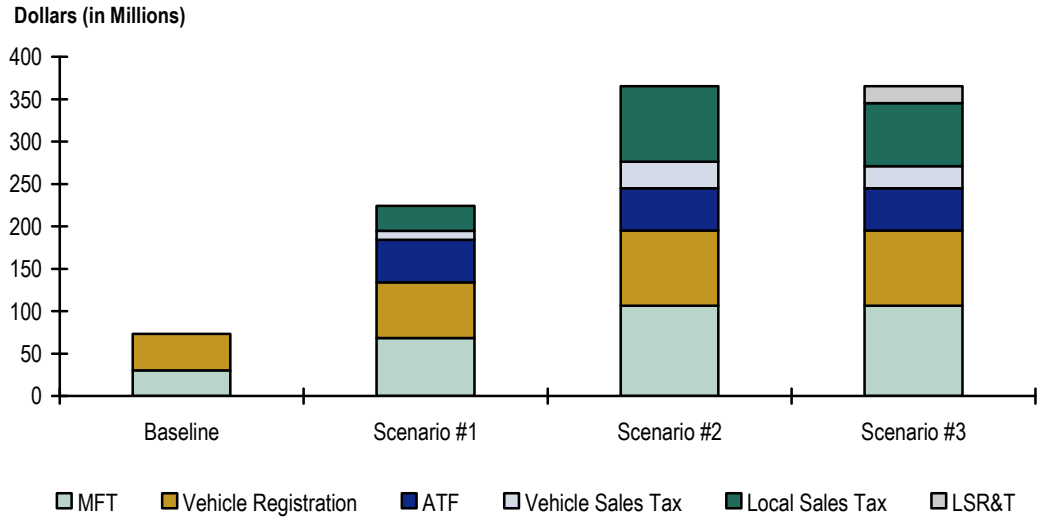
of the funding gap by 2010, but at levels that could be difficult to implement. While a transition to a user-fee based system might be recommended, these scenarios further support the conclusion that direct and indirect user-fees in Alaska would not provide sufficient revenues without imposing a significant burden on its population, and that the state and local governments should consider a diverse portfolio of funding options to meet their transportation needs.

Table 4.4 Potential Contribution of Funding Mechanisms for Alaska Transportation Needs at the State and Local Levels, 2010
(Millions of Dollars)

Funding Source	Baseline	Scenario #1	Scenario #2	Scenario #3
ATF	N/A	$50	$50	$50
Motor Fuel Tax	30	69	107	107
Vehicle Registration Fees	43	66	88	88
Sales Tax on Motor Vehicles	N/A	10	31	26
Local Sales Tax	N/A	30	89	74
LSR&T	N/A	0	0	20
Total	**$73**	**$224**	**$365**	**$365**
Net Revenue (Compared to Baseline)	**$0**	**$151**	**$292**	**$292**

Note: Totals may not add due to rounding.

Figure 4.1 Gap Closing Potential of Revenue Scenarios



4.8 FINANCING TOOLS

Financing tools do not generate new revenue, but allow leveraging of existing resources to accelerate the construction of projects. Debt must be repaid over time, and the total cost increases by the discounted value of interest payments. The benefit of using financing tools comes through the public and economic benefits (e.g., travel time savings; reduced accidents; accessibility to jobs, suppliers, customers and intermodal terminals; job creation; expanded tax base; etc.) realized by having the asset in place earlier. These benefits may be weighted against the higher costs of paying interest on the debt through a net present value analysis.

State and Local General Obligation Bonds

State and local governments can issue debt supported by General Fund revenues, known as General Obligation (G.O.) bonds. G.O. bonds are backed by the full faith and credit of a state or local government and are usually the highest-rated debt of a state or locality. This type of debt is typically used to finance projects that have no or low revenue generating potential.

In November 2008, voters in Alaska approved a ballot measure to issue $315 million in bonds for transportation projects.

Local governments also could issue G.O. bonds to finance transportation investments in their communities. Data from the 2005 Highway Statistics show that local governments in Alaska used almost $40 million in bond proceeds for highways. Compared to other types of debt, G.O. bonds represent low risk to investors, and as such they carry low-interest rates. On the other hand, the issuing government is obligated to raise taxes if General Fund revenues fall short of debt service payments.

Public-Private Partnerships

Public sponsors increasingly consider private-sector involvement as a way to spur implementation of large projects. While searching for new sources of revenue, transportation agencies around the country also are experimenting with public-private partnerships (PPP) to help deliver, operate, maintain, and in some cases, even finance highway and transit infrastructure. PPP's encompass a range of contractual arrangements by which public (Federal, state, local government, and special authorities) and private entities collaborate in the development, operation, ownership, and financing of a transportation infrastructure project or program, including recent long-term lease arrangements. In some cases, PPPs can even attract net new investment capital that otherwise might not be available.

PPP's appear to be best suited for large, complex projects with acknowledged need and strong governmental support. PPPs can provide substantial benefits in terms of accelerating project development and construction, transferring con-

struction and performance risk away from government, providing more efficient operation and superior service, and introducing new technologies.

PPP's have been utilized for Alaska transportation projects in the past. As mentioned in Section 2.0, a notable example is the road access to the Red Dog mine, which was funded and constructed by AIDEA. Similar funding models may be considered to address transportation infrastructure needs to access natural resources, especially if providing access will result in economic development that will benefit Alaska's rural communities by creating jobs and growing their economies.

The Knik Arm Crossing Project currently is being procured as a PPP. The financing for this project may include a combination of state and Federal grants, tax-exempt debt through TIFIA and Private Activity Bonds, private equity, and taxable debt. Under current market conditions, however, private consortiums may have difficulty in accessing credit, requiring additional public support than originally envisioned. KABATA may reconsider the proposed financing structure, and look for alternatives that may be more favorable to all parties under current financial circumstances.

State Infrastructure Bank (SIB)

All states and territories and the District of Columbia are authorized under SAFETEA-LU to enter into cooperative agreements with the Secretary of Transportation to establish infrastructure revolving funds eligible to be capitalized with Federal transportation funds authorized for fiscal years 2005 to 2009. These revolving funds, which are usually referred to as SIBs, provide an opportunity to leverage Federal and state resources by lending rather than granting Federal-aid funds, and they can be used to attract non-Federal public and private investment.

Alaska was 1 of 38 states that could create SIBs under ISTEA. The Alaska SIB provided $2.7 million for the Whittier Tunnel. Under TEA-21, only four states were allowed to further capitalize their banks with Federal money, although SIBs in other states could still operate with whatever funds already had been deposited and supplement the initial capitalization with state or local funds. SAFETEA-LU expanded authority to all states to create SIBs with Federal funding authorized through 2009.

Some states (e.g., Arizona and South Carolina) capitalize their SIBs through borrowing, and the loan repayments are used to retire debt that have been issued, rather than recycling the money into a "second round" of project loans. In addition, one of the advantages of SIBs is that once the loan is repaid, the money loses its Federal designation, and become state funds. This adds flexibility to the types of projects that could be funded.

By reinstating the Alaska SIB, the State could create a revolving loan program, capitalized with Federal or state funding, or a combination of both. Local governments, particularly small communities that may not have access to credit or

would have to pay higher interest rates on debt, could access these low-interest loans by pledging some of their Federal funding for transportation (e.g., IRR funds) or other local revenues to pay back the loans. The SIB could be capitalized with a small initial amount to test its utility to local governments, and could be expanded over time-based results from initial pilot.

State Match of Local Debt

Additional state financial support for local transportation investments could be achieved through the creation of a debt reimbursement program modeled after the School Construction Program. This program provides between 60 to 70 percent reimbursement for debt issued for construction or major maintenance projects by municipal school districts. The project must be approved by and meet the criteria established by the Department of Education and Early Development (DEED). Municipalities must submit the project to voter approval for debt issuance (as with any G.O. bonds). After the municipality has both the DEED and voter approval, it may issue bonds for the project and the State will reimburse the approved percentage of the bond payments.

Potential of Financing Tools for Transportation Investment in Alaska

PPP have very limited applicability in Alaska, although the Knik Arm Crossing Project currently is planned to be delivered through a PPP. There are opportunities for public-private collaboration for access roads that could be explored in the future, following the AIDEA model used for the Red Dog Mine. Other public-private collaboration should be considered for big box retail developments in urban areas, to ensure that new development provides not only road access, but also considers pedestrian accessibility. This was noted by FMATS, citing the lack of transportation connections provided by various big box retailers that opened in the area. Local ordinance is now in place, requiring traffic studies and mitigation measures for this type of development.

State and local general obligation (G.O.) bonds and a state match for local G.O. bonds are potential alternatives to support transportation investments in the future. The recent passage of the state bonding measure indicates that there is local support for transportation improvements. As mentioned above, G.O. bond's advantages include low financing costs and their use for projects that would not generate sufficient revenues for revenue bonds. G.O. bonds disadvantages include the need for voter support, and if general fund revenues fall short, the State is obligated to raise taxes to meet its debt obligation. SIB loans could benefit small and rural communities that may not have access to credit markets.

4.9 FUNDING ALLOCATION OF FUTURE TRANSPORTATION REVENUES

State funding for transportation is targeted primarily to the state highway system, and local roads and public transportation services receive little (if any) state funding to meet their capital and maintenance needs. It is recommended that Federal and state funds are distributed to state and local transportation needs at a 70/30 split, respectively, which would emulate the State's successful program for schools.

Some states (with some exceptions, including Alaska) distribute a portion of state transportation user fees and taxes to local governments. Common funding sources for these distributions are the motor fuel tax and motor vehicle (i.e., vehicle registration or licensing) fees. The approaches that other states use to distribute state transportation funds to local governments vary widely:

- In some states (such as Alaska), funding sources available for transportation are not dedicated to transportation purposes. Thus, the amount of total transportation funds available to both state and local programs can vary in each budget cycle.
- The criteria used to allocate funds include population; road mileage; relative needs; vehicle registrations; vehicle miles traveled; area (i.e., square miles); fuel sales; land valuation; tax raising ability; and sales tax ratios, as well as flat distributions (i.e., equal amounts to each city or county). Some programs are discretionary block grant or project-specific funding approaches, subject to eligibility criteria and a priority setting process.
- Restricting the use of distributed funds to designated roadway purposes such as road construction and maintenance is common. Of the 45 states that distribute motor fuel and motor vehicle receipts to local governments, 37 states (86 percent) reported dedicating 100 percent of such receipts to roadway purposes.[43] For other states, the percentage of such receipts restricted to local roads was over 80 percent, except for California, Hawaii, Nevada, and West Virginia. The states of Alaska, Delaware, Georgia, Louisiana, and Rhode Island do not dedicate state highway funding for local roads.

In Alaska, additional state funding for local roads could be provided through the implementation of the ATF or the state match for local bonds. In that case, some of the larger boroughs and communities may forgo CTP funds if they are provided ATF funds or bonding match, to avoid the Federal regulations that come with CTP funding.

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[43] *Highway Statistics 2006*, Table LDF: Disposition of Local Receipts from State and Local Highway User Revenues – 2005, FHWA, Office of Highway Policy Information.

With the wide variety of approaches in use today, there is no one best practice that emerges to allocate transportation funding. Each state has designed an individual approach that reflects its own particular policy concerns and equity considerations. While population, road mileage, and motor vehicle registrations are the most common allocation variables in use, the percentage weight placed on these and other variables vary significantly. Specific examples of funding distribution formulas of motor fuel tax receipts used by select states include the following:[44]

- **Arizona –** Portion based on population, and portion based on the ratio of total sales of motor fuel within the county to total statewide sales.
- **California –** Reimbursable snow removal costs, dedicated amount for heavy rainfall and storm damage, portion based on historical allocation, portion based on motor vehicle registrations, portion based on road miles maintained, and portion based on population.
- **Colorado –** Portion based on historical allocation, portion based on motor vehicle registrations, and portion based on road miles maintained.
- **Florida –** For counties, based on both population and sales tax revenue. For cities, one-third is based on population; one-third is based on sales tax revenue; and one-third is based on revenue raising ability (i.e., per capita nonexempt assessed real and personal property valuation).
- **Iowa –** For counties, 60 percent are based on relative needs (as determined by a fund distribution committee) and 40 percent are based on geographic area. For cities, based on population.
- **Minnesota –** Sets aside a portion of its motor fuel tax revenue to the County-State Highway Aid Fund and the Municipal-State Highway Aid Fund. These funds are distributed based on a combination of equal distribution, motor vehicle registrations, highway mileage, population, and need (as determined by the State in coordination with the counties and municipalities).
- **North Carolina –** Seventy-five percent are based on population and 25 percent are based on the mileage of public streets.
- **Ohio –** For counties and townships, based on equal portions. For municipalities, based on motor vehicle registrations.
- **Oklahoma –** Portion distributed based on combination of area, population, and road miles; and portion distributed based on need, as determined by the State in coordination with the counties.

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[44] *Highway Taxes and Fees: How They are Collected and Distributed*, Table MF-106: Provisions Governing the Disposition of State Motor-Fuel Tax Receipts – 2001 and 2008, FHWA, Office of Highway Policy Information.

- **Oregon –** For counties, based on motor vehicle registrations. For cities, based on population.
- **Pennsylvania –** Fifty percent are based on road mileage, and 50 percent are based on population.

Approaches for states to distribute funds to local governments can be classified into two high-level categories:

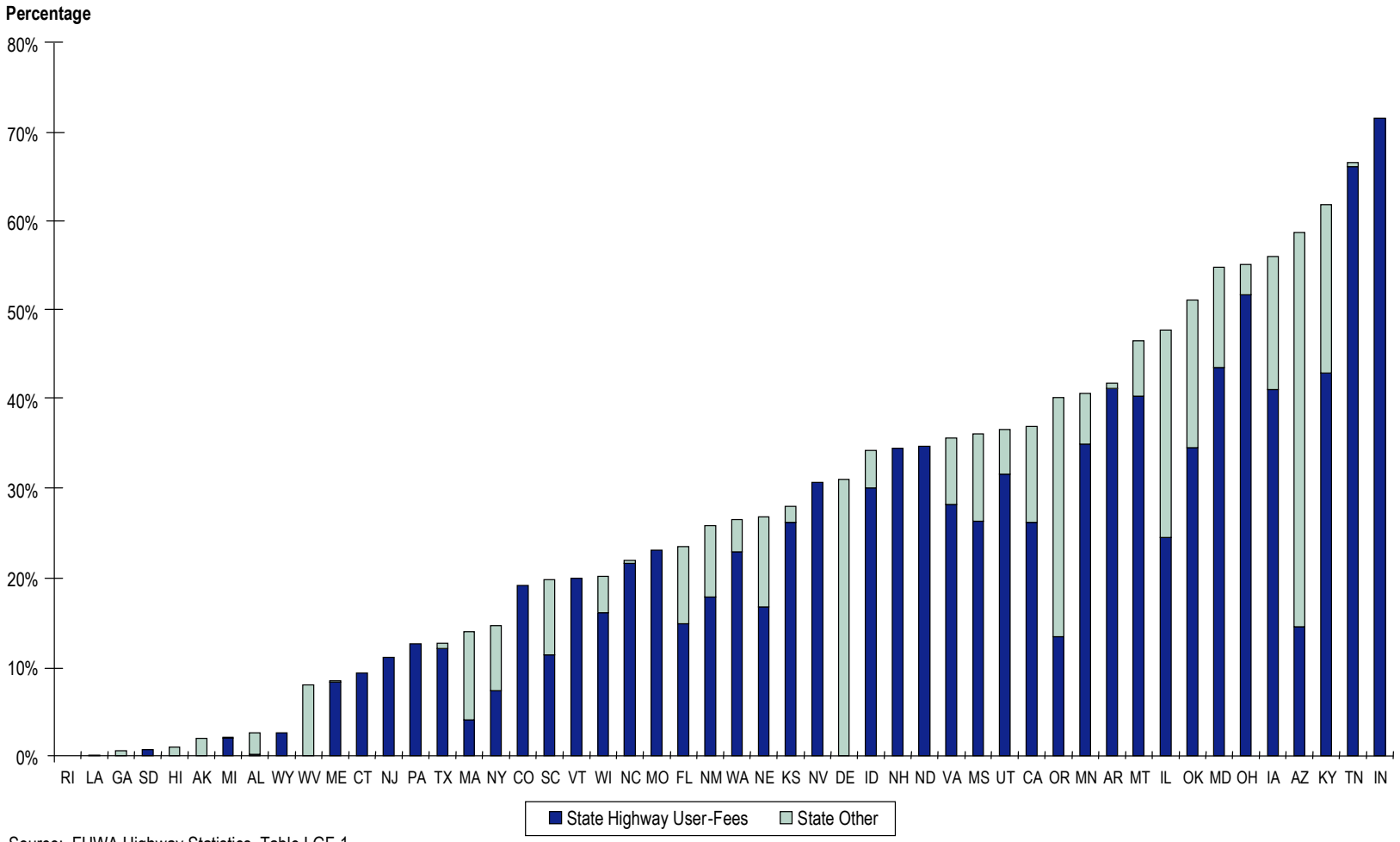
1. **Direct Distribution –** The strengths of direct distribution of funds are simplicity, transparency, and less administration. States primarily distribute funds to local governments using direct distribution. For most states, the sheer number of local government entities within the State makes direct distribution a more practical and efficient approach. The State may change the distribution formula on an as-needed basis.
2. **Project Grants –** The strengths of project grants are more control and accountability, and the devoting of funds to specifically identified projects. Project grants are used if additional funds are needed for projects deemed to have particular regional significance. The use of project grants is of particular value with respect to funding transportation projects that cross local jurisdictional boundaries; provide enhanced connectivity with the state highway system; or tie in with high-level statewide.

Alaska's distribution of local funding may consider factors such as population, VMT, and road powers to distribute transportation funding, ensuring that urban versus rural issues are properly addressed.

Figure 4.2 shows the percentage of local road funding derived from state governments for each state, including funding from other nontransportation-related state sources (i.e., nonhighway user fees). As noted before, state funding for local roads in Alaska come from state sources, other than highway user fees. The share of state funding for local roadways ranged from 0 percent (Rhode Island and Louisiana) up to almost 72 percent (Indiana).

Figure 4.2 Local Roadway Funding Derived from States

Year 2005

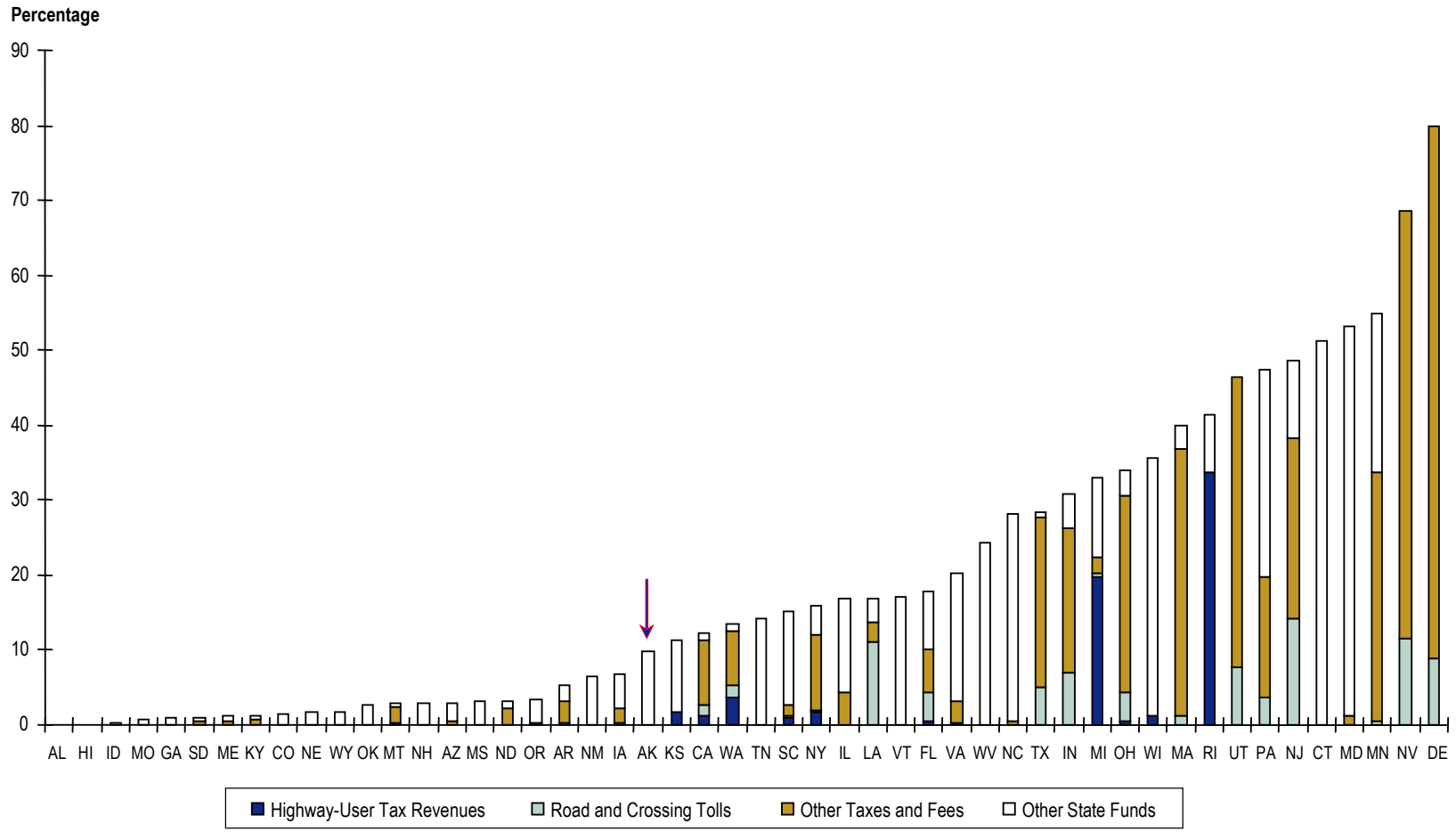


Source: FHWA Highway Statistics, Table LGF-1.

Figure 4.3 shows state funding assistance for transit at the national level for 2005; Figure 4.4 shows both state and Federal funding for transit for Alaska and its peer states.[45] Note that for both graphics, funding statistics from rural transit agencies (including Juneau's Capital Transit) were not available. Alaska and most of its peers reported less than five percent of its funding coming from the State. In the case of Alaska, although the FHWA and FTA data shows that almost 10 percent of its funding for both capital and operations came from the State, the Alaska Mobility Coalition indicated this "state" funding is actually pass-through funding from the Federal government. In terms of percentage, Alaska funded a higher share of its capital and operating transit needs with local funding in 2005, compared to its peer states.

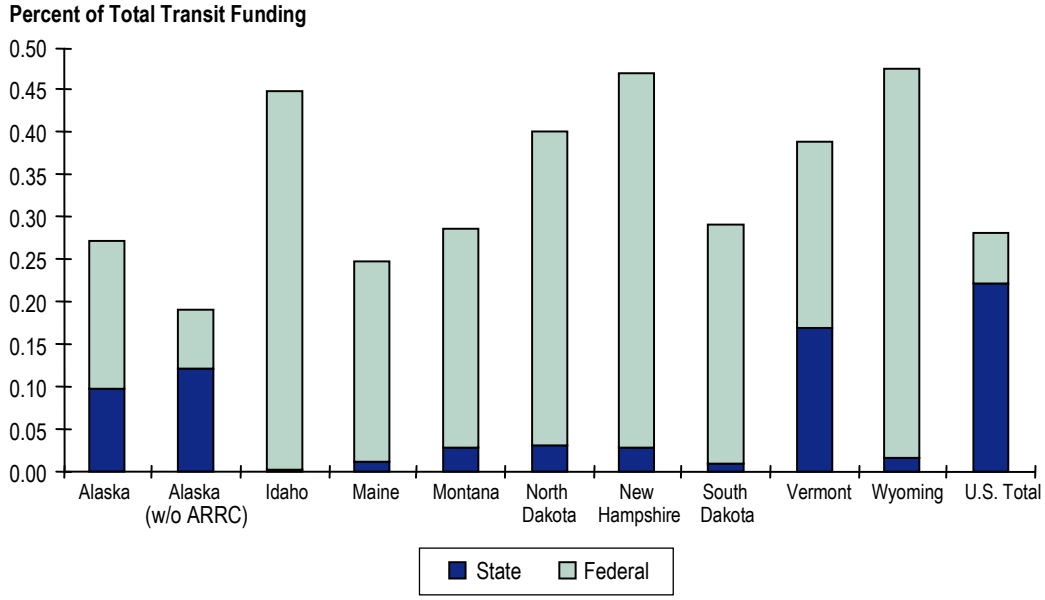
[45] We are using the list of peer states developed for NCHRP Report 569: *Comparative Review and Analysis of State Transit Funding Programs*. Alaska peer states are: Idaho, Maine, Montana, New Hampshire, North Dakota, South Dakota, Vermont, and Wyoming.

Figure 4.3 State Funding for Transit
2005



Source: FHWA Highway Statistics, Tables MT-2a and MT-2b; FTA National Transit Database, Tables 1 and 7.

Figure 4.4 State and Federal Funding for Transit, Alaska, and Peer States
2005

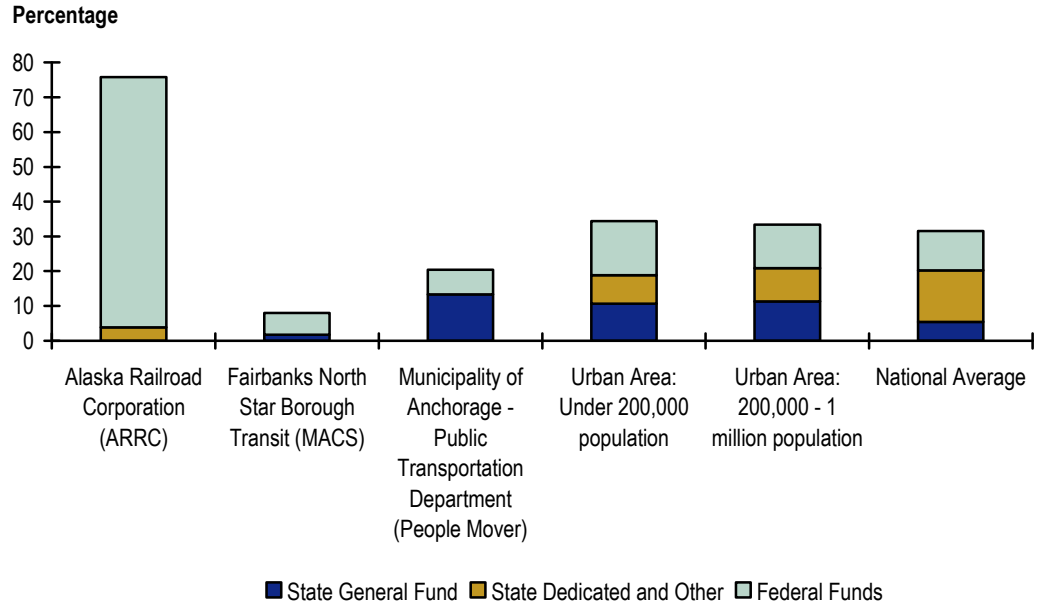


Source: FHWA Highway Statistics, Tables MT-2a and MT-2b; FTA National Transit Database, Tables 1 and 7.

Figure 4.5 shows the percent of funding coming from nonlocal funding sources (i.e., state and Federal) for the major transit services in Alaska,[46] and compares them with small and medium urbanized areas and the nation. ARRC receives almost three quarters of its funding from state and Federal sources, far exceeding the national average. However, transit agencies in Anchorage and Fairbanks fare far below the national averages, with most of the funding coming from local sources. In the case of rural transit services, less than 40 percent of the funding in 2006 came from state and Federal sources. There is an opportunity for the State to play a larger role in providing funding support to transit.

[46] FTA NTD data only report data for the Alaska Railroad Corporation (passenger rail), and bus services in Anchorage and Fairbanks boroughs.

Figure 4.5 Percentage of Transit Capital and Operating Funding by Source
2005



Source: FTA National Transit Database, Tables 1 and 7.

5.0 Funding Options

In this study, we have been tasked with finding answers to seven questions focused on whether the State can maintain its current levels of investment from its existing sources of revenue and what alternative sources would appropriate if these existing sources are not sustainable. The broad consensus among the stakeholders interviewed for this study and all indications from Washington, D.C. point to an imminent decline in Federal funding for Alaska's transportation needs. The question remains will this decline manifest itself as modest and steady reductions of the next six year reauthorization cycle, or will the state experience erratic drops with episodic infusions, or will the current Federal largess drop off a cliff. While the shape of this decline could have severe consequences to the state in the short-term, long-term consequences will look the same regardless of how quickly Federal funding dries up and state general funds decline. In other words, sooner or later the state will have to migrate to sustainable alternatives.

Throughout our research for this study many stakeholders have provided compelling evidence that current levels of capital investment in state and local transportation infrastructure are insufficient. Determining the magnitude of underinvestment, however, is outside the scope of this study. The recommendations are focused on what the State's policy-makers should consider in the short- and longer-term to offset reductions in Federal funding and the likely decline in the state general fund revenues. Nevertheless, our recommendations for a more sustainable funding portfolio incorporate strategies for increasing the investment and for making more cost-effective investments.

Among the stakeholders we interviewed, there were many who have for some time been regarding the State's dependence on Federal revenue and general funds tired directly to international oil prices and declining state production levels as a crisis waiting to happen. They may regard the looming loss of Federal funding as a long-awaited opportunity that is needed to catalyze improvements to the State's transportation funding practices. For them, "*You don't ever want a crisis to go to waste; it's an opportunity to do important things that you would otherwise avoid*."[47] If policy-makers embrace such philosophy, then bold solutions to the impending crisis for funding Alaska's transportation should gain some precedence over more cautious, small adjustments. One outcome would be certain if only small changes are made (and the price of oil rebounds and the gas pipeline is constructed), the state will gain some additional time before its faces this crisis again. But sooner or later, there will be a reckoning.

[47] Rahm Emanuel, President Obama's Chief of Staff, November 7, 2008.

We start by separating our recommendations into three categories: efficiency of existing spending, expansion of alternative state sources, and the application of a threshold of sustainability for the maintenance of marginal transportation infrastructure.

5.1 EFFICIENCY

The need to increase revenues for transportation also must show that current spending is efficient. QA comprehensive investigation of specific measures to improve efficiency, however, is beyond the scope of this study. Nevertheless, the interviews with stakeholders revealed a few opportunities we can identify in general terms.

The most often cited example from stakeholder interviews involves the redundancy of all types of public infrastructure to maintain a minimum of basic public services for many far flung communities. These communities present a wide array of conditions, but a significant number may present some opportunities to reduce redundancy of expensive infrastructure. The four Chignik communities, for example, have multiple fuel farms, public docks, airports, schools, and other municipal facilities. In this case better roads connecting the communities would allow the sharing of duplicative facilities and save significant state expenditures.

5.2 FUNDING OPTIONS

The funding gap has been estimated at $585 million annually for highway, bridges, and transit investments. We recommend that the State consider increasing a combination of taxes and fees to meet unfunded needs. The scenarios presented in Section 4.7 are merely illustrations of alternative bundles of funding increase that would close the current gap. The information within each scenario is intended to show what various sources could contribute. Policymakers will evaluate an increase in each source on its own merits and in the context of the state's unique conditions.

Alaska's vast area, sparse roadway network, small population, scattered communities, resource extraction-based economy, tough weather, Federal control of 69 percent of its land, and high dependence on marine and air modes minimize any useful comparisons to the funding portfolios of other states, let along a comparison to foreign countries. So a source-by-source comparison of Alaska's transportation funding to other state does not necessary point to deficiencies should be corrected to bring Alaska's funding portfolio into closer correspondence with those of the lower 48. Nevertheless, economic theory and the laws of human behavior still apply and drive the same tradeoffs facing any state trying to optimize its funding of transportation. Furthermore, Federal the central pillar of Alaska's transportation funding approach may be crumbling. With the differences and commonalities in mind, we recommend the following increases to specific sources of funding.

Increase User Charges

The fundamental tension to using alternative sources of transportation funding involves finding an appropriate point along a policy continuum, where the two poles are funding transportation as a pure public good or as a public utility much the way most state pay for water or energy. Public utilities are funded with user fees, which in their purest form are priced to cover the true marginal cost of serving each additional customer. This approach is most effective when the follow conditions exist:

1. One citizen's use of the public service excludes another from using the same increment of service (e.g., a camping spot in a campground);
2. There is a cost-effective means of collecting payment (e.g., drivers license);
3. The benefits of the public good accrue to users and less equally to society as a whole (e.g., toll roads); and
4. The user charge sends a clear price signal that ensure the service is used efficiently (e.g., solid waste disposal).

A pure application of user fees for transportation funding would entail the use of vehicle miles of travel (VMT) fees that vary by time of day, location, vehicle type, driver behavior and other criteria that price that individual's travel for his/her full cost on the network and society. No such system has been deployed, although two successful but small demonstration trails have been completed in Oregon and Washington State (Puget Sound Regional Council). Policy-makers in Oregon and Washington regarded these trails as successes, but have concluded that migrating from gas taxes to VMT fees will require a Federal program with standardized system architecture. Meanwhile, cordon pricing programs (which are VMT pricing programs within a specific area) have been implemented in London, Stockholm and Singapore, and Germany has a countywide VMT payment program for commercial trucking. In addition, pay-as-you-drive (PAYD) insurance is available in some form in 34 states and in many foreign countries, including Israel, the Netherlands, United Kingdom, South Africa, Canada, and Japan.

At the other end of the continuum, transportation is regarded as a public good. Such public services benefit all citizens and one citizen's use of the service does not exclude another citizen use of the same service. National defense is often sighted as the purest example of a pure public good. So are education, public health, consumer protection, environmental protection and other services. The primary rationales for funding pure public goods with general taxes include:

1. The difficulty excluding a citizen from using or benefiting from the public good unless the government collects payment;
2. The benefits of the public good are distributed more or less equally to society as a whole; and

3. A private market for the public good would be difficult to create or the feasibility of providing the service from private sector would require inefficient subsidies or undesirable policy outcomes.

Most experts place transportation somewhere closer to a utility than a pure public good, but there is considerable debate and many specific conditions affect its placement, including the severity of congestion, priorities for economic development, opportunities for public-private partnerships, public safety, social welfare, and lots of others. Most experts agree, however, that the price charged to most users in the United States undervalues the benefits they receive from transportation and does not force a user to pay the full costs they impose on other users and society as a whole. This general consensus that all modes of transportation enjoy significant subsidies from general tax revenue is leading to a likely change in the Federal government's criteria for distributing funding to states. The likely outcome of this policy shift will be new requirements that states and local jurisdictions charge more aggressive user fees and other forms of pricing to manage demand as well as cover the cost of higher local match. Furthermore, reauthorization of the Federal transportation bill indicates that transportation may be required to mitigate the full social costs of travel (e.g., taxing carbon or green house gas emissions, national weight-distance fees for commercial vehicles, etc.).

The State's unique conditions listed in the beginning of this section make the replacement of lower Federal funding with more aggressive use of user fees difficult.[48] This practical limitation is exacerbated by the State's constitutional ban on dedicated revenue sources. In order for Alaska to retain some competitive position for the next reauthorization of Federal transportation legislation, we recommend more aggressive use of the following three user fee-based funding sources for specific elements of Alaska's transportation services.

Increase Fuel Taxes and Index to Inflation

Fuel taxes are regarded as indirect or weak user fees. While the amount of each state's fuel tax is added to the wholesale price of the fuel (gasoline or diesel), the differences in retail price levels of fuel in each state do not appear to correspond to the tax rates. The fuel tax, which is technically a user fee, does not send a strong price signal to the motorist. In fact, most of us do not know what the state and Federal fuel tax rates are that we are paying. Nevertheless, in a recent survey from ADOT&PF, almost 67 percent of respondents indicated that state funding for roadways should be increased. Furthermore the data shows stronger public support for user fees if they are assured the revenues go to the specified purpose versus into unrestricted revenues.

[48] The states vast area, sparse roadway network, small population, scattered communities, federal control of 69 percent of its land, and high dependence on marine and air modes.

Perhaps even more important, changes in a state's fuel tax rate seem to have little or no influence in the state's retail fuel prices. This appeared to be the case when Alaska's eight-cent gas tax was suspended. There is strong evidence that *changes* in retail fuel prices are driven by demand and *changes* in the State's fuel tax rate may only affect who captures the increment of profit from the retail sale of a gallon of fuel: the State, the gas station, the distributor, the carriers, the refiners, or the producers.[49] The data indicate that the suspension of the State's fuel tax did little to reduce the retail price of fuel and any temporary effect was quickly overwhelmed market forces.

Prior to its suspension, Alaska's fuel tax at 8 cent per gallon was the lowest in the nation. This amount generates about $30 million annually. In section 4.7 of this report, we present three alternative funding scenarios. All three include increases in the State's fuel tax. If the State were to increase the fuel tax another 10 cpg (above the 8 cpg rate), it will earn approximately almost $40 million more annually. If the increase were 20 cpg, the additional revenue would total about $77 million annually. Once these increases are in effect, the rate should be adjusted annually to track to an index that tracks with the weighted cost of Alaska's multimodal construction, maintenance, operations expenditures. This indexing of fuel tax should apply to all existing and new revenue sources. The reason is that Alaska needs adequate and reliable funding. Predictable and dependable multiyear funding sources give the State's planners the assurance that large capital projects can be funded reliably over time. Current funding depends on oil prices and global demand, which ensures episodic conflicts with the ongoing maintenance obligations because of erratic fluctuations in public revenues earned from oil sales.

Increase Vehicle Registration Fees

Vehicle registration, license and title fees represent the second largest revenue source for many state DOTs (after the motor fuel taxes). Alaska's vehicle registration fees generated $41.4 million and driver license fees generated about $3.4 million. This revenue comes from a flat vehicle registration fee of $100 every two years for passenger cars and a heavy vehicle registration fees which is based on weight: from $180 for vehicles up to 5,000 pounds to $662 for vehicles over 18,000 pounds. Assuming that the number of vehicle grows in line with

[49] An example illustrating the incidence of different fuel tax rates occurs along the state boundary between New York and New Jersey. New York has one of the highest gas tax rates in the county (42 cents per gallon) while New Jersey has one of the lowest (about 14 cents a gallon). New York and New Jersey gas stations which are located across the street from each other, however, charge the same price for gas. New York has the nation's best public transit system, which it funds largely with fuel tax revenues. New Jersey's transit and roadway infrastructure in is much poorer condition.

population growth projections and the existing fees increase $5 per year for all vehicle classes, Alaska could levy an additional $4.8 million by 2015.

We recommend the State consider an increase in the fees across all categories from 50 to 100 percent. Such increases would generate between $23 million to $46 million more in annual revenue. The vehicle registration fees are one of three and fuel taxes are the only existing user fees in the State's portfolio that contribute significant revenues. (Revenues from driver license fees are sufficient to cover only administrative costs.) Unlike fuel taxes which are concealed in the retail price of gas or diesel, vehicle registrations fees are paid directly by the owner and therefore provide a clear price signal. This signal could be amplified if the passenger registration fee were indexed to annual odometer readings or vehicle weight (similar to the commercial vehicle registration fees).

General Taxes and Trust Funds

There are compelling reasons for the State to migrate from a general tax-based funding approach to a portfolio more inclusive of user fees. Nevertheless, the significantly higher rates for direct and indirect user-fees that would be necessary to close the gap between needs and revenues would impose a significant burden on travelers and likely undermine economic development. Given the modest gains from increases in these user fee sources, the state and local governments should consider a portfolio of funding options that includes increasing general taxes to meet their transportation needs.

Alaska Transportation Fund

In 2008, the Governor of Alaska introduced legislation to create an endowment fund for transportation capital needs. The Alaska Transportation Fund (ATF) would be capitalized with $1 billion from oil taxes, with an expectation that the fund would earn dividends of eight percent or more, based on historic returns from other similar state funds. The State would be allowed to use up to five percent of the fund's total value for capital projects. Based on this assumption, the ATF could yield over $50 million in the first year for transportation capital investments, and increasing over time as the value of the fund grows. The expectation is that the ATF would grow both from surplus earnings and from further deposits of oil tax revenues if budget surpluses continue in the future. It is anticipated that the fund would be managed to be inflation proof. All modes of transportation would be eligible, and funding would be allocated based on merit.

With the current drop in the price of oil below the break-even price of oil used to develop the State's budget, there is some uncertainty whether a bill on the ATF would be reintroduced and later approved by the legislature and if funding would be available to capitalize this fund in the 2009 legislative session.

Constitutional Budget Reserve

The Constitutional Budget Reserve (CBR) Fund allows the state to borrow money to balance the state budget when General Fund revenues fall short of actual expenditures. The state repays any funds borrowed with general fund surpluses. The CBR was funded by proceeds of settlement of tax and royalty disputes with the oil companies. By the close of fiscal year 2008, the CBR had almost $8.1 billion in reserve, which included a $3 billion transfer from the general fund. An alternative funding option would be to set aside a portion of the interest and/or earnings of the CBR for transportation.

State General Fund Match to Local Funding

The state match needed to secure Federal funding for highway projects come from annual legislative appropriations from Alaska's General Fund. In 2006, about $4.9 billion (6.8 percent) of the state funding match for highways came from General Fund appropriations. The 2007, National Transit Database (NTD) reported that state governments provided $2.6 billion in General Fund appropriations for transit, accounting for almost 30 percent of the state funding for public transportation. The past year's dramatic increases in oil prices have increased Alaska's General Fund revenues significantly. Nevertheless, local communities in general and small municipalities and villages in particular have a much harder time meeting the matching requirement of Federal funding and earmarks for their transportation needs. Furthermore, there is no state program that consistently provides funding for public transportation in Alaska. Many of the stakeholders interviewed strongly recommended that the State adopt a 70/30 matching program for transportation similar to the successful program for schools.

We recommend a state program that ensures local communities will have access to sufficient state funding to match Federal funds. This funding program should include these features:

- Provide funding to cover a specified portion of the non-Federal share (e.g., state to provide 60 percent of the non-Federal share), and require commitment of local funding (some flexibility in share should be considered for poor communities; and
- Grants awarded to specific projects based on merit, with an application process that may include eligibility criteria and evaluation of project benefits (e.g., economic development, job creation, connectivity improvements in rural communities, etc.), among other requirements.

As proposed in ADOT&PF's 2030 Plan and by staff from the Denali Commission, we also recommend that the State reinstitute the Local Service Roads & Trails (LSR&T) program to provide funding for local roads. Although local roads are eligible for the Community Transportation Program (CTP), funding through this program is tied to Federal regulations, making it difficult for rural communities to use. In addition, the future of the Denali Commission's roads program is

uncertain, and continuing support from the Commission will require a commitment from the State for joint-funded and state-supported rural road projects. SAFETEA-LU provided $15 million for roads and $10 million for ports and harbors through the Denali Commission per year. The Commission estimates that between $30 and $40 million over the next five to eight years are needed to address most rural and local street transportation needs, with $10 to $15 million per year coming from the State.

Even if the Legislature accepts this recommendation, a number of difficult issues will remain. In a subsection within section 2.2 (Tensions between Surface Transportation Needs) of this report, we describe four issues of which the last two would need to be understood and possibly remedied for the recommendation to have its full effect. These two issues are: a) the demand of limited funding for state and locally owned roads, and b) local versus state ownership and control of transportation facilities. Key stakeholders believe the sizeable amount of transportation facilities still under state ownership and control force the State to dilute its focus on major state infrastructure. On the flip side, the lack of local control on many local facilities makes it difficult for local municipalities to force state officials to attend to problems that concern local residents, but fail to raise to a level of concern for the State.

A. Summary of Proposals and Studies of the Next Federal Transportation Bill

American Association of State Highway and Transportation Officials (AASHTO)

Authorization Principles and Vision Policies

Key recommendations of this proposal include having a strong Federal funding role and shared transportation funding responsibilities with state and local governments and the private sector; a significant increase in Highway Trust Fund revenues; transitioning to a diversified portfolio of revenue sources; and supplementing revenues at the state and local levels by making greater use of tolls and public-private ventures.

Some key policy positions of the proposal include giving priority to preserving and modernizing the system of highways, transit, and rail built during the last century; providing additional Federal governmental financing for freight-related investments from resources outside the Highway Trust Fund; focusing on non-metropolitan areas of the country in need of new roads, upgrades to their existing road network, and increased transit services in order to adequately interconnect with other regions; and a strong Federal role in funding intercity passenger rail. The proposal also recommends that each state establish performance-based, outcome-driven programming of funding and focus investments in a limited number of core programs.

American Road And Transportation Builders Association (ARTBA)

A New Vision And Mission For America's Federal Surface Transportation Program

ARTBA's proposal recommends increasing the Federal motor fuels tax by at least 10 cpg and indexing the tax to inflation; providing states with toll financing options, including congestion pricing, HOT lanes, and truck-only lanes; the ability for states to use appropriately structured toll systems on existing portions of the Interstate Highway System; the use of debt financing as a viable funding source for long-term capital improvements to compliment the core highway and transit programs; increasing resources for SAFETEA-LU's High-Risk Rural Road Safety Program to improve highways that represent a documented threat; and implementing a specific transition timeline for transitioning to new financing mechanisms.

The proposal also recommends a Critical Commerce Corridors (3C) Program be created, which would provide new surface transportation system capacity and operational improvements exclusively focused on securing the safe and efficient movement of freight. Potential 3C freight-related funding sources would include freight movement bills and national vehicle inspection tags.

Other legislative and regulatory recommendations include earmark reform, which would require all Congressional or Executive Branch designated spending under the next Federal surface transportation bill be committed during the bill's lifetime; and a Maintenance of Effort requirement that makes increased Federal highway or transit investment contingent on a state or local government, at minimum, maintaining its own level of transportation infrastructure investment.

American Public Transportation Association (APTA)

A Vision of 2050: Interim Report of APTA's TransitVision 2050 Task Force

APTA's proposal recommends evaluating transportation programs using performance-based criteria; involving and integrating public transportation organizations into the regional planning process; working towards a single-payment method for all modes of transportation that allows seamless travel; exploring private sector participation in the public transportation industry; and planning, designing and implementing multistate infrastructure projects on a megaregional scale by regional governing entities. The report also recommends that public transportation agencies of the future should become full service mobility managers that provide real-time information and multiple options for users; and that urban, suburban, rural, and intercity service should be coordinated as much as possible.

Association of American Railroads (AAR)

National Freight Infrastructure Capacity and Investment Study; Final AAR Principles on Federal Funding on Freight Rail

The National Freight Infrastructure Capacity and Investment Study estimates railroad infrastructure needs from present to 2035 at approximately $148 billion. Class I railroads share equates to $135 billion and shortlines and regional railroads share is $13 billion. Of Class I share, $96 billion could be covered by railroads and $39 billion, or $1.4 billion per year, would require public assistance through investment tax incentives, public-private partnerships, or other sources.

AAR's proposal recommends that Federal funding and policies must not reduce and should encourage private investment in the nation's rail system; in all public-private partnerships, public benefits should be funded by public funds and railroad benefits should be funded by railroad funds; if the Federal government establishes a freight fund to fund public benefits of freight rail projects, funding should not be extracted from freight transportation providers or their customers or disadvantage the economics of rail transportation; freight railroads should not

be required to assess or collect any fees, as the rail logistics system should not be saddled with increased costs to fund public benefits, either directly or through a freight fund; Federal freight investment should focus on key transportation projects with significant public benefits, such as eliminating rail chokepoints, improving service to shippers, facilitating international trade, reducing greenhouse gases, cutting vehicle miles traveled, and improving safety; and Federal fees associated with a freight fund should preempt state and local fees, unless there is mutual agreement among the parties.

Additional AAR principles on the Federal transportation program reauthorization include support for separate funding for the Section 130 (closure of or installation of safety devices at highway-rail grade crossings) program; support for separate funding for intermodal connectors; and opposition to eliminate the freeze on longer and heavier trucks operating on the interstate highway system. The proposal also recommends Federal funding of public benefits must not be in lieu of the enactment of Federal investment tax incentives for increased private investment.

Brookings Institute – Metropolitan Policy Program

A Bridge to Somewhere: Rethinking American Transportation for the 21st Century

This report provides several recommendations that would fundamentally change the way transportation investments are made in the United States, including protecting existing assets by making the preservation of the interstate highway system a priority and consider decommissioning or downsizing some portions of the interstate system in center cities and older suburbs; focusing on the key freight hubs and trade corridors by developing a comprehensive National Freight Transportation Plan; and committing to a comprehensive national plan for intermetro area passenger movement that focuses on integrating the rail network into the existing air and road transportation networks.

The report also suggests that the Federal government empower states and metropolitan areas to grow in sustainable ways, embracing pricing and incentivizing market mechanisms to allow for better management of the metropolitan network. Other recommendations include optimizing the nation's transportation network performance by augmenting existing accountability efforts and rewarding performance; creating an incentive pool to reward states and metropolitan areas that consistently perform at an exceptional level; and creating a new position, Deputy Secretary for National Priorities Implementation, with responsibility for overseeing and monitoring performance related to furthering established national goals.

Building America's Future Coalition

Building America's Future: Investing in Infrastructure

One of the Coalition's main objectives is to ensure that the next president understands the enormity of the infrastructure crisis and is committed to increasing Federal funding. The Coalition feels that current Federal spending on infrastructure is insufficient; infrastructure investments and sustainable transportation planning are critical elements in mitigating the growing concerns regarding global warming and climate change; and infrastructure is a Federal challenge that requires a Federal commitment of resources.

U.S. Government Accountability Office (GAO)

Surface Transportation Programs: Proposals Highlight Key Issues and Challenges in Restructuring the Programs

This GAO report concludes that many current transportation programs are not effective at addressing key transportation challenges, such as congestion and freight demand growth, because they lack links to needs or performance. The GAO report also criticizes the distribution of surface transportation funds without regard to detailed benefit/cost analyses, as rigorous economic analysis is not a driving factor in most investment decisions by state and local governments.

Additionally, the report determines that tools to make better use of existing infrastructure, such as intelligent transportation systems and congestion pricing, have not been deployed to their full potential. It also states that increases in Federal spending for transportation appear to reduce state spending for the same purpose, reducing the return on the Federal investment – research estimates that 50 percent of each additional Federal grant dollar for the highway program displaces funds that states would otherwise have spent on highways.

The report details a number of principles that GAO feels can help guide the assessment of options for transforming Federal surface transportation programs. These principles include: 1) ensuring goals are well-defined and focused on the Federal interest; 2) ensuring the Federal role in achieving each goal is clearly defined; 3) ensuring accountability for results by entities receiving Federal funds; 4) employing the best tools and approaches to emphasize return on targeted Federal investment; and 5) ensuring fiscal sustainability.

To improve the effectiveness of the Federal investment in surface transportation, meet the nation's transportation needs, and ensure a sustainable commitment to transportation infrastructure, GAO urges Congress to consider reexamining and refocusing surface transportation programs to be responsive to these principles so that they: 1) have well-defined goals with direct links to an identified Federal interest and Federal role; 2) institute processes to make grantees more accountable by establishing more performance-based links between funding and program outcomes; 3) institute tools and approaches that emphasize the return on the Federal investment; and 4) address the current imbalance between Federal surface transportation revenues and spending (e.g., Highway Trust Fund).

GAO also reviewed the National Surface Transportation Policy and Revenue Study Commission (National Commission) Report, which recommended significantly increasing the level of investment by all levels of government in surface transportation, consolidating and reorganizing the current programs, speeding project delivery, and making the current program more performance-based and mode-neutral, among other things. GAO acknowledged that while there is a degree of consensus on the need to reexamine Federal surface transportation programs, there is not yet a consensus on the form of a restructured surface transportation program should take.

Several commissioners offered a dissenting view on some of the Commission's recommendations, notably the level of investment, size of the Federal role, and the revenue sources recommended. GAO feels that these principles do not prescribe a specific approach to restructuring, but they do provide key attributes that will help ensure that a restructured surface transportation program addresses current challenges.

Center for Clean Air Policy

Green TEA: Linkages to Climate Policy

Key recommendations of this proposal include tying Federal transportation funding to energy conservation and GHG reduction; changing Federal funding ratios for new highway and transit to tilt the balance toward transit operations, bicycling, walking, and travel demand management while decreasing the share of transportation funding for new road construction; increasing support for regional transportation and land use planning, scenario analyses and blueprint visioning processes; requiring alternative land use and transportation scenario analyses for Transportation Improvement Programs (TIP) and Long-Range Transportation Plans (LRTP); and requiring metropolitan planning organizations to establish GHG/petroleum reduction and mode-split goals as part of LRTPs.

The proposal also recommends providing incentives to encourage location-efficient development and efficient travel behavior (e.g., smart growth, transit-oriented development, mileage-based insurance, congestion pricing, etc.); and leveraging other Federal infrastructure policies (i.e., housing, water treatment systems and schools) to foster development of areas with rich transportation choices and efficient land use patterns via incentives or performance criteria.

GO21

Growth Options for the 21st Century

The goal of GO21 is to advocate greater use of freight rail transportation as a solution for reducing highway congestion and enhancing air quality, economic competitiveness, and quality of life. GO21's key recommendations include the passage of the Freight Rail Infrastructure Capacity Expansion Act, which would substantially increase investment in the nation's freight rail infrastructure and would give a 25 percent tax credit to businesses that invest in new freight rail

infrastructure that expands system capacity. This tax credit would be available to any person or entity making eligible expenditures such as railroads, rail customers, trucking company investing in intermodal facility, or a port investing in connecting infrastructure. GO21 also recommends preventing the passage of S. 953 and H.R. 2125 legislation, which would give Federal government authority over railroad operations.

National Academy of Public Administration

Financing Transportation in the 21st Century: An Intergovernmental Perspective

This report makes the following key recommendations: Take prompt action to sustain the Federal Highway Trust Fund and other surface transportation revenue sources; any new financing system should incentivize state and local governments that take innovative steps to address their own needs; de-emphasize Federal and state legislative earmarking of unplanned projects; look into increasing fuel taxes and/or indexing; and amend the "fiscal notes" portion of the Unfunded Mandates Reform Act of 1996 to increase Federal and state capacity to perform intergovernmental impact assessments.

National Surface Transportation Policy and Review Study Commission

Transportation for Tomorrow

Key recommendations of this report include investing at least $225 billion annually from all sources over the next 50 years to upgrade the existing transportation system and to create a more advanced surface transportation system (2.5 times today's level); retain a strong Federal role in transportation; spend Federal funding through outcome-based, performance-driven programs supported by cost/benefit evaluations rather than political "earmarking."

The report also recommends replacing over 100 current programs with 10 new programs focused on the national interest, covering the following areas: Rebuilding America (asset management); freight transportation; congestion relief; saving lives; connecting America (access for smaller cities and rural areas); intercity passenger rail; environmental stewardship; energy security; Federal lands; and research, development, and technology.

This proposal suggested multiple strategies for increasing transportation revenue, including increasing the Federal fuel tax by up to 40 cpg over the next five years, and then index the tax rate to inflation; levying Federal ticket taxes on transit and passenger rail trips; levying Federal container charge freight waybill surcharge, or other freight fees; encouraging increases in state and local revenue sources; providing new flexibility for tolling and pricing, including on existing Interstate Highway facilities; encouraging the use of public/private partnerships; and conducting a national study of the strategies for transitioning to an alternative to the fuel tax.

National Surface Transportation Infrastructure Financing Commission

The Path Forward: Funding and Financing Our Surface Transportation System

This report includes initial observations but no specific recommendations. The final report with policy recommendation is expected by February 2009. Key observations in their initial report are: Current funding mechanisms and levels of revenue are not closely linked to use of the transportation system, allowing demand and costs to grow faster than revenue; the fuel tax, a key Federal funding source for the transportation system, is no longer sufficient at current rates; and more direct user charges should be explored.

Passenger Rail Working Group

Vision for the Future: U.S. Intercity Passenger Rail Network Through 2050

Key recommendations of this report include creating a national freight and passenger rail strategy; creating a new Federal Intercity Passenger Rail Program to fund construction of the passenger rail system with annual funding of $5 billion for intercity passenger rail, including Amtrak and grants to states; and financing the rail system on a cost-to-compete basis, with 80 percent of capital costs being provided through Federal spending.

Transportation Transformation Group

Principles for a New National Surface Transportation

Transportation Transformation Group (T2) supports a transformation of American transportation policy in 2009, not just a reauthorization of current policies. Key recommendations include: Congress must establish a long-range vision of surface transportation, with a clear national interest, that considers all modes for moving people and goods; the Federal government should encourage and provide incentives for implementation of any and all tools to meet transportation goals; the future transportation system should adopt new intelligent transportation system technologies while maintaining flexibility to adapt to emerging technologies. T2 supports more flexibility given to state and local governments to move financial resources among modes that best accomplish transportation goals. T2 also supports the continuation of the existing Federal motor fuel tax, provided that significant program reforms occur and innovative financing methods are made available to states.

U.S. Chamber of Commerce

Surface Transportation Needs, Funding, and Economic Linkages

The U.S. Chamber of Commerce's key policy positions include: The Chamber believes that every option for funding and financing our national transportation system must be considered to address the enormous problems of the aging

transportation infrastructure; and the Chamber strongly encourages Congress to ensure that Highway Trust Fund (HTF) revenues are sufficient to support the guaranteed funding levels in SAFETEA-LU.

The Chamber also gives the following recommendations: Indexing Federal motor fuel taxes would have the most immediate impact on the HTF revenue shortfall; give states greater authority for tolling and public/private partnerships and encourage other innovative finance options; the Federal government should provide leadership for states and local governments to implement new systems of financing that reduce reliance on motor fuels taxes, such as vehicle-miles traveled fees; the nation must increase its emphasis on freight transportation investments that support commerce.

U.S. Department of Transportation

Refocus, Reform, Renew: A New Transportation Approach for America

The U.S. Department of Transportation (DOT) proposal focuses on spending most Federal formula funding on areas of the greatest Federal interest: transportation safety; the Interstate Highway System and other highway facilities of national interest; and major metropolitan areas. The proposal recommends providing discretionary grant funding to support multistate corridor projects, bottleneck projects, projects of national or regional significance, and innovative metropolitan responses to urban congestion.

The DOT also proposes to consolidate dozens of stove-piped highway and transit programs into three multimodal funding programs; empower a single institutional body, chosen through consensus, to plan and fund major metropolitan area's transportation projects, regardless of mode; and offer the potential for additional Federal grant funds to high performing grant recipients.

Another recommendation of the proposal is to create a Metro Mobility (MM) Program. The MM Program would address transportation challenges faced by metropolitan areas by providing substantial amounts of performance-based transportation funding directly to metropolitan areas with populations greater than 500,000 (which collectively generate 42 percent of the nation's annual vehicle-miles traveled). This program also would allow recipients broad multimodal flexibility in selecting projects for the movement of people and goods that institutionalize performance management in metropolitan-level transportation decision-making, and provide financial support for innovative metropolitan approaches to traffic congestion. MM funding could not be used to fund transit operations, but could be used to fund the operations of the Metropolitan Transportation Board, any analyses conducted in order to meet the newly required benefit/cost, performance management, public private partnership, or research activities consistent with the objectives of the MM Program. Funding recipients would not be required to use a designated percentage of MM funding for any of these purposes.

The DOT recommends allowing jurisdictions to toll interstates and other major highways (while conditioning their use of toll revenues); expanding the use of

public-private partnerships; broadening the availability of Transportation Infrastructure Finance and Innovation Act credit assistance; removing the volume cap of private activity bonds and make them more flexible; allowing jurisdictions greater flexibility to create and use state infrastructure banks. The DOT also recommends creating a pilot program under which participating state and metro areas are required to meet Federally designated performance targets, in exchange for which they receive substantial regulatory relief and a clear mandate to consider impacts other than those to historic properties and parkland when selecting a transportation alternative. The proposal would allow states, localities, and other jurisdictions to "opt out" of the Federal interest in any transportation project that would have previously received Federal funds. The proposed opt-out pilot program would allow states to keep most of the fuel taxes they collect for themselves.

National Transportation Policy Project (NTPP)

Commentary on the July 28 U.S. DOT Transportation Policy Proposal

The NTPP (a bipartisan group) released a commentary of the U.S. DOT *Refocus, Reform, Renew* proposal, in which the organization discussed areas of concurrence and disagreement related to the role of the Federal government in transportation policy.

NTPP believes critical priorities include maintaining and improving existing infrastructure, improving safety, and establishing performance standards and measures of accountability in the use of Federal funds. NTPP also believes that pricing as an essential tool for solving transportation problems; and it is important to not overemphasize the role of leveraging Federal highway funds as a policy goal in its own right.

NTPP also feels that a comprehensive national transportation policy must affirmatively address energy and environmental issues related to transportation since the transportation industry is 96 percent to 97 percent dependent on oil and responsible for approximately 30 percent of all greenhouse gas emissions in the United States. NTTP's view is that the Secretary's proposals reward states for increasing greenhouse gas emissions and fuel consumption.

According to the NTPP, creating another institutional layer (i.e., Metro Mobility Program) will not solve the underlying problem of effective regional strategic decision-making. A better strategy would be for the Federal government to focus on providing the incentives that can effectively encourage regional collaboration. That Federal transportation policy should enable states to achieve clearly articulated goals and outcomes. To that end, Federal policies should be permissive rather than prescriptive and should neither require nor hinder options.

The NTPP feels the call for a pilot project to allow states to opt out of the Federal-Aid highway program is inconsistent with other DOT proposals, as this implies that the Federal role in transportation policy and infrastructure investment is optional and that states can assume the Federal government's obligations.

Reconnecting America

Jumpstarting the Transit Space Race

Key recommendations of this report include "leveling the playing field" between highways and transit by providing equal Federal funding matching; increasing Federal funding for transit projects; recognizing the national demand for transit; and enact a transit public works project similar to the National Interstate and Defense Highways Act of 1956 to help stimulate the economy with investment and create jobs.

Transportation for America

Build for America

This report recommends modernizing and expanding the nation's rail and transit networks; restoring crumbling transit systems, bridges, and highways before building new roads; connecting the metro regions; integration of energy-efficient, sustainable development; and institute requirements for cleaner vehicles and new fuels. Other recommendations include asking private developers who reap real estate rewards from new rail stations and transit lines to contribute towards transit service.

B. Data Tables for Selected Figures

Table B.1 State Highway Funding, State by State, 2006 (Figure 2.3)
(Shares of State Budget from Each Source)

State	General Funds	Fuel Taxes	Vehicle Taxes	Tolls	Other State Funds	Other
Alaska	58.7%	9.9%	13.4%	8.5%	-	9.5%
Wyoming	30.0%	42.4%	22.2%	-	4.0%	1.3%
North Dakota	22.9%	48.3%	28.5%	-	-	0.3%
Utah	22.5%	44.4%	12.5%	0.03%	13.2%	7.4%
Vermont	20.3%	25.3%	43.1%	-	0.7%	10.7%
Kansas	20.0%	40.4%	13.1%	7.3%	13.6%	5.5%
Louisiana	19.5%	52.6%	18.0%	3.1%	3.7%	3.2%
New York	17.7%	24.6%	19.7%	27.7%	1.6%	8.7%
Florida	15.9%	40.2%	18.9%	18.9%	2.4%	3.8%
Delaware	15.9%	21.6%	20.1%	36.9%	-	5.5%
California	14.5%	42.2%	28.9%	2.5%	4.6%	7.3%
Nevada	12.4%	61.2%	17.5%	0.1%	-	8.9%
Virginia	11.2%	33.1%	26.8%	5.6%	17.4%	5.9%
Kentucky	10.0%	39.4%	46.3%	0.0%	-	4.3%
Alabama	8.3%	67.5%	19.1%	0.0%	5.1%	-
Nebraska	8.2%	53.0%	11.9%	0.0%	23.5%	3.4%
Michigan	6.4%	45.9%	39.9%	1.5%	-	6.3%
West Virginia	5.4%	43.6%	38.1%	9.2%	-	3.7%
Indiana	5.3%	64.8%	10.3%	7.4%	-	12.2%
Arkansas	4.9%	67.1%	23.3%	-	0.3%	4.5%
Colorado	4.3%	37.4%	55.8%	-	0.3%	2.2%
Maryland	4.0%	26.3%	39.3%	14.7%	5.0%	10.7%
Oregon	3.9%	46.9%	44.9%	-	1.4%	2.8%
Iowa	3.8%	36.2%	34.0%	-	24.9%	1.1%
New Hampshire	3.4%	43.2%	24.9%	24.4%	-	4.1%
Ohio	0.6%	64.5%	26.0%	6.6%	-	2.3%
Texas	0.5%	49.5%	30.4%	5.2%	0.9%	13.5%
Oklahoma	0.3%	38.8%	35.9%	22.4%	-	2.6%
Rhode Island	0.3%	69.5%	15.2%	10.4%	-	4.7%
South Carolina	0.1%	81.1%	14.3%	1.8%	-	2.7%
Arizona	0.1%	36.5%	15.0%	-	45.3%	3.2%
Illinois	0.1%	39.8%	37.6%	18.5%	0.0%	4.0%
Connecticut	-	59.0%	27.8%	0.02%	0.0%	13.2%
District of Columbia	-	11.5%	36.6%	-	50.9%	0.9%
Georgia	-	32.3%	25.9%	1.6%	34.4%	5.8%

State	General Funds	Fuel Taxes	Vehicle Taxes	Tolls	Other State Funds	Other
Hawaii	-	39.9%	50.0%	-	-	10.1%
Idaho	-	60.8%	38.3%	-	-	0.9%
Maine	-	58.6%	15.0%	22.2%	-	4.3%
Massachusetts	-	13.1%	4.5%	20.2%	53.9%	8.3%
Minnesota	-	46.3%	38.3%	-	11.5%	4.0%
Mississippi	-	74.2%	24.1%	-	1.4%	0.4%
Missouri	-	56.1%	24.6%	-	16.7%	2.7%
Montana	-	70.2%	25.3%	-	1.5%	3.0%
New Jersey	-	18.4%	24.8%	47.8%	-	9.0%
New Mexico	-	38.2%	51.4%	-	0.3%	10.2%
North Carolina	-	52.2%	21.4%	0.1%	24.7%	1.6%
Pennsylvania	-	50.2%	21.2%	19.7%	-	8.9%
South Dakota	-	61.7%	1.8%	-	27.4%	9.1%
Tennessee	-	62.8%	30.1%	0.002%	4.3%	2.8%
Washington	-	62.1%	25.9%	8.8%	0.03%	3.2%
Wisconsin	-	65.5%	31.4%	-	-	3.2%

Source: Highway Statistics Series, Federal Highway Administration, Table SF-1.

Table B.2 Alaska's Revenues for Transit Operation (Figure 2.5)

(In Thousands of Dollars)

Year	Operator Receipts	Federal Funds	State Funds	Local Funds	Total
1997	2,062	2,470	-	5,075	9,607
1998	2,644	142	1,167	8,785	12,738
1999	2,478	693	1,217	8,588	12,976
2000	2,699	541	1,012	8,784	13,036
2001	4,058	465	1,677	9,982	16,182
2002	4,828	755	1,216	10,938	17,737
2003	5,127	1,054	1,685	11,136	19,002
2004	6,228	1,462	2,857	13,950	24,497
2005	7,359	1,686	2,300	16,312	27,657

Source: FHWA Highway Statistics, Table MT-2b.

Table B.3 Alaska's Transit Capital Projects Revenues (Figure 2.6)
(Thousands of Dollars)

Year	Federal Funds	State Funds	Local Funds	Total
1997	1,169	-	322	1,491
1998	1,412	50	298	1,760
1999	8,945	1,067	476	10,488
2000	818	73	262	1,153
2001	5,882	1,180	223	7,285
2002	818	73	262	1,153
2003	7,925	1,319	287	9,531
2004	7,437	4,259	249	11,945
2005	9,667	1,590	451	11,708

Source: FHWA Highway Statistics, Table MT-2a.

Table B.4 Alaska's Revenues for Rural Transit Services (Figure 2.7)
2006

	Passenger Fare/ Other System Generated	Local	State	Federal	Total	Percent of Total
Kodiak	42,618	36,785	-	204,050	283,453	3%
Mat-Su	51,179	216,283	273,421	456,000	996,883	11%
Ketchikan	166,400	278,528	-	503,823	948,751	11%
Juneau	749,685	3,333,800	-	1,000,000	5,083,485	56%
Kenai/Soldotna	193,649	61,695	117,699	498,474	871,517	10%
Sitka	316,481	-	-	-	316,481	4%
Total Rural Alaska	**1,556,914**	**3,927,091**	**391,120**	**3,150,689**	**9,025,814**	
Percent of Total	17%	44%	4%	35%		

Source: Alaska Department of Transportation and Public Facilities.

Table B.5 Alaska Receipts of FAA Airport Improvement Program Funding (Figure 2.9)

(Nominal Dollars, Millions)

Year	AIP Funds
1997	77
1998	79
1999	78
2000	85
2001	141
2002	155
2003	174
2004	219
2005	194
2006	221
2007	199

Source: Federal Aviation Administration, Airport Improvement Program.

Table B.6 NSF Funding for Roadways (Figure 2.10)

Region 10 (Alaska)

Year	NSF (Millions)
2003	15.3
2004	15.9
2005	22.3
2006	18.3
2007	12.7
2008	11.1
2009	11.0

Source: United States Forest Service.

Table B.7 Alaska Sources of Local Transportation Funds (Figure 2.11)

(Thousand of Dollars)

Year	Motor Fuel/ Motor Vehicle Tax	General Funds	Property Taxes/ Special Assessments	Other Local	Miscellaneous	Bonds	State	Federal	Total Receipts
1996	864	1,944	11,999		10,911	71,234	20,565	1,808	119,325
1997	1,271	59,073	118,787		12,221	20,124	15,918	2,174	229,568
1998	1,243	29,110	85,589		8,806	14,500	11,687	1,766	152,701
1999	2,148	19,415	43,374	7,352	1,345	79,941	9,240	4,313	167,128
2000	2,318	29,051	49,476	7,943	1,453	83,500	9,820	3,916	187,477
2001	9,607	31,825	52,532	7,996	1,543	90,719	2,453	-	196,675
2002	9,894	32,355	54,108	8,236	1,605	98,721	2,088	832	207,839
2003	10,191	36,165	57,354	8,483	1,637	98,721	2,099	1,988	216,638
2004	10,700	40,505	64,236	9,331	1,702	99,166	2,014	-	227,654
2005	2,142	56,435	93,241	7,922	2,058	93,208	3,293	3,855	262,154
2006	20,127	59,341	96,970	8,239	2,662	94,141	-	2,081	283,561
10-Year Total (1997-2006)	**69,641**	**393,275**	**715,667**	**65,502**	**35,032**	**772,741**	**58,612**	**20,925**	**2,131,395**
Percent of Total	3%	18%	34%	3%	2%	36%	3%	1%	

Source: FHWA Highway Statistics, Table LGF-1.

Table B.8 Alaska State Expenditures for Highways (Figure 2.12)*(Thousands of Dollars)*

Year	Federal-Aid Capital	Other Capital	Maintenance	Administration, Police, Safety	Debt Service	Grants	Total
1997	165,736	86,145	124,498	50,764	3,514	4,769	438,940
1998	257,899	79,964	122,800	49,549	2,741	4,089	519,783
1999	151,923	91,394	118,430	49,134	687	3,998	416,253
2000	257,558	64,054	118,010	59,088	-	2,649	501,359
2001	205,372	91,120	118,500	64,206	-	2,453	481,651
2002	228,507	106,218	132,788	70,551	-	2,920	540,984
2003	302,466	99,074	143,742	68,708	-	4,087	618,077
2004	288,246	104,399	148,166	71,845	8,088	2,014	630,846
2005	241,454	137,164	163,784	76,062	22,372	2,060	665,268
2006	242,126	101,029	201,331	85,052	21,949	2,081	675,517
10-Year Total (1997-2006)	**2,341,287**	**960,561**	**1,392,049**	**644,959**	**59,351**	**31,120**	**5,488,678**
Percent of Total	**43%**	**18%**	**25%**	**12%**	**1%**	**1%**	

Source: FHWA Highway Statistics, Table SF-2.

Table B.9 Alaska's Local Expenditure for Highways (Figure 2.13)*(In Thousands of Dollars)*

Year	Capital Outlay	O&M	Debt Service	Total
1996	34,171	62,814	22,340	119,325
1997	40,751	70,988	117,829	229,568
1998	41,807	71,683	23,517	137,007
1999	81,655	57,104	28,371	167,130
2000	93,787	62,917	30,771	187,475
2001	97,932	66,070	32,672	196,674
2002	101,745	67,959	38,131	207,835
2003	107,132	71,373	38,131	216,636
2004	110,633	72,835	44,189	227,657
2005	70,242	80,695	111,216	262,153
2006	73,185	91,580	118,796	283,561
10-Year Total (1997-2006)	**818,869**	**713,204**	**583,623**	**2,115,696**
Percent of Total	**39%**	**34%**	**28%**	

Source: FHWA Highway Statistics, Table LGF-21.

Table B.10 Alaska's Local Expenditures for Highways (Detailed) (Figure 2.14)*(In Thousands of Dollars)*

Year	ROW	Preliminary and Construction Engineering	Road and Street Construction/ System Preservation	Maintenance	Snow Removal	Other	Administration/ Miscellaneous	Highway Law Enforcement/Safety
1996	438	6,637	27,096	16,263	26,853	4,195	10,505	4,998
1997	167	7,418	33,166	19,732	26,951	3,084	12,536	8,685
1998	166	7,556	34,085	19,583	27,923	3,051	12,624	8,502
1999	4,761	15,639	61,255	23,434	17,838	3,265	3,486	9,081
2000	6,334	16,896	70,557	27,319	19,272	3,241	3,766	9,319
2001	6,725	17,646	73,561	29,006	20,462	3,246	3,999	9,357
2002	6,994	18,402	76,349	29,495	21,281	3,253	4,199	9,731
2003	7,064	19,138	80,930	31,855	21,387	3,351	4,367	10,413
2004	7,135	19,330	84,168	32,811	21,601	3,452	4,454	10,517
2005	1,730	15,799	52,713	29,600	30,009	4,474	4,709	11,903
2006	2,248	16,115	54,822	38,459	30,909	4,698	4,897	12,617
10-Year Total (1997-2006)	**43,762**	**160,576**	**648,702**	**297,557**	**264,486**	**39,310**	**69,542**	**105,123**
Percent of Total	**3%**	**10%**	**40%**	**18%**	**16%**	**2%**	**4%**	**6%**

Source: FHWA Highway Statistics, Table LGF-2.