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COMMUNITY PLANNING ASSOCIATION

of Southwest Idaho

Funding Transportation Needs

Report No. 08-2009

Funding Transportation Needs

Estimates of Future Revenues and Expenditures

Prepared for:

Community Planning Association of Southwest Idaho

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Introduction

This effort will examine the budget assumptions underlying the Community Planning Association of Southwest Idaho's (COMPASS) Regional Long Range Transportation Plan Update, especially with respect to anticipated inflation and growth of future revenues needed to fund future improvements and maintenance. Motivating this effort is the concern that growth in transportation costs is far outpacing the growth in revenues, and that the revenue sources themselves are somewhat uncertain due to factors beyond local control. This will result in desired capital projects being deferred far into the future and future reductions in level of service while trying to simply maintain the existing system. The Long Range Transportation Plan must be fiscally constrained and this effort is part of the initial planning phases to review and forecast available funding for transportation investments.

The time period considered in this analysis is 2009-2035, with particular interest in the time frame beyond the existing Transportation Improvement Program (TIP), from about 2014 and beyond. Decisions about the timing and scope of major capital projects, and how to balance system maintenance with new capital projects, will be made during this time, and these decisions will depend on the current and future availability of revenue, and expectations of future costs.

Historical Setting

The current, unsettled economic times have dealt setbacks to the financial outlook of the local roadway and transit system. In addition to the chronic catching-up transportation agencies have had to do to keep revenues in pace with inflation, additional pressures have been added:

- Since 2004-05, already high inflation levels for road building materials got even higher, resulting in rapidly escalating construction and maintenance costs.
- High spikes in gasoline and diesel fuel prices further reduced flattened fuel usage trends, resulting in flat federal and state revenues dependent upon gallons sold.
- An economic slowdown halted national and regional construction trends, resulting in steep declines in local impact fee revenues and sales tax revenues from their recent historically high levels.
- Declines in auto sales and reductions in retail activities have reduced sales tax revenues and vehicle registration fee revenues.
- A "bursting of the housing bubble" threatens local property tax revenues through reductions in property values and high levels of delinquencies in tax payments.

Every major source of revenue has been adversely impacted and the two largest categories of costs have seen recent above-trend increases. Already facing long-term deficits, these events have cast an even darker shadow on the future of transportation systems.

Growth Trends

Table 1 summarizes population, household, and employment estimates for the combined Ada and Canyon Counties. Table 2 translates these trends into annual growth rates, which are used in various portions of the following analysis to assist in estimating long-term trends for various components of revenues and costs. These estimates replace those incorporated into COMPASS's *Communities in Motion* study and reflect updated estimates available at the current time.

Table 1. Ada County and Canyon County Combined Demographic Projections

	2005	2010	2015	2020	2025	2030	2035
Population	517,300	615,300	684,200	760,900	846,100	940,900	1,046,400
Number of households	191,900	228,255	253,814	282,267	313,873	349,041	388,148
Employment	237,400	282,374	313,994	349,193	388,293	431,799	480,179

Source: COMPASS, updated *Communities in Motion* estimates

Note: Until updated household and employment estimates are developed, the same growth rate as population is assumed for these variables

Table 2. Calculated Compound Growth Rates Associated with Demographic Projections

	2005-10	2010-15	2015-20	2020-25	2025-30	2030-35
Population annual growth rate	3.53%	2.15%	2.15%	2.15%	2.15%	2.15%
Growth rate of number of households	3.53%	2.15%	2.15%	2.15%	2.15%	2.15%
Employment growth rate	3.53%	2.15%	2.15%	2.15%	2.15%	2.15%

Methodology

This analysis focuses on developing reasonable assumptions about how major revenue sources supporting long range transportation planning may change over time and how inflation may impact the viability and timing of future capital costs. In addition, other financial variables will be examined, including maintenance expenditures, transit revenues, spending restrictions on certain revenue sources, and how the State allocates funds across local transportation agencies.

Similar to any effort that attempts to estimate future conditions, a high degree of uncertainty is implicit behind the assumptions and estimates. One only needs to consider how an analyst in 1984 might have viewed the period 1985-2010 to appreciate the uncertainties in any future estimates. In response to this uncertainty, a range of plausible values will be considered for the most critical factors underlying revenue and inflation. Low, most likely, and high estimates will be developed for these factors and for the resulting cost totals or revenue totals they comprise. The rationale behind each estimate and its likelihood will be discussed.

A method for examining these uncertainties in a more comprehensive manner is through Monte Carlo simulation. For project costs, for instance, this method will calculate project costs using different combinations of the underlying low, most likely, and high inflation rates and map the results in a frequency table. By examining a large number of these combinations, say 10,000, the statistical characteristics of the cost estimates will emerge.

The Monte Carlo simulation is useful for decision makers because project cost estimates and revenue estimates can be expressed in terms of probability rather than highly uncertain single point estimates. An example of a single point estimate is a forecast stating that inflation will be 3% for all future time periods. There is an implied uncertainty about the estimate, or "fuzziness" about it, but the estimate itself does not provide this information. Alternatively, Monte Carlo simulation will allow one to state that, for example, there is 80% probability inflation will be greater than 2 percent, 50% probability it will be greater than 3%, and 10% probability it will be greater than 4%. In effect, Monte Carlo simulation describes the uncertainty associated with cost and revenue estimates by examining the uncertainties of their underlying variables, allowing decision makers to "hedge their bets" accordingly.

Mathematically, the low, most likely, and high estimates of critical variables are used to develop "triangular" statistical distributions of the variable considered. This statistical distribution fully describes its uncertainty, forming the basis of the more commonly termed "confidence interval" around the estimate. This method is simple to apply since only three data points are used to describe a variable's uncertainty, and the concept of low, most likely, and high estimates is easily understood[1]. Its major drawback is that three data points may not always be enough to adequately describe the uncertainty, especially if there are extreme values on the low and high end of the range. More sophisticated mathematical descriptions are possible, but their complexity makes them impractical for this analysis. Based on this trade-off, the triangular distributions are considered sufficient for this analysis as long as extreme values on the low and high end of uncertainty ranges are avoided.

Tasks

The major tasks described below define the sections of this report.

- Estimates of current federal, state, and local revenues and development of assumptions about how these revenues may change over time.
- Development of short-term and long-term cost escalation rates, or inflation rates, for future project cost estimates.
- Update of the cost estimates of the *Community in Motion*'s projects by updating the underlying cost estimating spreadsheets.

[1] Specifically, a distribution is fit to this data in a manner in which the most likely estimate is the distribution's median value, with the low and high estimates bounding it on either side. The area under the resulting triangular shape is fit to equal to 1.0.

- Assessment of maintenance and operation needs in terms of whether the current rates of spending adequately support the existing road system.
- Examination of current and future transit-related revenues.
- Assessment of relaxing spending restrictions on specific sources of funds.
- Modification of the State's allocation of Highway Distribution Account (HDA) funds.
- Compilation of the above information to compare future cost estimates and future revenue estimates.

Definition of "Local"

For this analysis, local refers to areas in Ada and Canyon Counties. Roadway agencies considered include:

- Ada County Highway District (ACHD)[2]
- Canyon County Highway District No. 4
- Notus-Parma District No. 2
- Middleton
- Melba
- Nampa Highway District No. 1
- Golden Gate Highway District No. 3
- Caldwell
- Greenleaf
- Nampa
- Notus
- Parma
- Wilder

Other local agencies include the providers of regional transit, Valley Regional Transit (VRT) and ACHD's Commuteride Program.

It is recognized that local transportation investments are made by other entities, for instance Ada County cities fund transit and pathways and may have the future ability to partner with ACHD to enhance future projects. However, the agencies already identified comprise a strong majority of the total and should adequately represent the two-county region.

[2] ACHD is a county-wide highway district established under Idaho Code 40-14. With establishment of a highway district, cities are precluded from owning or maintaining roadways within their jurisdiction.

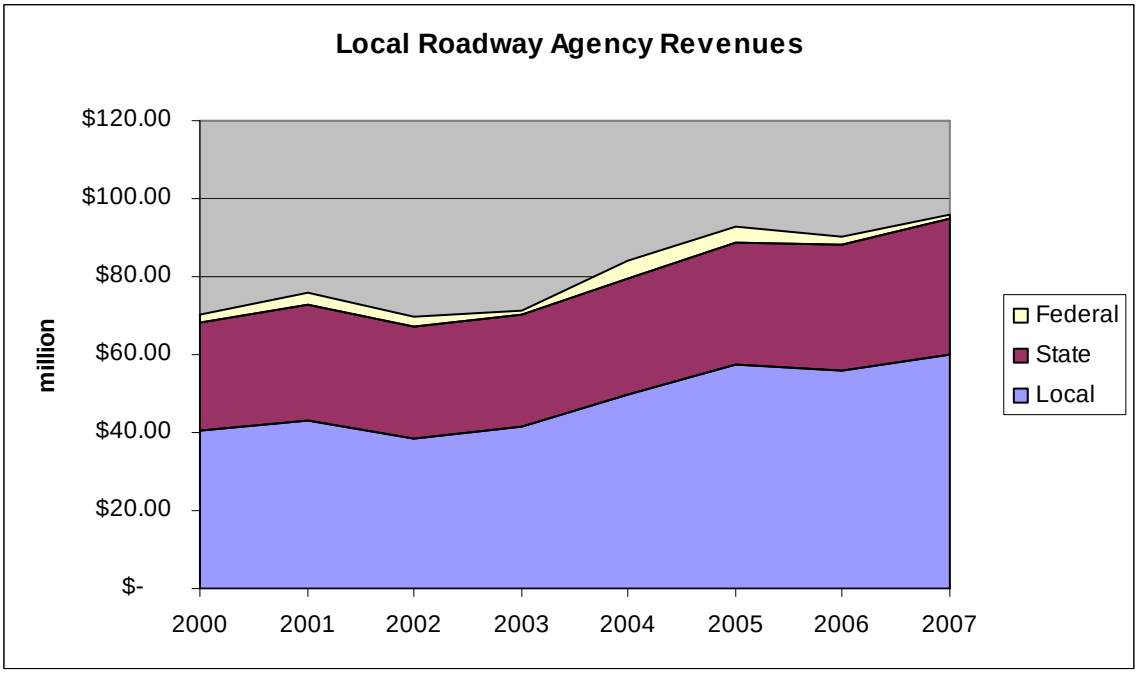
Transportation Revenues for Local Project

Revenue Sources

There are three broad sources of revenue used to finance local roadway and transit construction: federal, state, and local. Figure 1 shows the contribution of each source for the combined revenues of the agencies identified above.

Figure 1 shows that locally-generated revenues comprise the majority of the increase in revenue since 2000 and that the local share of the total has increased significantly. State revenues have increased but at a much slower rate than local sources. Figure 1 shows that federal revenues are not a major component of revenues for local roadways. However, federal revenues are a major component of State-managed roadways, with a resulting indirect effect on local agencies. Federal revenues also play an important role in local transit funding.

Figure 1. Components of Local Roadway Agency Revenues



Federal Revenues

Federal financial support for roadway-related spending comes from the Highway Trust Fund (HTF), which receives roughly 90 percent of its revenues from motor fuel taxes (60 percent from the gasoline tax and 25 percent from the diesel tax). Most funding for Idaho is provided on a formula basis – all states are guaranteed a minimum amount of the

statewide revenue collection (currently 92 percent) with additional funding allocated according to population, miles of roadway, percentage of federally-owned land and other factors. In FY 2007, Idaho received 57 percent more funds in apportionments and allocations than were collected in the state through HTF-related taxes, although it was somewhat lower (52 percent) immediately prior to this.[3]

Distribution of the HTF has been guided by the version of the Transportation Efficiency Act (TEA) in effect, the most recent being the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). For the period 2005-09, Idaho received an average of $276 million per year through this program.

As of the end of FY 2008, the HTF was out of funds, requiring then Transportation Secretary Mary Peters to propose a one-year fix with a request for an $8 billion capital infusion from Congress. Since the HTF is dependent upon gallons of fuel usage times a fixed tax per gallon, $0.184 per gallon, invariant to the fuel prices and inflation, revenues accruing to the HTF are currently in a flat pattern similar to fuel consumption. Based solely on the current situation, continued federal support for roadway and transit projects cannot be expected to increase above minimum levels.

Federal Revenues for State-Supported Projects

Federal revenues for Ada and Canyon County roadway projects are primarily seen through major projects managed by the Idaho Department of Transportation (ITD), separate from the local agencies identified above. As a result, federal funds play a more important role in the regional roadway system, primarily state and interstate highways, than for local roads. Examples of this are the major I-84 projects in various stages of development in the Boise-Nampa corridor. They will enhance the local roadway system and as a result were incorporated in the COMPASS *Communities in Motion (CIM)* list of desired projects. These projects are primarily federally-funded with a state and/or local match. Federal roadway funds for ITD projects tend to be project-specific and can vary significantly from year to year.

Federal revenue for ITD projects in the region, with the exception of GARVEE projects, is anticipated to average about $16 million over the period 2008-2011. Programs receiving this assistance include pavement preservation, bridges, restoration, expansion, and other programs recognized in SAFETEA-LU

Complicating the accounting between federal and state revenues are funding arrangements for major ITD projects called GARVEE projects. GARVEE stands for Grant Anticipation Revenue Vehicle and is essentially a revenue bond issued by the state, using federal funds to make annual payments. For major projects primarily supporting the Connecting Idaho program, such as the I-84 projects, the State supplies the up-front capital using GARVEE bond proceeds and is repaid through a designated account funded

[3] Source: Federal Highway Administration Highway Statistics 2007. (Note that this figure only includes funds paid into and received from the highway account of the HTF.)

with federal revenues. Six corridors within the state are involved in Connecting Idaho and are eligible for GARVEE financing, including the following three in Southwest Idaho:

1. I-84, Caldwell to Meridian
2. I-84, Orchard to Isaacs Canyon
3. Idaho Route 16, I-84 to South Emmet

Approximately $570 million GARVEE funding is anticipated for projects in Ada and Canyon County between 2008 and 2012, averaging over $125 million per year, not including GARVEE funds issued in 2006 and 2007. This is far beyond the $16 million per year average for non-GARVEE projects. Technically, and at least initially, a GARVEE is classified as state funds because the state has issued the bond, but the annual debt service is counted against annual federal revenues. This annual debt service therefore represents the federal funding component. In addition, GARVEE projects are periodic in nature and are associated with specific programs, making it unlikely that these bonds would be issued on permanent annual basis. Given these characteristics, estimating future levels GARVEE funding beyond current plans would yield highly uncertain results.

The local stake in federal revenues for ITD projects is related to the need for the state to match some portion of the federal revenues with their own revenues. As a result, the state's own share of Highway Distribution Account (HDA) funds is expected to be fully committed to existing projects or matching federal grants within a few years. In effect, ITD's future federal revenues may be capped by an inability to provide a local cost share, prompting a need to either increase the fuel tax to increase HDA revenues or modify the HDA distribution formula in order to have more funds for new construction and leverage on federal projects. Either option will have an impact on local roadway agencies.

Federal Revenues for Local Projects

Federal funding to local roadway agencies has been through portions of several SAFETEA-LU programs, including:

- Surface Transportation Program – Enhancement (STP-E), such as aesthetic and safety enhancements to sidewalks and trails

- Surface Transportation Program -- Transportation Management Area (TMA), such as road overlay, reconstruction, and rehabilitation projects, and for transportation planning

- Congestion Mitigation Air Quality (CMAQ) program, such as financing purchase of Commuteride vans and signal controls to reduce traffic congestion with resulting improvements in air quality

- High Priority projects, such as the Three Cities River Crossing

These programs also require some degree of local matching funds. Compared to ITD, local roadway agencies should more easily be able to provide matching funds since the federal component is much smaller percentage of their total sources of funds.

For the years 2009-2012, federal funding for local projects can be estimated with some degree of certainty because the funds have already been reserved for specific ongoing or future projects. In 2007, these funding levels were estimated as follows:

- 2008: $23.07 million
- 2009: $11.4 million
- 2010: $9.7 million
- 2011: $7.8 million
- 2012: $10.34 million

Over this period, federal revenues for local agencies' projects average about $12.4 million per year. This level of federal funding for local agencies is greater than in recent history and can be attributed to a number of STP-TMA projects by ACHD, STP-Urban Aid projects in Canyon County, and a bridge project in Canyon County. However, there is no absolute certainty that these funding levels will be maintained with the prospect of flattening HTF revenues.

Future Federal Roadway Revenues – Most Likely Estimate

An escalation rate of 1.5 percent per year for federal roadway revenues is estimated as the most likely outcome for the COMPASS region, based on the following assumptions:

1. Gasoline sales continue to grow from current levels in Idaho at an average annual rate of 0.9 percent; diesel sales increase at an annual rate of 2.5 percent. These figures represent one-half the 1981-2007 average growth rate, reflecting the likelihood of increased average fleet fuel efficiency in the coming decades.[4]

2. Despite several groups calling for a 50 percent or more increase in federal fuel taxes and indexing with the inflation rate, including the Congress's own National Commission on Surface Transportation Infrastructure Financing, there are few signs indicating Congress is ready to increase the fuel tax rate in a down economy. Therefore, no increase is assumed during the analysis period. It is recognized that federal fuel taxes have been periodically raised in the past and may be adjusted in the future. This possibility is considered in the high scenario.

3. HTF revenues allocated to Idaho grow in proportion to HTF revenues most recently collected in the state. Implicit is an assumption that the return to Idaho for every $1 of HTF-related tax raised in the state will be approximately $1.39, the average of return for the period 2003-09.

[4] A study for the Texas Department of Transportation estimated that the average fuel efficiency of that state's fleet would increase from 18 mpg to 58 mpg by 2030. A 2008 study by the California Air Resources Board projected that gasoline consumption in California will fall to one-half of current levels by 2035.

4. The COMPASS region continues to receive the same share of statewide HTF allocations, independent of recent distortions created by high levels of GARVEE-funded expenditures.

5. The share of HTF-related tax revenues for the highway account and mass transit accounts remains unchanged and other highway account revenues increase in proportion to revenues from motor fuels. Furthermore, it is assumed that no law is passed to redirect HTF funds toward other purposes (such as deficit reduction), or conversely, Congress does not re-direct additional revenues into federal transportation programs other when needed to ensure the solvency of the HTF.

Future Federal Roadway Revenues – Low Estimate

A low estimate escalation rate of 0.1 percent per year is based on the following assumptions:

1. Gasoline sales decline from current levels over the period 2009-2035 at an annual rate of 0.7 percent; diesel sales increase at an annual rate of 1.5 percent per year. This scenario reflects Energy Information Administration (EIA) projections for changes in national motor fuel consumption between 2007 and 2030.

2. Assumptions 2 through 5 under the most likely scenario remain in effect.

Future Federal Roadway Revenues – High Estimate

A high estimate escalation rate of 6.1 percent per year is based on the following assumptions:

1. Gasoline sales in Idaho increase at 1.7 percent per year and diesel sales increase at 5 percent per year, in line with average fuel consumption growth in Idaho during 1981-2007.

2. Congress continually adjusts the fuel tax rate to match long-term inflation, estimated in this analysis to be approximately 4.0 percent.

3. Assumptions 3 through 5 under the most likely scenario remain in effect.

State Revenues: Highway Distribution Account

The state Highway Distribution Account (HDA) is the primary statewide source for roadway funding. About one-half of HDA revenues come from the state gasoline tax, fixed at $0.25 per gallon since 1996; one-fourth come from the state diesel tax with the remainder coming from vehicle registration and other miscellaneous fees. HDA funds are distributed among cities, counties and the Idaho Transportation Department (ITD) according to formulas specified in the Idaho Code. In addition, these State funds are required for matching available federal funds.

Future State Roadway Revenues – Most Likely Estimate

A most likely estimate of 1.5 percent per year for the escalation rate of HDA revenues accruing to the COMPASS region is based on the following assumptions:

1. Gasoline and diesel sales continue to grow in Idaho at an average annual rate of 0.9 percent and 2.5 percent respectively. These figures represent one-half of the 1981-2007 average growth rate for each motor fuel in Idaho, reflecting the likelihood of increased average fleet fuel efficiency in the coming decades.

2. The state motor fuel tax (currently 25 cents per gallon for gasoline and diesel) is assumed to remain unchanged through the planning period. Although it has historically been raised at a rate equivalent to approximately 2.1 percent per annum, there are few indications that the Legislature will increase the tax in a down economy.

3. Statewide passenger vehicle and commercial truck registrations increase in proportion to the population, with the number of each type of vehicle per capita remaining at their 2001-2007 levels.[5]

4. Vehicle registration fees are raised periodically at a rate equivalent to 2 percent each year (in line with the average annual increase over the past 26 years).

5. The current rules for apportionment of HDA funds between ITD and local entities, as defined in the Idaho Code, remain in effect.

6. The percentage of statewide improved highway miles that are in the COMPASS region remains unchanged.

Future State Roadway Revenues – Low Estimate

A low estimate of 0.1 percent per year is based on the following assumptions:

1. Gasoline sales decline at an average rate of 0.7 percent per annum and diesel sales increase at an average annual rate of 1.5 percent, in line with EIA projections for the nation as a whole.

2. Per capita car and truck registrations decline at a rate of 1 percent per annum, reflecting the relative growth of urban populations in Idaho and the lower number of passenger vehicles per person in these areas. This would also continue the downward trend seen in the late 1990s and early 2000s.

3. Assumptions 2, 4, 5 and 6 of the most likely scenario remain in effect.

[5] In contrast to the U.S. as a whole, which has seen steady increases in the number of vehicles per person since 1960, the number of registered motor vehicles per person in Idaho has remained relatively constant since 2001, after declining somewhat in the preceding years.

Future State Roadway Revenues – High Estimate

A high estimate of 5.6 percent per year is based on the following assumptions:

1. Statewide gasoline and diesel sales continue to grow at their historical rates of 1.7 percent and 5 percent respectively.

2. The state motor fuel tax (currently 25 cents per gallon for gasoline and diesel) is raised periodically at a rate equivalent to 2.1 percent per annum. This is the average annual rate of increase for both gasoline and diesel taxes in Idaho during the last 26 years.

3. Vehicle registration fees grow at a rate of 4.6 percent each year. This represents the annualized rate corresponding to the biggest single fee increase during the period 1975-2009. (Over the period 2009-2035, this additional increase would bring Idaho fees in line with average vehicle registration fees nationally.)

4. Assumptions 3, 5 and 6 of the most likely scenario remain in effect.

State Revenues: Roadway Sources other than HDA

In FY 2007, 11.5 percent of Idaho sales tax revenues were distributed to local governments. Several different formulas are used to distribute sales tax revenues. Although the formulas have changed over the years, population has been the most consistent factor in determining distribution. A portion of these distributed funds was spent on transportation.

Other State Revenues – Most Likely Estimate

An escalation rate of 5.7 percent each year for state sales tax revenues allocated to roadway funding in the COMPASS region is based on the following assumptions:

1. Per capita sales tax revenues in Idaho increase at an annual rate of 4 percent, in line with a national estimate for the annual increase in nominal per capita disposable income for the period 2004-2014, calculated by the Bureau of Labor Statistics. Implicit in this assumption is the sales tax rate remaining at its current level of 6 percent.

2. The Idaho population grows at an annual rate of 1.3 percent between 2009 and 2035 (in line with Census projections for 2010-2030).

3. The COMPASS region's share of the state population increases from 39 percent in 2009 to 42 percent in 2035 (in line with Census and COMPASS projections).

4. The percentage of statewide sales tax revenues distributed to local entities and the share of the distributed amount that each local entity spends on transportation remain at their current levels.

Other State Revenues – Low Estimate

An escalation rate of 5.3 percent each year is based on the following assumptions:

1. Per capita sales tax revenues increase at a rate of 3.6 per year reflecting a four percent increase in nominal disposable income combined with an increase in the personal savings rate from two percent in 2008 to 11 percent in 2035, reversing the national trend for the period 1982-2008.

2. Assumptions 2, 3 and 4 of the most likely scenario remain in effect.

Other State Revenues – High Estimate

An escalation rate of 6.7 percent each year is based on the following assumptions:

1. Per capita sales tax revenues in Idaho increase at an annual rate of five percent, in line with the national average increase in nominal per capita disposable income during 1982-2008.

2. Assumptions 2, 3 and 4 of the most likely scenario remain in effect.

Local Revenues – Property Tax for Roadways

Property taxes account for a large share of local roadway funding. Property tax revenue escalation rates are based on an analysis of property tax trends in Idaho, with the following considerations:

- Generally, taxes are budget-driven, not assessment-driven. This means that the desired budget revenues for a taxing district are determined first before calculating the required tax rate needed to raise that amount.

- Idaho Code generally limits property tax revenue increases to a maximum of three percent each year, unless overrode by a supermajority of voters. This analysis will incorporate this three percent annual increase, recognizing, however that this cap does not apply to new growth and that assessments and mill levies will vary from year to year depending on trends in property values.

- ACHD and other highway districts have dedicated mill levies. (These represented approximately six percent of all property taxes between 1999 and 2008.)

- Roughly two-thirds of property tax revenues are derived from taxes on residences.

Local Property Tax Revenues – Most Likely Estimate

A most likely escalation rate of 3.9 percent for property tax revenues for COMPASS region roadway funding is based on the following assumptions:

1. COMPASS region property tax revenues per household increase at average rate of 2.3 percent each year – equal to the statewide average annual growth in per-household property tax revenues over the 27-year period 1981-2008.

2. The number of households in the COMPASS region grows at the estimated annual rates shown in Table 2, currently estimated to be about 2.2 percent for the period 2010-15, decreasing to an annual rate of about 1.1 percent after 2030.

3. The share of property tax revenues going to roadway funding remains constant at 1999-2008 levels (revenues going to highway districts represented approximately 6 percent of all property tax revenues in Idaho for each year during this period).

Local Property Tax Revenues – Low Estimate

A low estimate escalation rate of 3.2 percent is based on the following assumptions:

1. COMPASS region property tax revenues per household increase at average rate of 2.3 percent each year, as above.

2. One four-year period occurs during which average home prices in the COMPASS region decline by 15 percent. During this time, property tax rates increase at a rate of three percent per year, after which revenue growth rates return to the level in Assumption 1.

3. Assumptions 2 and 3 of the most likely scenario remain in effect.

Local Property Tax Revenues – High Estimate

A high estimate escalation rate of 5.7 percent is based on the following assumptions:

1. Per-household property tax revenues for roadway funding increase at an average rate of four percent each year, in line with the rate of growth in budgeted Ada County Highway District (ACHD) revenues for 2000-2010. Implicit in this assumption are additional voter-approved levies in other counties in the COMPASS region specifically designed to generate revenues for local road construction, maintenance and repair. Admittedly there is little historical precedence beyond Ada County's recent vehicle registration fee increase to suggest that local voters would voluntarily increase taxes.

2. Assumptions 2 and 3 of the most likely scenario remain in effect.

Local Revenues: Impact Fees for Roadways

Impact fees may be charged by cities, counties and highway districts in the COMPASS region. Currently ACHD and the City of Nampa charge these fees and several other roadway entities in the area are currently conducting or have recently completed studies considering them. Estimates for low, most likely, and high escalation rates are based, in part, on the insights of BBC Research, the consulting firm conducting these studies

Local roadway construction for new development can also be supported through negotiated exactions where municipalities require developers to fund and build roads directly instead of imposing fees. This component of new roadway development funding has not been considered.

Local Impact Fee Revenues – Most Likely Estimate

Impact fees are a major source of local revenue but are restricted in use for new capacity. As a result, impact fees cannot be used for maintenance, operations, or portions of capital costs that involve improvements to existing capacity. An escalation rate of 2.0 percent for roadway revenues for the COMPASS region derived from impact fees is based on the following assumptions:

1. In addition to the existing fees for ACHD and the City of Nampa, Canyon County Highway District #4 (CCHD #4) introduces an impact fee starting in 2011, at the rates established in BBC Research's recent analysis.

2. Growth in impact fee revenues is based on COMPASS projections for the number of households in individual municipalities.

3. Increases in individual fee rates are tied to the historical trend in the Engineering News Record Construction Cost Index (ENR-CCI) over the past 26 years, averaging 3.1 percent per year over this period.

4. The percentage of new impact fee revenues dedicated to roadway spending remains the same as that for existing impact fees.

Local Impact Fee Revenues – Low Estimate

An escalation rate of 1.9 percent is based on the following assumptions:

1. ACHD and the City of Nampa continue to impose their existing impact fees but no new fees are imposed by other municipalities or districts.

2. Assumptions 2 , 3 and 4 of the "most likely" estimate remain in effect.

Local Impact Fee Revenues – High Estimate

An escalation rate of 2.2 percent is based on the following assumptions:

1. In addition to existing fees imposed by ACHD and Nampa, new impact fees for CCHD #4, Nampa HD, and the City of Middleton begin in 2011.

2. Assumptions 2, 3 and 4 of the "most likely" estimate remain in effect.

Local Revenues: Vehicle Registration Fees for Roadways

Counties have an option under Idaho statute to charge a registration fee for vehicles in addition to the fee levied by the state. Ada County's fee generates approximately five percent of total revenues for ACHD. By law, all local option registration fees must go to roadway funding.

Local Vehicle Registration Fee Revenues – Most Likely Estimate

A most likely escalation rate of 4.0 percent for revenues from local vehicle registration fees is based on the assumptions listed below. This annual increase is close to the annual increase in budgeted ACHD revenues from registration fees during 2000-2010.

1. Ada County continues to charge a fee.

2. The number of taxable vehicles in Ada County increases in proportion to the population, reflecting a constant number of cars per person in Ada County over the past ten years. This is similar to the assumption made for HDA vehicle registration fees revenues.

3. The registration fee is periodically increased at a rate equivalent to two percent per year, in line with the average statewide registration fee increase over the past 26 years.

Local Vehicle Registration Fee Revenues – Low Estimate

A low estimate of 3.0 percent per year is based on the following assumptions:

1. Assumptions 1 and 2 of the most likely scenario remain in effect.

2. The registration fee is periodically increased at a rate equivalent to 1 percent per year, reflecting the fact that increases or extensions to local registration fees require direct voter approval in a general election (whereas the state registration fee can be increased by the legislature at any time).

Local Vehicle Registration Fee Revenues – High Estimate

A high estimate of 5.0 percent per year is based on the following assumptions:

1. Assumptions 1 through 3 of the most likely scenario remain in effect.

2. Equivalent registration fees are introduced in other COMPASS region counties following voter approval, resulting in a one-time increase in regional local option fee revenues of 30 percent at some point during the next 26 years. Implicit in this assumption is that once in place, assumptions 2 and 3 of the most likely scenario apply equally to all counties.

Other Local Revenues for Roadways

Other local revenues for roadway funding include franchise fees, interest payments and sale of assets, among others. During 2000-2004, these revenues represented about 8 percent of all local roadway funds. Most likely, low and high estimates for escalation rates of 3.3 percent, 2.9 percent and 4.4 percent respectively are based on the assumption that these revenues will grow in proportion to overall local roadway funding.

Summary of Future Roadway Revenue Estimates

Table 3 summarizes the revenue escalation rates discussed above. These rates are applied to an estimated baseline 2009 level of revenue in order to estimate future revenues for local roadway maintenance and construction.

Table 3. Summary of Future Roadway Revenue Assumptions

	2009 baseline	Future escalation rates			
		Baseline	Low	Most likely	High
Federal revenues					
For local agencies	$ 12,400,000	1.50%	0.10%	1.50%	6.10%
ITD projects					
Local ITD projects (non-GARVEE)	15,800,000	1.50%	0.10%	1.50%	6.10%
Local ITD projects GARVEE funded /1	40,000,000	1.50%	0.10%	1.50%	6.10%
State revenues					
For local agencies					
Highway Distribution Account	31,000,000	1.50%	0.10%	1.50%	5.60%
Other State sources	2,500,000	5.70%	5.30%	5.70%	6.70%
For ITD projects	3,000,000	1.50%	0.10%	1.50%	5.60%
Local revenues					
Local agencies					
Property tax assessments	36,000,000	3.90%	3.20%	3.90%	5.70%
Impact fees	12,000,000	2.00%	1.90%	2.00%	2.10%
Vehicle registration fees	9,000,000	3.00%	2.00%	3.00%	4.00%
Other local revenues	8,700,000	2.00%	1.00%	2.00%	3.00%
Total roadway revenues for local agency projects	111,600,000				
Total roadway revenues for local ITD projects	58,800,000				

/1 Estimated annual equivalent value for federal portion of debt service on GARVEE bonds.

State and Local Baseline Revenues

Baseline 2009 levels of state and local revenues were estimated by summing the 2007 levels across the Ada Canyon and Canyon County roadway agencies. It is assumed these levels more or less apply to the current period. The term “more or less” is used because two local sources of revenue shown in Table 3 are questionable, impact fees and vehicle registration fees. At the time of this analysis, actual impact fee levels appear to be far below historical levels and below 2008 ACHD estimates of about $12.0 million per year. Local Ada County vehicle registration fees were renewed and doubled for 2009 and beyond, although it remains to be seen if actual revenue doubles from its 2008 level. Despite these possible uncertainties, these levels are considered baseline because they likely represent “normal” conditions, in contrast to the economic recession experienced in 2008 and early 2009.

Baseline Federal Revenues for State and Local Projects

A baseline level of federal revenues for state projects is challenging to estimate because, as previously discussed, these funds are project specific and vary widely from year to year. In response, the uncertainty associated with federal funds in bracketed in a manner similar to that for the revenue escalation rates. In addition, it should be noted that a host of relatively expensive local roadway projects, such as I-84 interchange and widening projects, are currently in the design and construction phases. These projects utilize federal funds for a major portion of their financing and may represent a higher-than-trend level of federal presence than what could be expected in the future.

- In the most likely case, the annual federal revenues are assumed to be sufficiently high to recover all local near-term federal roadway obligations, as identified in the FY2008-2012 Northern Ada County Transportation Improvement Program and the corresponding document for the Nampa Urbanized Area.[6] For the year 2013, the baseline annual funding for state projects is assumed to be scaled back to an annual equivalent level of $56 million, of which $40 million is the assumed annual level of federal funds used for debt service on GARVEE bonds for state projects in the COMPASS region and $16 million is for other state roadway projects in the COMPASS region. This level of annual funding would continue into the future at the escalation rates described above for federal funds.

- In a low scenario, the annual level of federal funding for local projects is maintained at its committed level through 2012, but is scaled back by 50 percent of the most likely level to reflect a reduced federal funding for local roadways. This would reflect the depletion of the HTF and lowered fuel tax revenues, continuing a downward trend of economic conditions over the period 2009-2013. It would also be reflected in lower levels of service and worsening conditions of federal and state highways, likely diverting relatively more traffic back to local roadways, with resulting impacts to local maintenance cost.

- In a high scenario, the level of federal participation would be maintained at its current level throughout the planning horizon, reflecting the assumption that current levels are somewhat higher than trend. Therefore, annual revenues of $56 million would be extrapolated into the future at the rates described above for federal funds.

The baseline level of federal revenue for local agency projects is estimated to be approximately $12.4 million per year, corresponding to the average level of existing

[6] Community Planning Association of Southwest Idaho (COMPASS), FY2008-2012 Northern Ada County Transportation Improvement Program. Report No. 09-2007, as updated through July, 2008.

COMPASS, FY2008-2012 Nampa Urbanized Area Transportation Improvement Program. Report No. 10-2007, as updated through July, 2008.

federal obligations through 2012, extrapolated into the future at the rates described above for federal funds.

Summary of Revenue Estimates 2010 through 2035 Reflecting Most Likely Conditions

Figure 2 shows future revenue estimates for use by local roadway agencies for local projects by major source, based on their most likely values. Two trends are apparent.

1. Continuing the current trend, the proportion of local revenue to state revenue increases. Currently, local sources account for slightly less than 60 percent of total revenues (59 percent) and state sources account for about 30 percent of total revenues. Over time these proportions change to 67 percent and 25 percent, respectively.

2. The federal share of overall local roadway decreases slightly, from about 11 percent to 8 percent.

Figure 2. Future Local Agency Revenue Estimates by Source, Most Likely Scenario

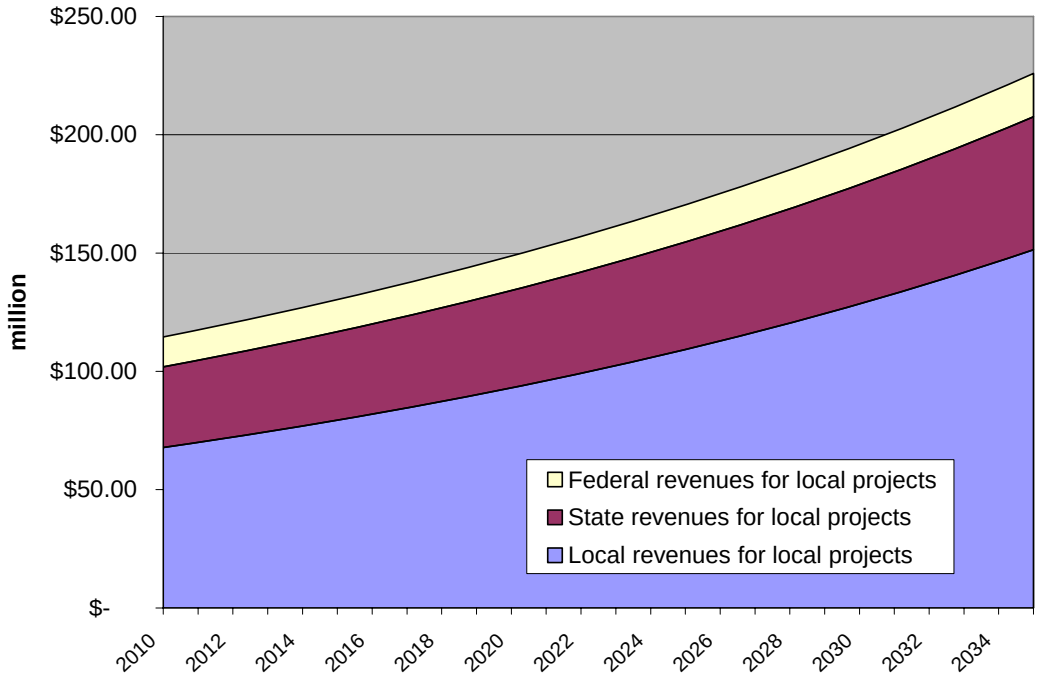
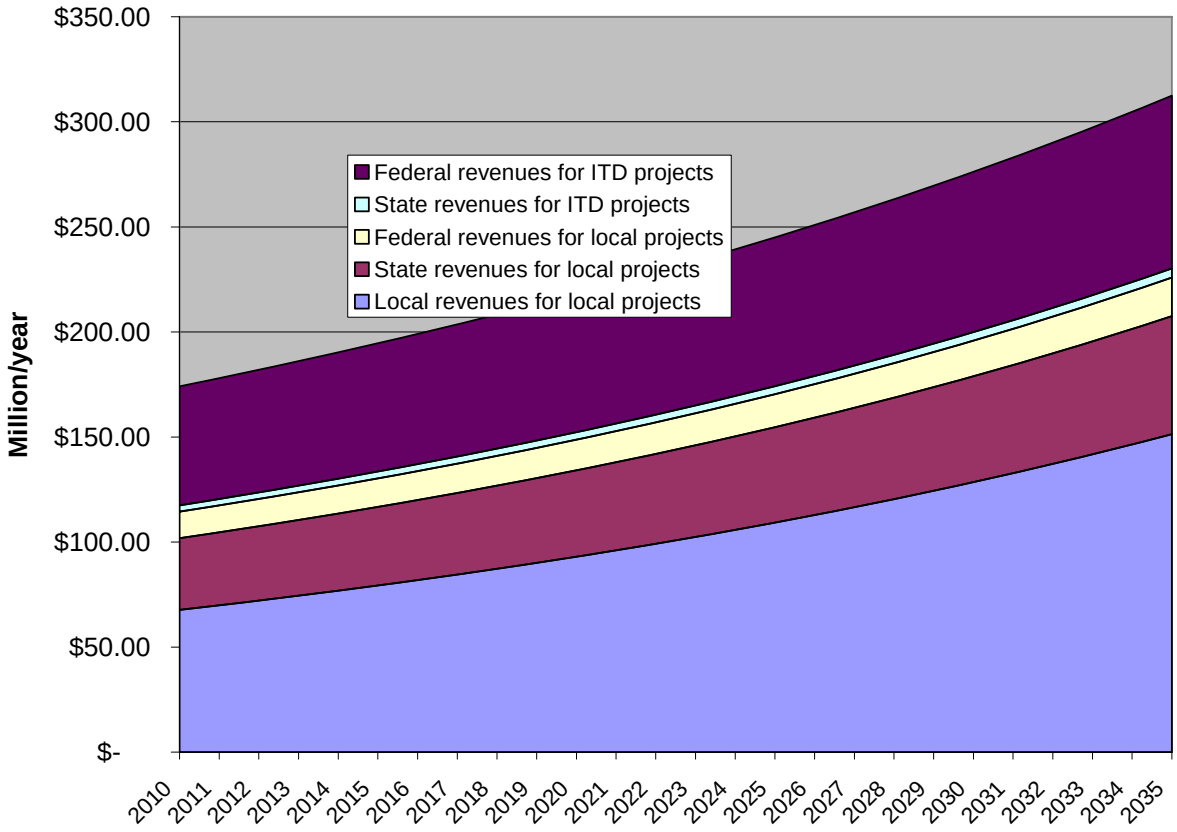


Figure 3 shows future revenue estimates for use by both local agencies and ITD for all roadway projects in the COMPASS region. It should be noted that federal and state revenues are segregated by their use for either ITD or for local roadway agencies. Figure 3 shows that over time federal revenues become an increasingly important component of ITD funding.

Figure 3. Total Revenues for Roadway Construction in the COMPASS Area, Most Likely Scenario



Uncertainty and Revenues

Figure 4 shows the total revenues summed over the period 2010-35, by source. Under the most likely scenarios, total estimated revenues equal approximately $6.0 billion. Of course, the development of low, most likely, and high scenarios for revenue growth testify to the highly uncertain nature of this estimate. It is also apparent that the federal and state revenue components are subject to the greatest uncertainty.

Using the Monte Carlo simulation approach deals with this uncertainty by considering a very high number of combinations of these low, most likely, and high values, and plotting the resulting revenue levels associated with each. By doing this, the statistical characteristics of future revenue estimates become evident. However, these combinations are not totally random because the underlying statistical characteristics of the revenue growth rates have been defined using the low, most likely, and high values for each revenue source. In addition, there is assumed to be some correlation between scenarios, in the sense that if state revenues are following a low scenario, it is likely that so are local revenues. However, this correlation was not assumed to be strong because recent history has demonstrated that local revenues can increase when State revenues remain relatively flat.

The statistical qualities are illustrated in two types of figures:

1. A frequency diagram showing the number of times estimated revenue met certain levels (Figure 5). The shape of this frequency diagram lends immediate insight on whether revenues are more likely or less likely to be greater than their most likely values.
2. A percentile table showing the probability that revenue exceeds certain values (Table 4).

Figure 4. Total Sum of Annual Roadway Revenues by Source and Scenario, 2010-35.

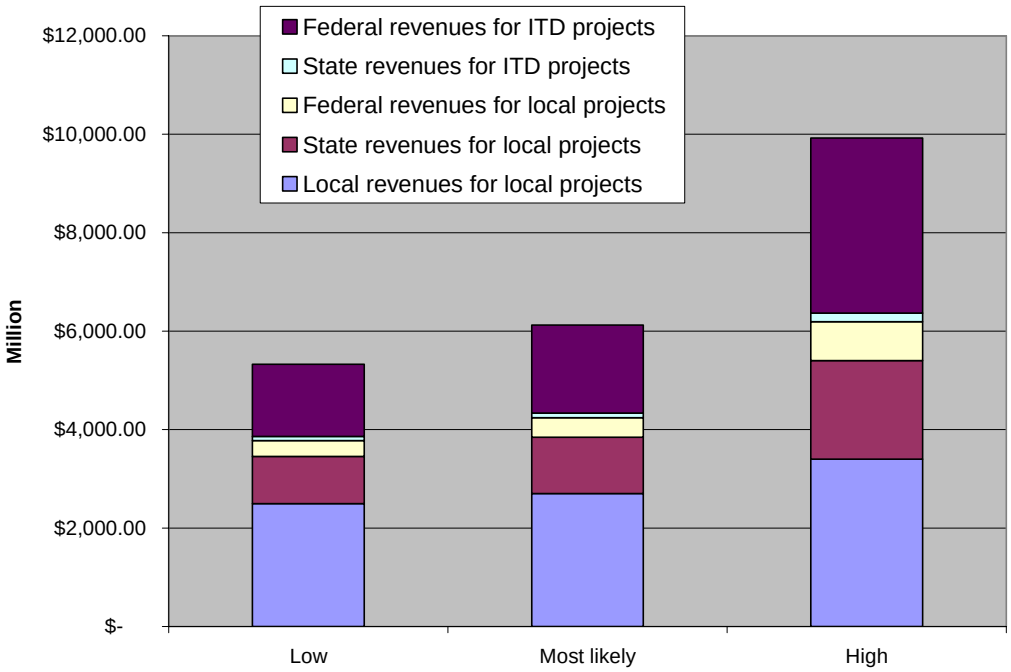


Figure 5 shows that $6.0 billion is to the far left side of the curve, indicating a very high probability that actual revenues will exceed their most likely values. Table 2 indicates that there is a greater than 90 percent likelihood, or probability, that revenues will be $6.2 or greater; there is a 50 percent probability that revenues will be $6.8 billion or greater; and a 10 percent chance that revenues might actually exceed $7.4 billion.

Figure 5. Statistical Frequency of Cumulative Total Revenue Estimate

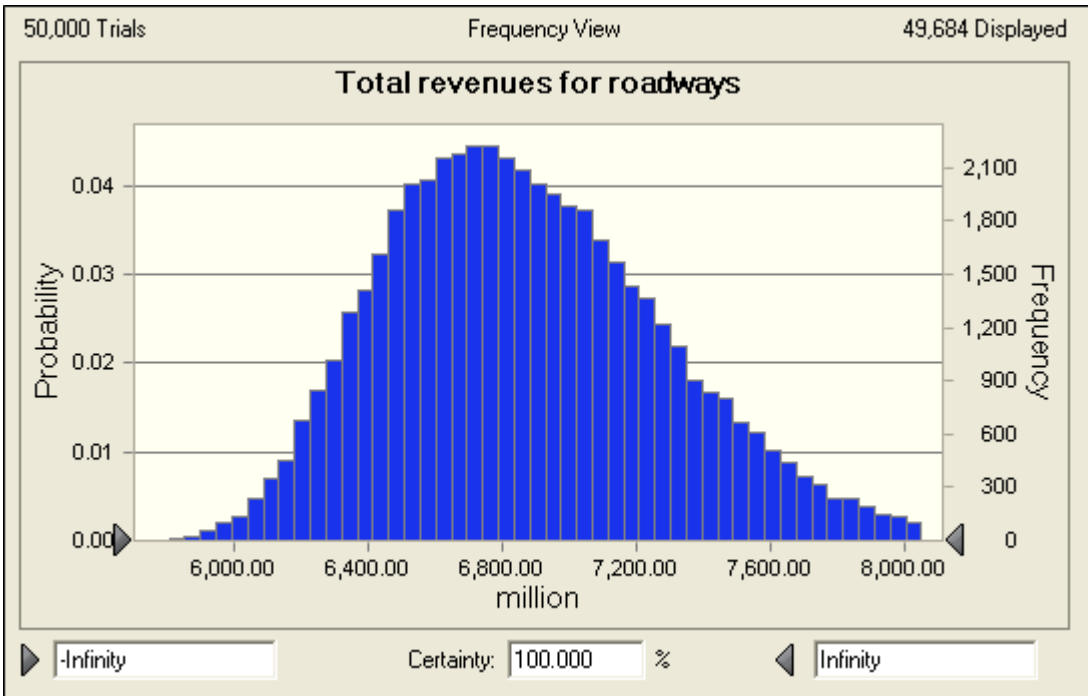


Table 4. Percentiles Associated with the Total Revenue Estimate

Forecast: Total revenues for roadways	
Percentile	Forecast
0%	5,731.03
10%	6,354.17
20%	6,502.78
30%	6,615.64
40%	6,721.50
50%	6,828.16
60%	6,941.90
70%	7,065.06
80%	7,217.53
90%	7,435.00
100%	8,762.90

Update of Cost Estimating Spreadsheets and *Communities in Motion* Roadway Project Costs

Cost Indices Used for Updating

The American Road and Transportation Builders Association (ARTBA) Highway Construction Producer Prices[7] were used to update the construction cost estimates of CIM projects from 2001, 2004, and 2005 dollars to January 1, 2009 dollars, the most recent date the cost indices were available (Table 5). ARTBA cost indices were considered appropriate because of their direct applicability to the materials considered in the cost estimates. In addition, other transportation materials cost indices were not complete through 2008 at the time of data collection.

The ARTBA Highway Construction Producer Prices index measures the average change in price of materials sold from domestic producers for their output. The "highway and street construction" composite index is composed of petroleum products, cement, aggregates, metals, and plastics.

Indices for specific materials were used to update the cost estimates, when available. The overall "Highway and Street Construction" composite index was used to update construction costs for materials, such as geotextile, which did not have a material-only index.

For interchange grade separation projects, the original estimates were made in 2001 dollars. The Bureau of Labor Statistics Producer Price Index for Highway and Street Construction (BLS PPI BHWY) was used to inflate the cost estimates to 2008 dollars, because the ARBTA Highway Construction Producer Prices do not date back to 2001. The BLS PPI BHWY is a composite index compiled by the Bureau of Labor Statistics to measure changes in inputs to the construction of streets and highways that are produced by the mining and manufacturing sectors. This index does not include capital equipment or labor costs.

[7] ARTBA Highway Construction Producer Prices, January 2009. http://www.artba.org/economics_research/recent_statistics/prod_price_index/PPI%20January%2009%20Report.pdf. Accessed February 24, 2009.

Table 5. Roadway Cost Indices Used to Update Communities in Motion Project Costs

		Dec 07 to Dec 08	Dec 06 to Dec 07	Dec 05 to Dec 06	Dec 04 to Dec 05	Dec-04	Annual inflation rate
Highway & Street Construction		-0.8%	10.1%	6.2%	14.1%		
	Index	132.3	133.4	121.2	114.1	100	5.1%
Asphalt Paving & Block Mfg		30.1%	2.1%	25.0%	14.0%		
	Index	189.3	145.5	142.5	114.0	100	18.4%
Cement		-0.6%	4.4%	10.5%	12.2%		
	Index	128.7	129.4	124.0	112.2	100	4.7%
Concrete Block & Brick		4.6%	3.3%	6.8%	8.1%		
	Index	124.7	119.3	115.5	108.1	100	4.9%
Construction Sand, Gravel & Crushed Stone		6.6%	8.4%	9.3%	7.7%		
	Index	136.0	127.6	117.7	107.7	100	8.1%
Iron & Steel Scrap		-40.7%	29.4%	2.9%	-10.8%		
	Index	70.4	118.8	91.8	89.2	100	-7.6%
Ready Mix Concrete		4.1%	3.1%	10.1%	11.3%		
	Index	131.5	126.3	122.5	111.3	100	5.7%

Source: ARBTA Highway Construction Producer Prices, Jan. 2009.
http://www.artba.org/economics_research/recent_statistics/prod_price_index/PPI%20January%2009%20Report.pdf

For InterchgGrd Separation escalation of Canyon County estimates from 2001 to 2008, the BLS PPI for Bridge and Highway Construction was used.

Year	Index (Sept)	Inflation Rate
2001	137	
2008	222.5	7.2%

Revised Communities in Motion Project Costs

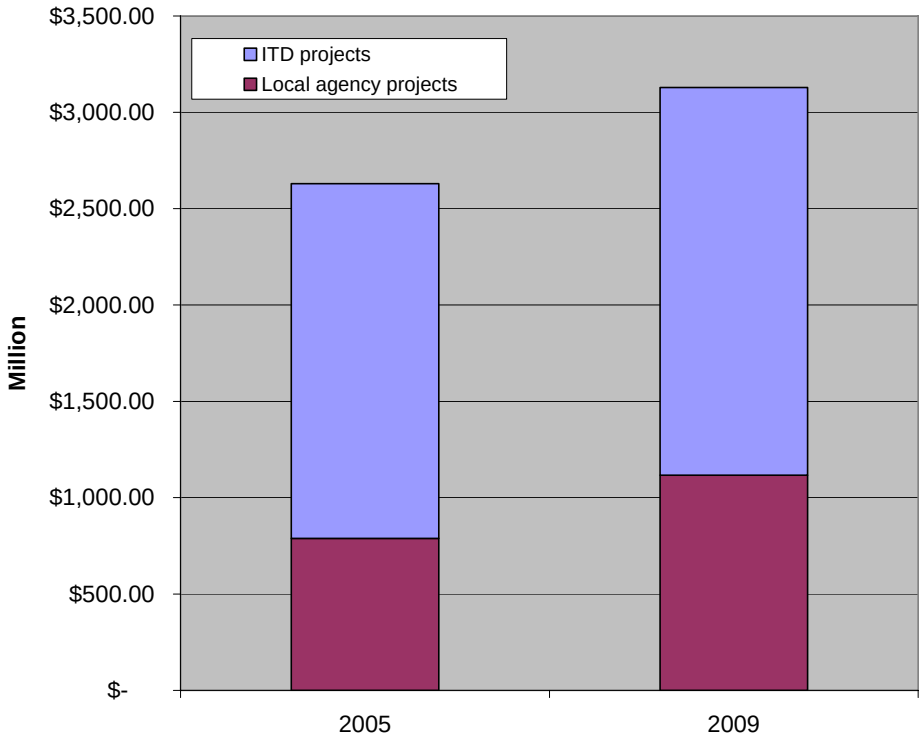
Applying the appropriate historic cost indices to the components of the CIM project cost estimates updates these costs to January, 2009 levels. Inflation increases the total cost of the projects to approximately $3.1 billion from the 2005 estimate of $2.6 billion. This translates to an annual inflation rate of about 6 percent over the three years 2006-08, assuming the 2005 estimates reflected the end of year conditions. This impact is shown in Figure 6.

Project-specific updated cost estimates for the CIM projects are included in Appendix A.

If divided over a 25-year planning horizon of 2010-2035, the annual cost of the CIM projects, in 2009 dollars, is approximately $140 million. It should be noted that CIM projects include both local and state projects, so accounting for each is necessary to allocate capital expenses. Approximately 64 projects of CIM project cost expenditures are for state managed projects and 36 percent are for locally-managed projects.

Overall, ACHD estimates that about 70 percent of their total improvements are eligible for using impact fee revenues.

Figure 6. Comparison of Inflation's Impact on Total Estimated Cost of Communities in Motion Projects, 2005 and 2009



Other Capital Expenditures for Local Roadways

Communities in Motion roadway projects represent the majority of local roadway capital investment, but not all. Ada County Highway District has planned capital expenditures for collector roadways and minor arterials not considered in CIM. Similarly, Canyon County entities also have projects not included in CIM.

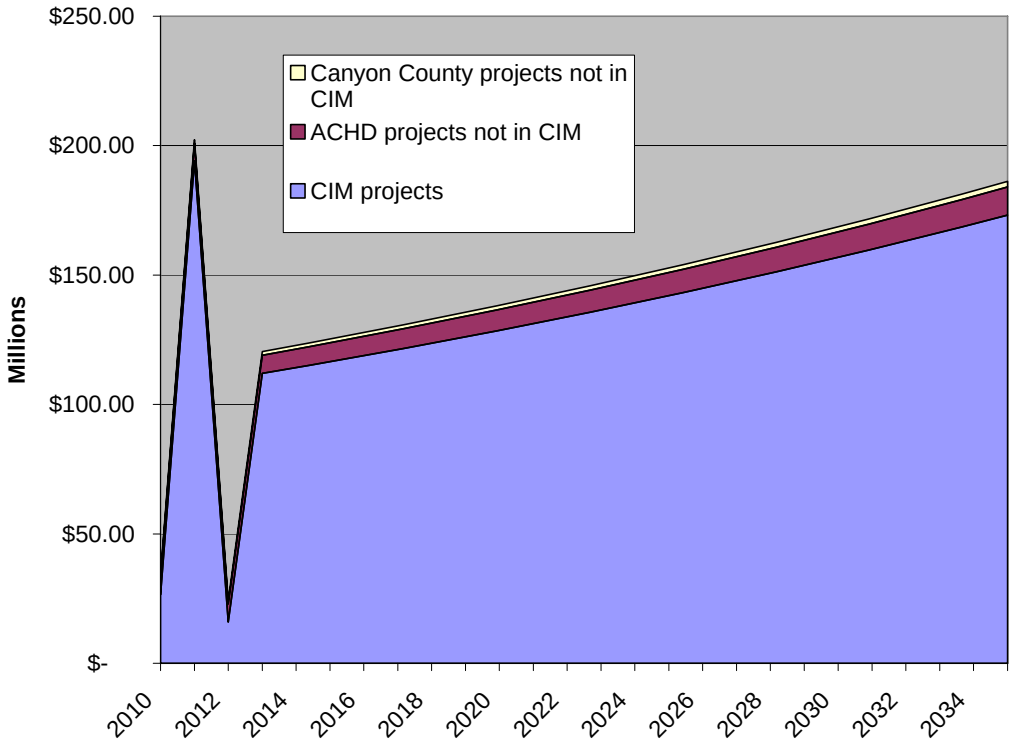
It is estimated that approximately 13 percent of ACHD's future capital costs are for non-CIM projects. This percentage is based on comparison of CIM projects and the ACHD Capital Improvement Program.[8] For annual capital improvements in the range of $50 million per year, this would be approximately $6.5 million. For Canyon County, non-CIM projects are assumed to comprise approximately the same proportion of costs compared to CIM costs.

[8] ACHD Capital Improvements Plan, July 26, 2006.

A baseline total capital improvement estimate for Canyon County was assumed to equal the total capital improvement budgets of the combined entities, estimated to be approximately $10 million. As a result of the above assumption, approximately $1.3 million per year spent on non-CIM projects and $8.7 is spent on CIM projects. For agencies in both counties, the levels of non-CIM capital improvements are assumed to grow over time at a rate corresponding to local population growth.

Figure 7 shows the levels of combined capital improvements for CIM projects and local agency projects. The local agency, non-CIM expenditures are for capital projects on roadways and do not include any maintenance activities. These expenditures are shown in 2009 dollars for illustration only. For analysis purposes, these estimates will be escalated at the inflation rates discussed in the next section. The zigzag nature of the near-term years reflects programmed expenditures that can vary widely from year-to- year. After 2012, expenditures are "smoothed" on an annual basis over the period 2010-35.

Figure 7. Local Roadway Capital Improvements



Short-Term and Long-Term Inflation Rates for Transportation Project Cost Estimates

Inflation Assumptions

Federal Highways Administration (FHWA) recommends the use of a 4 percent rate of inflation for adjusting cost estimates to future year-of-expenditure (YOE). Although this appears to be a reasonable rate, it raises the question of its applicability to the COMPASS region and whether recent economic trends, in both upwards and downwards directions, may alter this 4 percent assumption?

This section examines historical inflation rates for roadway construction and its materials, and recent economic trends, to independently estimate future inflation for CIM projects. In effect, this section will attempt to verify the 4 percent rate or develop a more defendable alternative.

Estimates of future inflation rates with respect to project costs can be based upon historical price changes and considerations for current economic conditions. Specifically, inflation rate estimates were calculated from an analysis of trends with historical price indices and project material costs. Previously identified CIM projects established the foundation for material costs considered. Inflation rates were weighted by types and amounts of materials used for CIM projects to create a composite index tailored to these projects.

Recent economic history provides rationale for segmenting the period of analysis into the short-term and long-term.

- High inflation in road building materials during the period 2004-07 created high expectations regarding future inflation, at least temporarily. Factors that converged to create these expectations included: increased world demand for fuel and building materials; hurricanes Katrina and Rita temporarily interrupting oil refining and creating high demand for construction materials; and volatile world energy market conditions.

- Although data are not available to adequately document most recent (late 2008 and early 2009) inflation trends, the current recession and dramatic drop in crude oil price created an offsetting expectation that inflation may be halted. Due to the recent conditions of the HTF and other dismal news, many states and roadway agencies have stopped ongoing projects, reinforcing these expectations. Recent bids for infrastructure projects appear to support the assertion that inflation may have temporarily halted.

- Confounding the inflation issue is federal economic stimulus spending, intended to jump start infrastructure projects, particularly "shovel ready" transportation projects. This large cash infusion may again aggravate inflation as high demand for construction materials renews.

As a result, inflation estimates, especially in the near-term, recognize these uncertainties with a rather wide range separating the low and high inflation rate scenarios. In more distant years, it is assumed that inflation rates tend to gravitate towards their long-term averages.

For this analysis, the near-term is defined as the period 2010 through 2014, a period corresponding to local and state TIP's, that would contain the most "shovel ready" roadway projects. Demand for these projects' materials would most likely be the source of inflation. The long-term is defined as the period 2015-2035.

Similar to revenues, inflation estimates are presented in three categories: most likely inflation rate; low inflation rate estimate; and a high inflation rate estimate.

Historic Price Indices

In order to analyze historical inflation rate trends for construction, the following indices were examined:

1. Washington Department of Transportation Bid Prices (WSDOT Bid Prices);
2. Bureau of Labor Statistics Producer Price Indices (BLS PPI); for specific materials;
3. BLS PPI for Bridge and Highway Construction (BHWY); and,
4. Engineering News Record (ENR) Materials Price Index.

Inflation rates vary among the indices because each index offers different measures. Bid prices incorporate labor as well as materials while costs of specific materials are tracked within producer price and material indices. Further, the Engineering News Record Materials Price Index is a weighted composite measure of the change in prices of specific materials, that is, structural steel, Portland cement, and 2x4 lumber prices.[9] Long term data from these indices should be indicative of future activity since they covered boom cycles in heavy construction in the late 1990s and depressed activity and reduced local revenues from previous weak economies.

Analysis Procedures

From WSDOT Bid Prices and BLS PPI, data was retrieved for four specific material categories: asphalt, cement, aggregates, and structural steel; these selections represent the largest supply purchases which would be used in CIM projects. Results were weighted relative to material usage for proposed CIM projects applying the following procedures:

[9] http://enr.construction.com/economics/materials_trends/default.asp

1. CIM projects were segregated by type (limited access, boulevard, expressway, rural highway, and principle arterial) and the approximate percentage of each category of material was calculated for the respective project types. Materials that did not fit into the four adopted categories were considered as "other."

2. CIM project costs were delineated by type and total dollars expended for each material tallied.

3. Material costs were examined as a percentage of total CIM expenditures.

4. A weighted average from the percentage of CIM project materials was used to formulate inflation rates. For the "other" materials, a simple average of the inflation rate was incorporated into the weighted average.

A comparison of indices is shown below in Table 4. Overall, inflation rates derived from WSDOT Bid Prices were typically higher than those produced from the other indices. Given WSDOT reports bid prices from the state of Washington only, while the other indicators are nationally-based, this deviation in the inflation rate is likely a result of local influences (such as demand, supply, and local economic conditions) on bid prices. The inflation rates calculated from the BLS indices were very similar to one another due to similar materials being used to create the composite indices. The ENR Materials Price resulted in the lowest inflation rates due to the addition of lumber and the lack of petroleum products (asphalt) in the composite index.

Short term five-year inflation rates appear more volatile than those in the longer term with rates differing between 8.6 to 17 percentage points. One major factor that impacted historical short-term inflation rates was the escalating price of petroleum products. Due to the breadth of range in rates, the median inflation rate more likely represents projected inflation activity in the short term.

Table 4. Comparison of Historic Inflation Rates

	Average	Maximum	Median	Minimum
5-Year				
WSDOT Bid Prices Average	5.53%	14.71%	4.36%	-2.48%
BLS PPI - Specific Materials Average	2.88%	9.52%	2.08%	0.56%
BLS PPI - Bridge and Highway Construction	3.23%	10.25%	2.07%	1.33%
ENR Material Price Index	2.22%	6.65%	1.65%	-1.92%
10-Year				
WSDOT Bid Prices Average	4.40%	10.06%	2.87%	2.37%
BLS PPI - Specific Materials Average	2.62%	5.39%	2.35%	1.04%
BLS PPI - Bridge and Highway Construction	2.91%	6.06%	2.15%	1.70%
ENR Material Price Index	2.04%	2.69%	2.27%	0.08%
15-Year				
WSDOT Bid Prices Average	5.25%	6.66%	5.57%	3.18%
BLS PPI - Specific Materials Average	2.66%	4.71%	2.04%	1.74%
BLS PPI - Bridge and Highway Construction	2.98%	4.70%	2.77%	1.87%
ENR Material Price Index	2.03%	2.81%	2.11%	1.06%

The most reliable inflation rates for this project appear to be the WSDOT Bid Prices and the BLS PPI Bridge and Highway Construction average indices due to the following considerations:

1. The mix of material and the weight of the materials in the composite inflation rate is most closely aligned with materials to be used in CIM projects;

2. Inflation rates in Washington may track closer to Idaho's regional influences than national indices. However, it should be noted that "just being close" does not ensure that the same economic pressures will apply. For Washington, a portion of data stems from projects west of the Cascades, representing a somewhat different economic and environmental setting.

3. The BLS PPI dates back to 1965 for most materials and thereby provides a long period of history for examination.

Inflation Rates - Most Likely Estimates

Short-term 2010 to 2014

For the short term, inflation rates are anticipated to be 2.8 percent,, rounded to 3.0 percent, approximately the simple average of the WSDOT and BLS 5-year rates under the median scenario. This rate is based on the following assumptions:

1. Median rates appear to most accurately reflect general short-term inflation. The *most likely* estimate is projected to be between 5-year median trends of the two select indices (2.07 percent and 4.36 percent).

2. Historical inflation rates may not be indicative of future rates given the recent maximum material rates were relatively high at over 10 percent (WSDOT Bid Prices) mostly due to price increases in petroleum products. Given current global economic pressures, it is not anticipated that petroleum prices would increase in the short term as they have in recent years.

3. The economy continues contract a year after the onset of the recession. Low inflation rates (less than 2.0 percent) typically follow on average within 14 months from the onset of an economic recession[10]. An economic recovery appears to be delayed and a fall to very low inflation rates or continued falling inflation (deflation) may commence by the summer of 2009.

4. Years 2011 through 2014 will likely exhibit inflation rates higher than two percent given the offsetting demand that will be created by infrastructure projects supported by the American Recovery and Reinvestment Act (ARRA).

Long term - 2015 to 2035

Most likely inflation rates are estimated to be 4.0 percent during this time period, confirming the FHWA guidance. This projected inflation rate is based on the following assumptions:

1. Average inflation of material costs tend to be lower in the longer term and have ranged from 2.0 to 5.2 percent historically.

2. Longer-term averages for BLS PPI selected materials, 1965-2008, show an inflation rate of approximately 4.5 percent to 5.0 percent.

3. The impact of the spending through ARRA will most likely be absorbed within the first few years of this time period and consumption drag may reassert itself until private investment confidence builds.

[10] The National Bureau of Economic Research (NBER) provides dates for periods of contraction and expansion in the U.S. business economy. NBER defines recession as "a significant decline in economic activity spread across the economy, lasting more than a few months." http://www.nber.org/cycles/cyclesmain.html. A summary of the recessions of the 20th and 21st Centuries was compiled by CNBC at http://www.cnbc.com/id/20510977.

Inflation Rates – Low Estimates

Short-term 2010 to 2014

A low estimate for short-term inflation is projected to be .5 percent. Assumptions for this estimate are:

1. Historical short-term minimum inflation rates ranged from -2.5 to 1.3.

2. A lingering recession would continue to erode confidence which in turn would limit tax revenues and investments in infrastructure as well as business growth. In the event ARRA stimulus injections do not result in quick, positive economic impacts, inflation rates will continue to fall.

3. The longer the recession lasts, the longer deflation will continue. Additionally, historical data indicates periods of deflation and very low inflation in construction materials in the year following a recession.

Long term - 2015 to 2035

Over the long term, a low estimate of inflation is estimated to be 2.5 percent. This estimate is based on the historical minimum rates. Long-term averages over 20-year periods or more are infrequently less than 2.5 percent.

Inflation Rates – High Estimates

Short-term 2010 to 2014

The high estimate is projected to be 10 percent for the short term, reflecting continuation of 2004-08 inflation trends. The following are assumptions for the high end estimate.

1. The historical five year trends with the maximum ENR Material Price Index was selected as the most relevant index.

2. Use of this index was utilized to isolate impacts from increases in oil prices. It is assumed that oil rates will not have a significant increase in the short term because of the weakened global economy. Since this index does include petroleum products, it would reflect inflation rate of materials in instances where oil price remained constant.

3. Construction projects under ARRA are likely to have their largest impact in the short term.

Long term – 2015 to 2035

The long term high inflation rate estimate of 7 percent is significantly higher than long-term historical trends. It is founded on the following assumptions:

1. Rules restricting carbon pollution will be implemented and would increase the price of oil and gas. Price increases would be passed onto construction materials dependent on petroleum products.

2. The ARRA stimulus plan for green technologies which currently proposes an injection of roughly $70 billion would be adopted and would create increased demand of construction materials. Green technologies would be implemented over a longer timeframe.

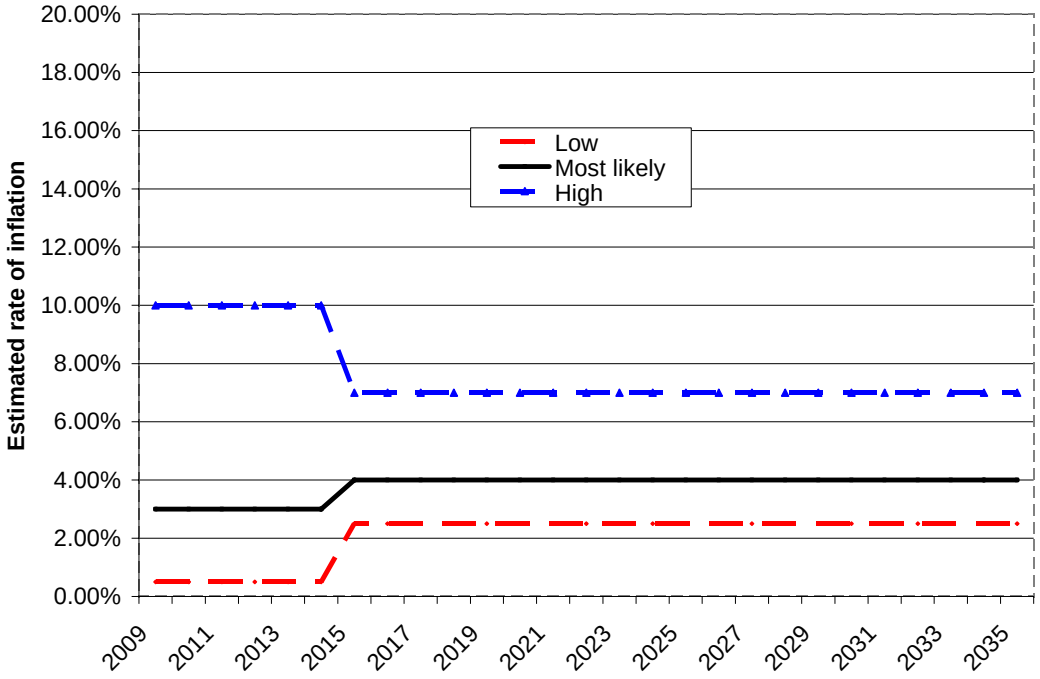
Summary of Inflation Rate Estimates

Table 5 is a summary of inflation rate estimates. These rates will be used in the financial analysis to estimate the CIM projects into future dollars. Figure 6 maps the range over time, showing the considerable uncertainty for the years 2010-14.

Table 5. Inflation Rate Estimates

	2010 to 2014	2015 to 2035
Minimum	0.5%	2.5%
Most Likely	3.0%	4.0%
Maximum	10.0%	7.0%

Figure 6. Range of Future Inflation Rates Considered



Year of Expenditure Capital Improvement Costs and the Impact of Uncertainty

Figure 7 shows the impact of inflation on local roadway project cost estimates. It is readily apparent that 4 percent long-term inflation significantly increases project costs over time. For the year 2035, costs would more than double when inflation is considered. In terms of summing the total costs over time, 2009-2035, the total value of capital improvements in 2009 dollars is estimated to be approximately $3.9 billion. When inflation is considered, these total costs escalate to $7.1 billion.

Figure 7. Estimated Capital Improvement Costs, Year of Expenditure

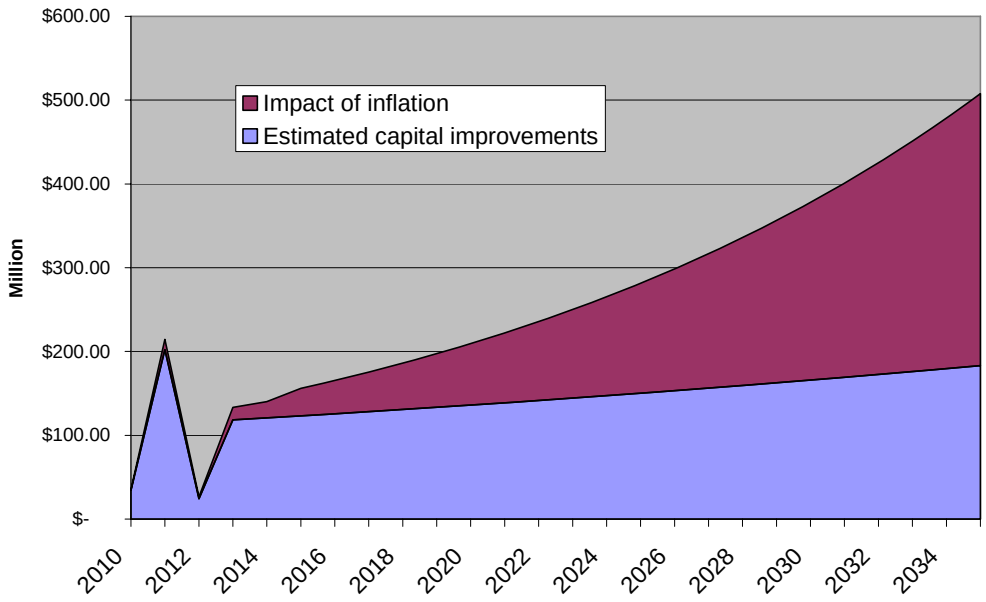


Figure 8 and Table 7 show the impact of uncertainty on this total cost estimate of $7.1 billion. These show a greater likelihood that total costs will be higher than $7.2 billion, rather than lower. From Table 7, there appears to be a 50 percent probability that $7.1 million will be exceeded. As a point of note, there is an 80 percent chance costs will be lower than 8.8 billion, with a corresponding 20 percent probability that costs will exceed $8.8 billion.

Figure 8. Sum of Estimated Cumulative Costs for Local Roadway Capital Improvements, 2010-35, Year of Expenditure

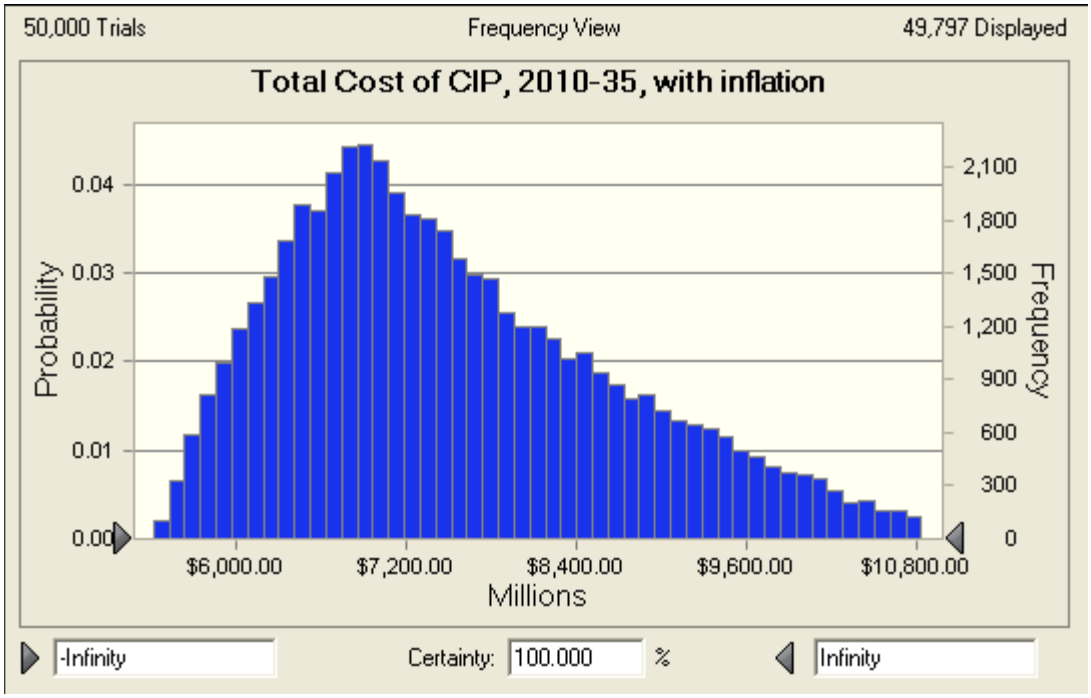


Table 7. Percentiles Associated with Total Capital Cost Estimates

Total Cost of CIP, 2010-35, with inflation

Percentile	Forecast values
0%	$5,417.82
10%	$6,165.76
20%	$6,500.92
30%	$6,780.59
40%	$7,028.58
50%	$7,315.02
60%	$7,642.36
70%	$8,049.25
80%	$8,556.63
90%	$9,276.80
100%	$11,243.62

Assessment of Maintenance and Operation Needs

All roadway agencies are concerned about system maintenance and operations primarily because of the need to protect their capital investment and ensure the public's safety, secondarily, because road conditions contribute to forming the public's perception of the agency. One needs to look no further than the I-35 bridge collapse in Minneapolis to appreciate the need for maintenance, and how a lack of maintenance can impact public safety. In addition, all agencies likely share in evaluating whether they are spending enough to accomplish this? It is an elusive concept because there are no comprehensive maintenance standards and roadway systems are inherently different due to different patterns of usage, surfaces, climate, surrounding geography, and even methods for defining maintenance itself.

In response to these uncertainties, this section examines future local roadway maintenance and operations expenditures and resulting road conditions using alternative approaches. These approaches include:

- Extrapolation of recent historical trends, which is assumed to represent a low scenario with respect to future maintenance costs.
- Development of a simple predictive model relating maintenance expenditures to road conditions, using local data. This is assumed to represent the most likely future scenario for maintenance expenditures.
- Use of others' maintenance benchmarks, assumed to represent the high range of future expenditures.

Maintenance Expenditures: Definitions, Funding, and Performance

Definition of Maintenance Expenditures

For this analysis, maintenance and operations are collectively defined as maintenance. Therefore, the term maintenance includes the periodic maintenance and rehabilitation of roadways, plus other annually occurring roadway costs, such as signals, signal maintenance, crossings, drainage, and other non-capital costs that are typically included in this category. Salaries and benefits of maintenance personnel would be included in this estimate.

Conceptually, maintenance expenditures include both routine maintenance and some portion of capital costs for roadway reconstruction. The definition of routine maintenance considered here is consistent with roadway agencies' current reporting standards and includes:

- Chip/seal or seal coat application
- Patching

- Snow removal
- Grading/blading
- Rail crossings
- Other costs, including salaries and benefits

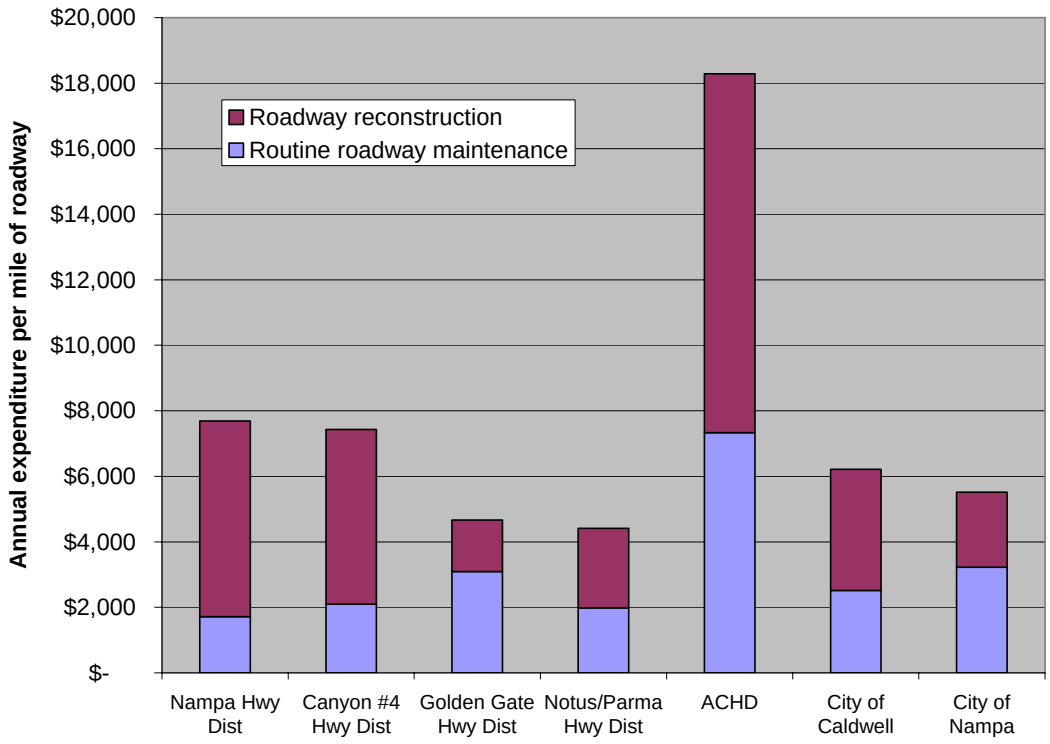
Reconstruction expenditures include:

- Roads
- Bridges and culverts
- Rail crossings
- Other reconstruction costs, including salaries and benefits

It should be noted that reconstruction costs are considered capital costs, rather than strictly maintenance costs, and are eligible for some types of federal funding.

Figure 9 shows the level of routine maintenance and roadway reconstruction costs on a per mile basis for the major roadway agencies in Ada and Canyon Counties.

Figure 9. Routine Maintenance and Reconstruction Expenditures per Mile of Roadway



This figure illustrates several issues:

- There are trade-offs between maintenance and capital expenditures. Generally, and also in relative terms, the higher the routine maintenance, the lower the roadway reconstruction expenditures. Although diligent

maintenance will delay the need for rebuilding roadways, it will not totally eliminate periodic reconstruction. However, there is little debate that overall roadway maintenance expenditures are minimized with aggressive routine maintenance.

- There are fundamental differences between ACHD and the Canyon County roadway agencies that are reflected in their maintenance and reconstruction expenditures. A priority, one would expect Canyon County agencies' expenditures to be less because their roadways tend to be more rural in nature, are less traveled, with less spent on drainage, curb and gutter, pedestrian facilities, and other components characterizing urban streets. In addition, maintenance for the Canyon County agencies also involves rebuilding the underlying base of former "farm to market" roads coinciding with section lines, distorting cost estimates based on historic costs. As a result, maintenance costs cannot be expected to be similar between the two counties, especially when considered on a per mile basis.

- Over the long-term, it is likely Canyon County agencies' maintenance expenditures will increase to ACHD levels, on a per mile basis, as Canyon County continues to develop and the respective roadway systems become similar. As a result, this analysis acknowledges the current differences but assumes that they diminish over time. How this is incorporated into the analysis is discussed below.

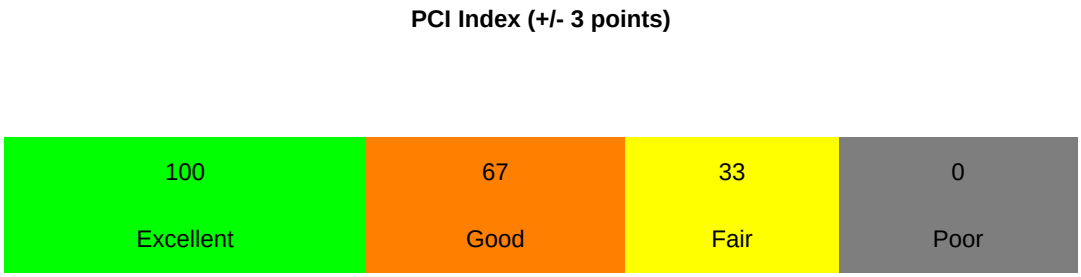
Funding Maintenance Activities

Although no one argues that preventative maintenance is critical to controlling long-term costs, the sources of funds that can be used for maintenance and operations are somewhat limiting. Some federal funds are periodically available for roadway maintenance, but only a small portion of the total on a somewhat inconsistent basis. Local allocations of State HDA funds can be used for maintenance, but not federal STP funds, which are limited to capital projects. Locally, property tax revenues and ACHD vehicle registration fee revenues can be used for roadway maintenance, but not impact fee revenues, which are limited to capacity enhancement projects. Although these restrictions should leave sufficient funds being available for maintenance, all federal and most state supported capital projects require some percentage of local matching funds, complicating the trade-off between maintenance and capital improvements.

Measuring Roadway Maintenance Adequacy

Given the diversity of expenditures covered under maintenance and operation, a single measure of whether these expenditures are adequate to achieve the most bang-for-the-buck does not yet exist. However, since a substantial portion is allocated to pavement management, a measure of whether pavement maintenance activities are adequately funded would be the Pavement Condition Index (PCI). The PCI ranks sections of pavement on a scale of 1 to 100 – the higher the rating the better. Sections of pavement are sampled and evaluated based on their physical condition, including parameters such

as cracks and smoothness. The graphic below describes road conditions associated with PCI scores.



Additionally, various types of hard surfaced roads are assessed, including highways, arterials, collectors, and residential streets. The Idaho Transportation Department (ITD) and Ada County Highway District (ACHD), along with other local agencies, regularly sample and evaluate their roadways using the PCI. Many transportation agencies have policies targeting that all roads, or some proportion of critical types of roads, should be in the Excellent category.

Future Extrapolation of Historical Maintenance Trends

Collectively, ACHD and the Canyon County road agencies spent approximately $21 million for routine maintenance in 2007. ACHD accounted for about 75 percent of this expenditure. With approximately 4,300 road miles in the region, net of state and federal roadways, this translates to approximately $4,900 per mile. ACHD spent approximately $7,800 per mile and Canyon County entities spent about $2,700 per mile.

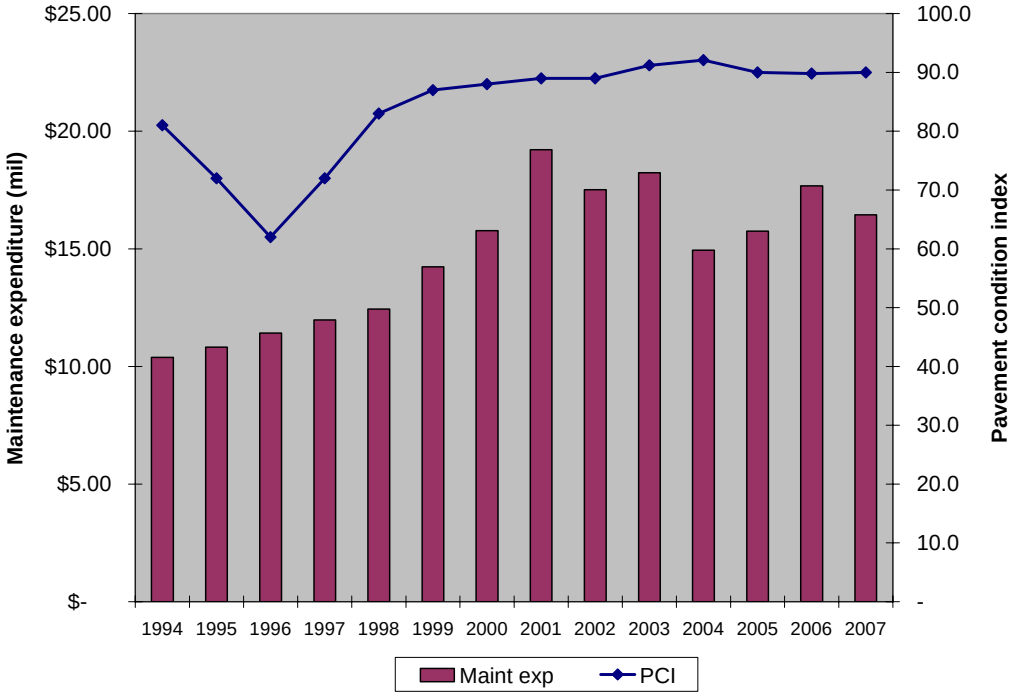
Future maintenance expenditures under a low scenario extrapolate this current spending level, $4,900 per mile, using the rate of inflation plus system growth, represented by system miles. Total miles in the system are assumed to grow at the trend rate of population growth for the combined Ada and Canyon Counties.

Development of a Simple Predictive Model for ACHD

Pavement Condition Index for Ada County Highway District

Beginning in the mid-1990's ACHD began a programmatic effort to better maintain their roads and monitor its progress. A nine-year maintenance cycle for major roadways was implemented to ensure that roadway maintenance was given adequate attention. During the period 1996 through approximately 2000, maintenance expenditures grew at rate comparable to the rate of inflation plus the rate of population growth. In addition, with greater-than-expected revenues in the early and mid-2000, additional funds were diverted to maintenance, beyond budgeted levels. The bar portion of Figure 10 shows maintenance expenditures during the period 1994-2007, adjusted for inflation.

Figure 10. Maintenance Expenditures (Adjusted for Inflation) and the Pavement Condition Index (PCI)



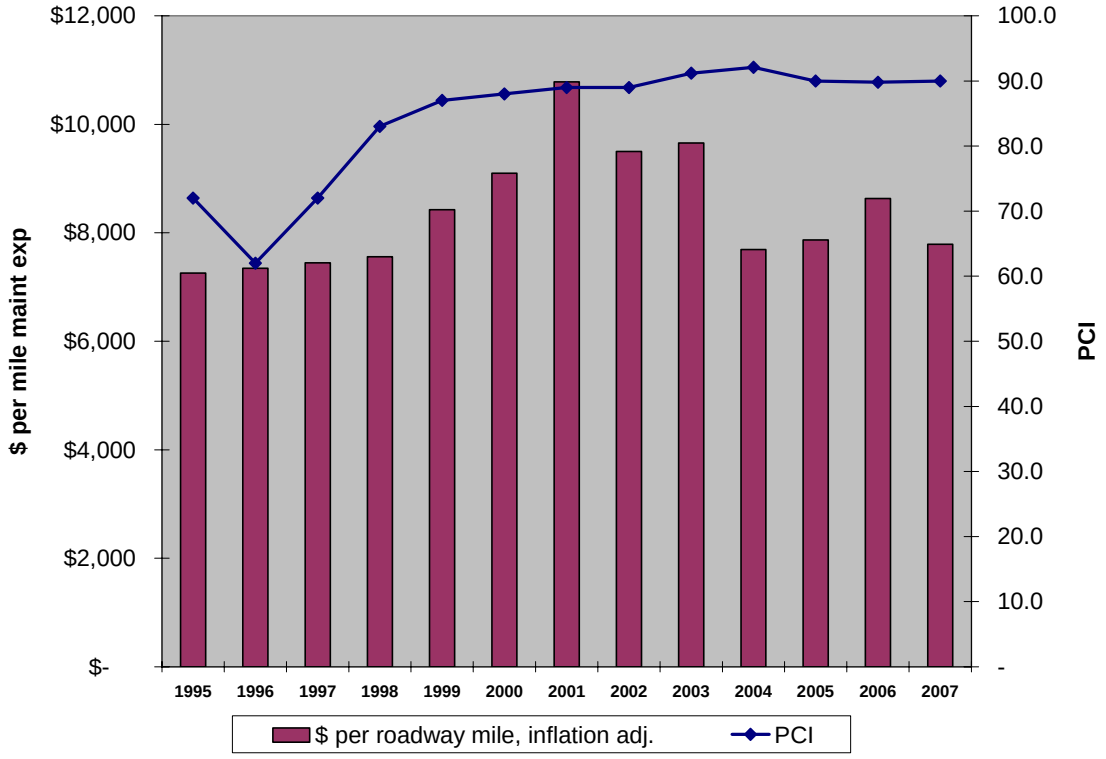
ACHD annually evaluates approximately 20 percent of their hard surfaced roads. During this ACHD's system-wide PCI initially fell, but then rose nearly every year through 2004 as shown in Figure 9. Maintenance expenditures fell in 2004 and 2005 and the PCI appears to have incrementally responded in 2005, indicating a possible time lag between maintenance expenditures and the PCI.

There is relatively strong correlation between ACHD's maintenance expenditures and their PCI during this period, especially if one looks at previous years' expenditures.[11] However, other factors beyond maintenance expenditures influenced the PCI, primarily that the pavement samples contained more new pavement than typical because of rapid growth in the roadway system during this time, skewing PCI measures upwards. Plus, previous years' weather may play an important, yet-to-be considered role in incremental changes in the PCI. Regardless, the correlation appears sufficiently strong to conclude the PCI can be measurably changed upwards and downwards within a few years by changing maintenance expenditures.

Figure 11 maps ACHD's maintenance expenditures on dollars per road mile basis against their system-wide PCI.

[11] A simple linear regression expressing the PCI as a function of the previous year's maintenance expenditure had an R-square of 0.80, indicating a fairly strong relationship.

Figure 11. Maintenance Expenditures, Dollars per Mile Inflation Adjusted, and the PCI



Although this correlation appears similar on a per mile basis as on an absolute basis, it was found to be somewhat weaker. In order to improve this relationship, the natural logarithms of per mile expenditures for the previous year are considered rather than the absolute, current value. Figure 12 shows the relationship between the inflation-adjusted natural logarithm of per mile expenditures and the PCI value.

Figure 12. Relationship Between Natural Logarithm of ACHD Maintenance Expenditures ($ per mile) and the PCI.

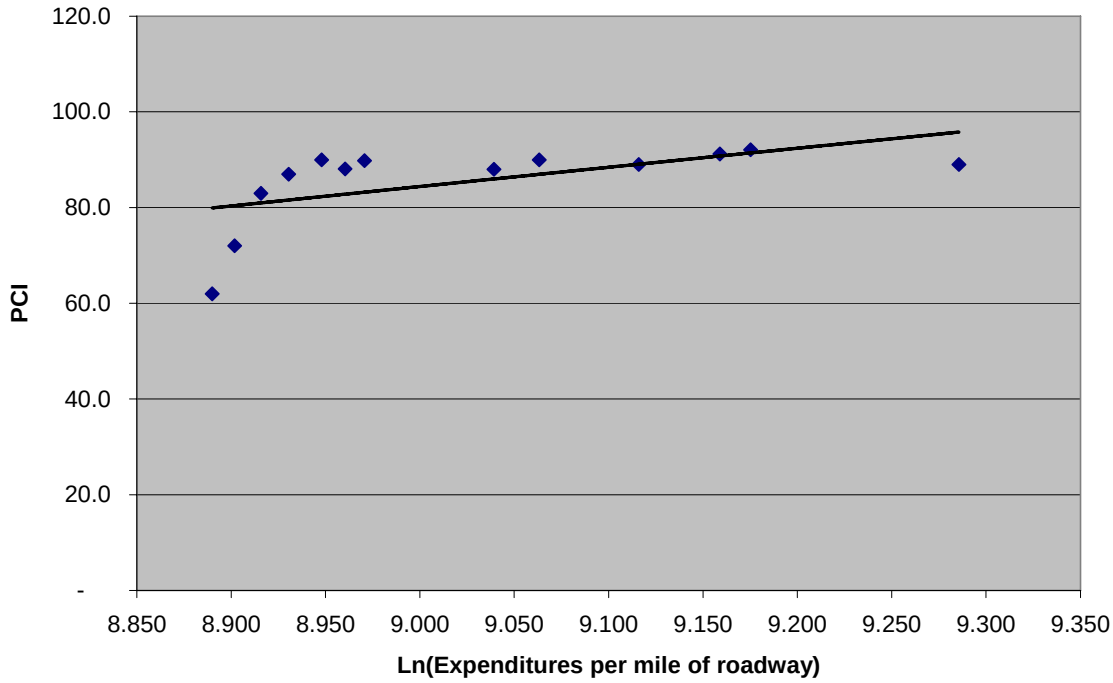


Figure 12 also maps a trend line through the individual observations. Specifically, the regression line relating the PCI as a function of the natural log of maintenance expenditures, expressed in dollars per mile, has an R-square of approximately 0.57, indicating a moderately strong relationship but with considerable "noise".

The fitted line in Figure 12 can be used for predictive purposes, implying the following PCI's for the following expenditure levels.

Maintenance expenditure ($/mile), 2009 dollars	PCI
$ 10,000	92.78
$ 9,000	88.58
$ 8,000	83.87
$ 7,000	78.54
$ 6,000	72.39
$ 5,000	65.11

Based on this simple statistical relationship, it appears that maintenance expenditures averaging $10,000 per mile per year result would result in an ACHD PCI rating of 93. This is very high, especially when considering heavily traveled arterials. Expenditures of

approximately $9,000 per mile result in a PCI of about 89 and an expenditure of $8,000 results in a PCI of 84.

Based on a desired PCI in the high 80's and 2,112 miles of roadway (in 2007), ACHD's maintenance expenditures should be in the range of $9,000 per mile, or about $19 million total. Their actual 2007 expenditure was in the range of $16 to $17 million. Since the statistical fit of the equation is only moderately strong, one cannot be certain that ACHD maintenance funding is not currently sufficient. However, it appears that the 2007 level of funding could result in a marginal decrease in ACHD's PCI.

As a point of interest, ACHD is currently examining the relationship between maintenance expenditures and the PCI, and have long-appreciated the relationship between the two. Although they do not have any specific policies targeting the PCI, they would like to maintain existing high 80's level to the degree possible.[12] Independent of this analysis, they have concluded that an expenditure of $10,000 per mile would accomplish this. In addition, they are examining the financial trade-offs between maintenance expenditures and capital expenditures.[13] For instance, could maintenance be funded at a somewhat lower level, allowing for more capital expenditures, and still result in acceptable roads?

According to ACHD, oil prices, such a crude oil price index, have historically been their best source for tracking changes in maintenance costs. The rationale is that since most maintenance materials are either oil-based, such as asphalt, and/or has relatively high fuel costs in relation to their value, such as road base and grading, fuel prices are the best proxy for price changes.

Unfortunately, the predictive model developed above is only applicable to ACHD due to a lack of historical PCI data from the Canyon County agencies. This data is currently being developed through their annual pavement assessments.

Estimating Future Maintenance and Operation Expenditures

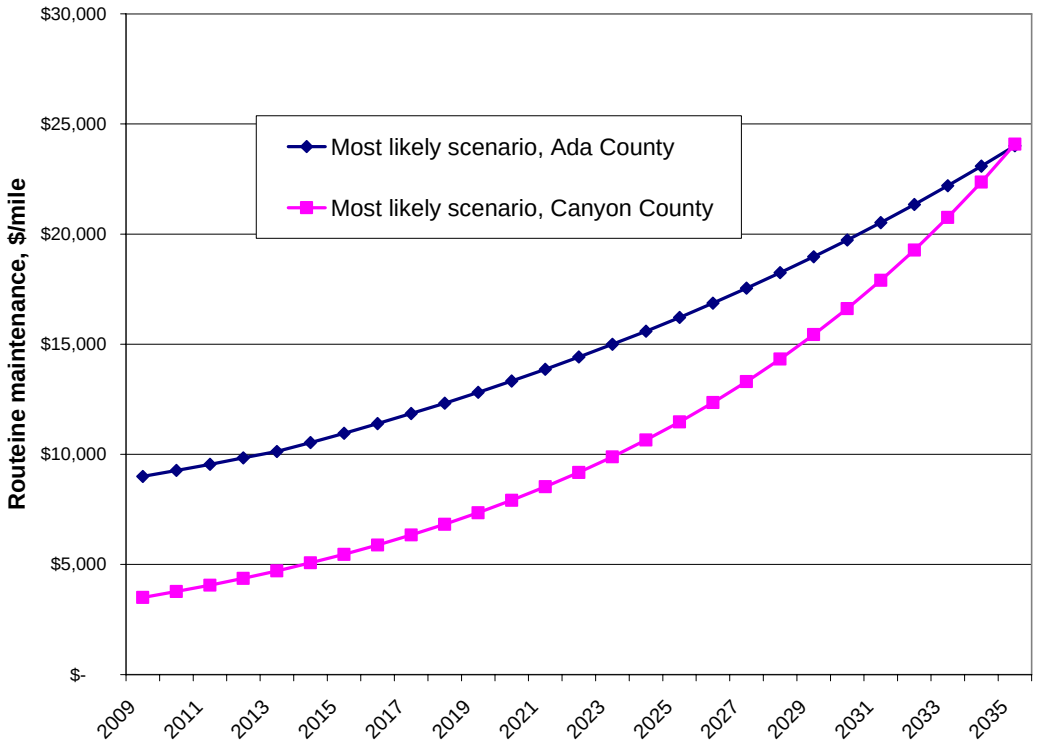
Under the most likely future scenario, it is assumed that maintenance expenditures for ACHD will be targeted at $9,000 per road mile, growing over time with inflation and the growth in road miles. This will result in system-wide PCI ratings of Excellent for ACHD. This will also result in an estimated 10 percent increase in local maintenance expenditures.

For Canyon County agencies, it is assumed that maintenance expenditures under the most likely scenario is approximately $3,500 per mile in 2009, increasing over time to match ACHD's expenditure in 2035. As discussed above, this recognizes that these agencies are currently more rural in nature, are less traveled, and have less roadway features to

[12] Personal communication with George Alton, Pavement Management System Manager, ACHD. April 1, 2009.
[13] Personal communication with Mike Brokaw, Deputy Director Operations/Treasurer, ACHD. April 1, 2009.

maintain. However, over time they are assumed to grow to more or less match ACHD's expenditures, on a county-wide basis. This trend is shown in Figure 13.

Figure 13. Estimated Maintenance Expenditures on a Per Mile Basis, Including Inflation



Similar to the low scenario, future road miles are estimated to increase with the population growth rate.

Use of Other Agencies' Maintenance Benchmarks

Web-based surveys of other roadway entities' maintenance costs showed a wide range of expenditures, but levels were generally higher on a per mile basis than levels assumed for either the low or most likely future scenarios. Therefore, the use of other agencies' benchmarks is considered the high future scenario.

Selected benchmarks are as follows:

- Utah Department of Transportation spends approximately $11,000 per lane mile for federal and state roadways.
- San Mateo County, California, spends approximately $18,000 per mile for Good to Excellent roads.

- Woodland, California spends approximately $14,000 per mile.
- The Sacramento Area Council of Governments (SACOG) targets a level of $15,000 per mile, but also mentions a level close to $20,000 to "do it right".
- The Illinois Tollway Authority spends $14,000 per lane mile.

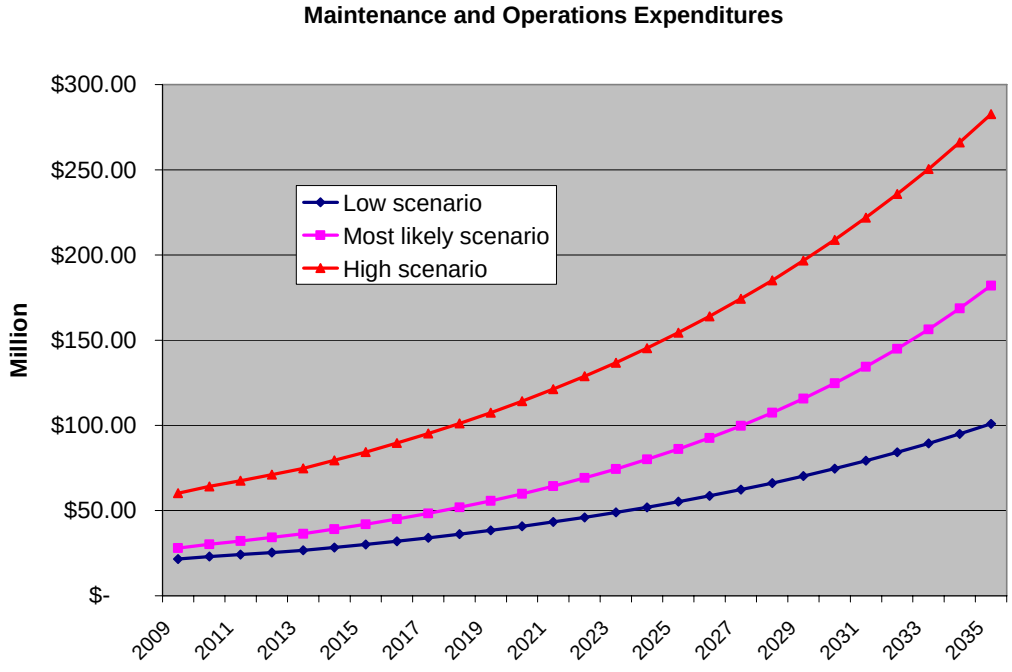
This range of expenditures and agencies represent somewhat tenuous comparisons given the unique nature of each system and the uncertainty of what each agency considers maintenance. However, all levels are higher than what is currently spent in Ada Canyon County.

For this analysis, a maintenance level of $14,000 per mile is assumed for Ada County, an approximate 50 percent increase from the assumed most likely level of $9,000 per mile. For Canyon County agencies, expenditures are assumed to be $5,000 per mile, increasing over time to match Ada County by 2035.

Summary of Estimated Future Maintenance Expenditures

Figure 14 shows future maintenance expenditures under the low, most likely, and high scenarios discussed above, and the estimated PCI associated with each.

Figure 14. Estimated Roadway Maintenance Expenditures



Comparison of Future Roadway Revenue and Cost Estimates

Estimates of future roadway revenues and costs beg for a comparison, especially with respect to observing how large of financial deficit may appear. However, in order to make this comparison, additional local roadway expenditures need to be accounted for and similarly estimated.

Additional Roadway Costs

Other roadway expenditures, in their approximate order of magnitude include:

- Equipment
- Administration
- All other roadway costs

Roadway Equipment Costs, Administration, and Other Roadway Costs

These costs could all be somewhat dependent upon the levels of maintenance and operations and capital improvement costs. However, for this analysis, recent trends are extrapolated into the future:

- The estimated baseline level of annual Equipment costs is $9.0 million.
- The estimated baseline level of Administration is estimated to be $12.5 million.
- The estimated baseline level of Other Roadway Costs, consisting of costs not accounted for in other categories, is $6.0 million.

Similar to initial estimates of maintenance and operations costs, these costs are escalated at two percent per year to approximate growth in the system. This two percent would be in addition to inflation.

Inflation Impacts on Additional Roadway Costs

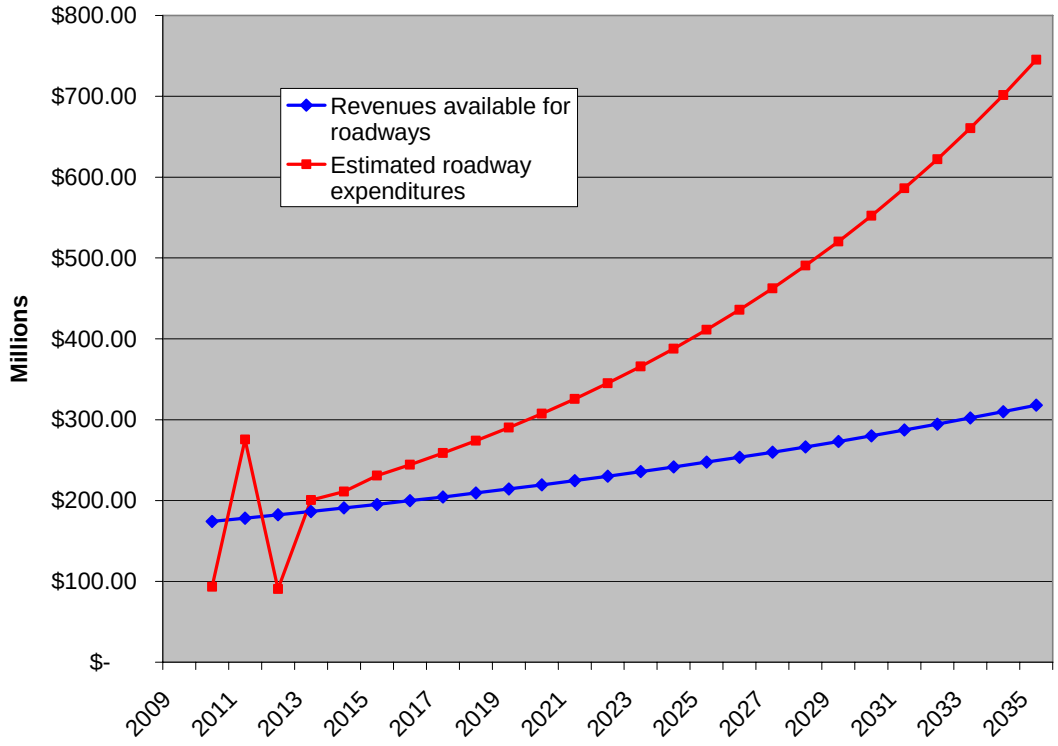
Maintenance and operations, equipment, and other roadway costs are assumed to be under many of the same inflationary pressures as capital expenditures and, as a result, the same range of inflation is used to estimate their future values. Administrative costs are assumed to increase at a 2.0 percent, 3.0 percent, and 4.0 percent rate of inflation under the low, most likely, and high inflation scenarios, respectively, for all time periods considered.

Estimated Total Roadway Revenues and Costs

State and Local Entities Combined

Figure 15 shows total estimated annual revenues and costs for both for the most likely revenue and inflation scenarios. The total cost estimates include both capital expenditures and other roadway expenditures, all at Year of Expenditure.

Figure 15. Estimate of Annual Roadway Revenues and Costs for Local and State Roadways, Most Likely Scenario



As expected, Figure 15 reveals a growing deficit in 2014 and beyond. By 2035, the annual deficit is approximately $427 million, contributing to a cumulative deficit at this point of $3.9 billion dollars. With respect to the uncertainty surrounding the estimated cumulative deficit, Figure 16 and Table 9 illustrate its statistical properties.

It is important to note that the deficit's most likely value of $3.9 billion is slightly towards the left side of the frequency distribution, indicating that is more likely the deficit will actually be less than $3.9 billion, but still substantial. From the percentile chart, Table 9, it can be determined that:

- There is 50 percent probability that the deficit will be greater than $3.8 billion.

- There is a 20 percent probability that the deficit will be less than $2.8 billion, and an 80 percent probability that it will be greater than 2.8 billion.

Figure 16. Frequency Diagram for Cumulative Roadway Deficit, 2010-35 (million)

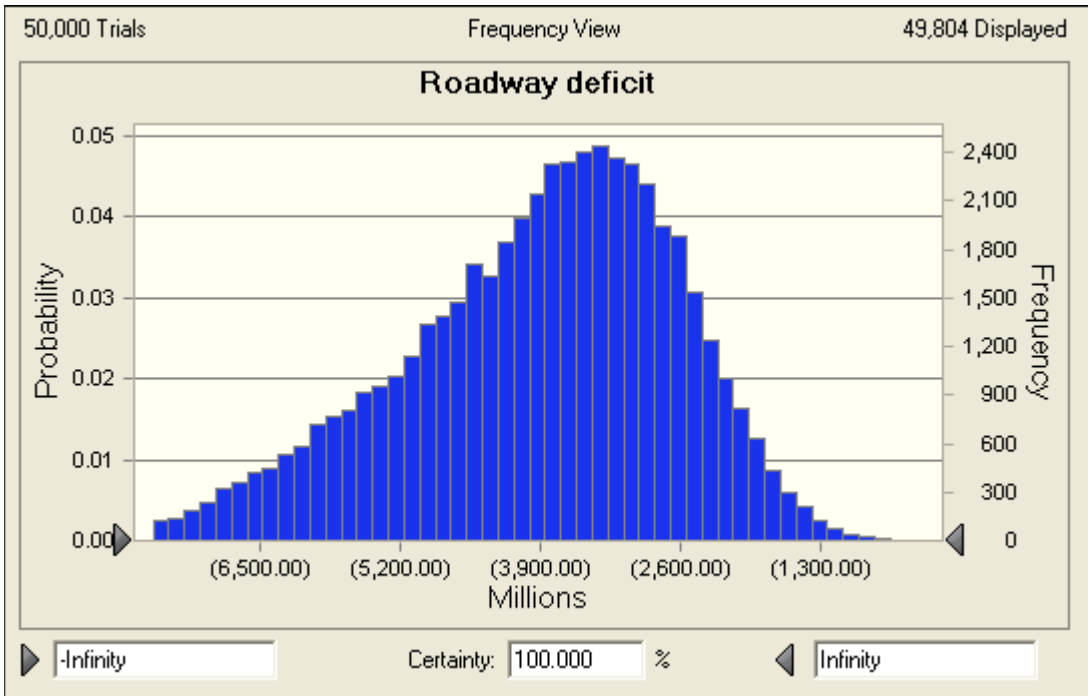


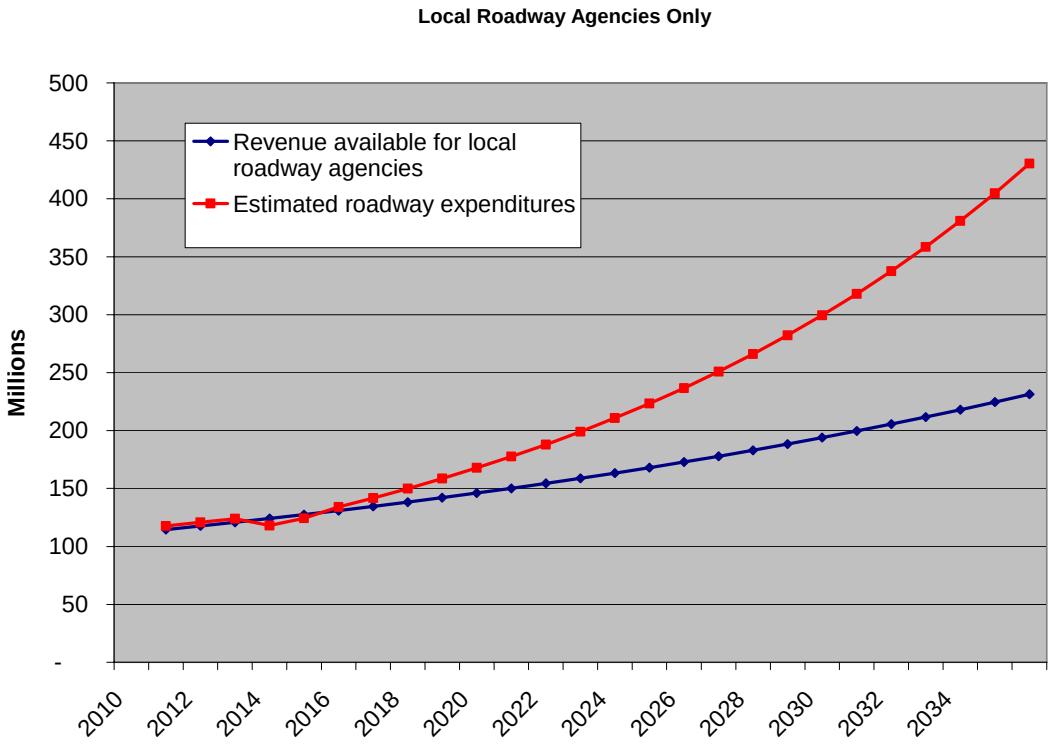
Table 9. Percentiles Associated with Cumulative Deficit Estimates

Percentile	Forecast values
0%	-8,572.25
10%	-5,749.41
20%	-5,001.28
30%	-4,499.70
40%	-4,091.49
50%	-3,755.96
60%	-3,447.07
70%	-3,147.03
80%	-2,825.03
90%	-2,417.74
100%	-373.11

Local Entities Only

Figure 17 shows total estimated annual revenues and costs for both for the most likely revenue and inflation scenarios. The total cost estimates include both capital expenditures and other roadway expenditures, all at Year of Expenditure.

Figure 17. Estimate of Annual Roadway Revenues and Costs for Local Roadway Agencies in the COMPASS Area, Most Likely Scenario



As expected, Figure 17 reveals a growing deficit in 2014 and beyond. By 2035, the annual deficit is approximately $200 million, contributing to a cumulative deficit at this point of $1.6 billion. With respect to the uncertainty surrounding the estimated cumulative deficit, Figure 18 and Table 10 illustrate its statistical properties.

It is important to note that the deficit's most likely value of $1.6 billion is towards the left of the frequency distribution, indicating that is slightly more likely the deficit will actually be less than this level. From the percentile chart, Table 10, it can be determined that:

- There is 50 percent probability that the deficit will be greater than $1.5 billion.
- There is a 20 percent probability that the deficit will be less than 1.0 billion, but an 80 percent probability it will be greater than this amount.

- There is a less than 10 percent probability of a surplus rather than a deficit.

Figure 18. Frequency Diagram for Cumulative Roadway Deficit for Local Roadway Agencies, 2010-35 (million)

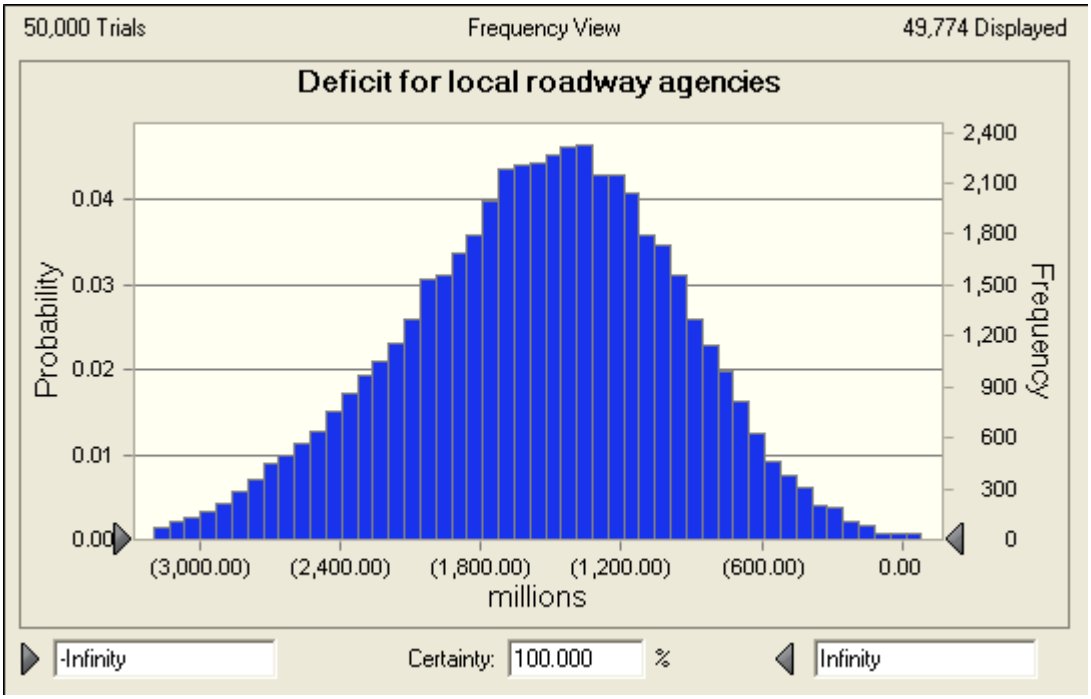


Table 10. Percentiles Associated with Cumulative Deficit Estimates for Local Roadway Agencies

Percentile	Forecast
0%	-3,822.23
10%	-2,349.25
20%	-2,050.95
30%	-1,842.10
40%	-1,674.46
50%	-1,522.91
60%	-1,375.86
70%	-1,227.11
80%	-1,055.28
90%	-832.77
100%	445.55

Transit-Related Revenues

Background

Local transit primarily consists of Valley Regional Transit (VRT), serving the Boise Transportation Management Area and the Nampa/Caldwell Urbanized Area. The VRT system is relatively new, less than 10 years old. VRT has developed a capital improvement plan for achieving a progressive, financially viable regional transit system on par with cities of similar size and economic importance.

Table 11 provides summary statistics showing how VRT ranks with a sample of transit agencies from communities of similar size, communities with high trips per capita, or communities with a mix of rail and bus service.

Table 11. Summary Statistics for Selected Transit Entities

	Service area population	Passenger miles (million)	Operating funds expended (million)	Total operating expenditures per capita	Operating expense per passenger mile
Valley Regional Transit	272,625	5.0	$ 8.12	$ 29.78	$ 1.40
Lane Transit District, Eugene, OR	272,272	37.4	$ 32.60	$ 119.73	$ 0.80
Metro Transit System, Madison, WI	237,433	44.2	$ 44.80	$ 188.68	$ 0.83
Regional Transportation Commission of Washoe County, Reno, NV	320,000	31.7	$ 33.20	$ 103.75	$ 0.82
Spokane Transit Authority, Spokane, WA-ID	334,900	49.6	$ 50.60	$ 151.09	$ 0.90
Tri-County Metropolitan Transporation District of Oregon (TriMet), Portland	1,253,500	419.5	$ 338.40	$ 269.96	$ 0.93
Utah Transit Authority, Salt Lake City	1,744,400	315.2	$ 165.40	$ 94.82	$ 0.60
Regional Transportation District, Denver, Colorado	2,619,000	538.0	$ 367.60	$ 140.36	$ 0.69

The table shows that transit use, as measured by passenger miles, is a fraction of that for the selected agencies of similar size. Similarly, funding per capita is also a fraction of others' levels. It is of interest to note that transit expenditures per capita range from $100 to $200 for the similarly sized communities of Eugene, Madison, Reno, and Spokane, compared to $30 by VRT. Operating expenses per passenger mile are substantially higher for VRT due to it being a relatively small system, mileage-wise. As a result, total system costs are spread over fewer miles than they would be for a more extensive system. In addition, with relatively low levels of service, ridership is similarly low.

Funding for the comparable agencies is varied but local funding is the major source for operating expenditures, with the exception of Reno and Salt Lake, where the state revenues cover a significant portion of transit operation costs. This lack of local funding has hampered VRT's expansion plans.

Revenue Sources

Revenues for local transit stem from two sources, federal and local, with minimal state transit funding at this point. Currently, these sources are directly related to one another because each dollar of federal funding requires either a 50 percent local match (operating expenses) or a 20 percent local match (capital expenses), depending on the way the funds are spent. More specifically, the 50 percent match for operating expenses covers 50 percent of the system's operating loss, or the difference between operating expenses and fare revenues. Due to the high federal proportion of total funds for transit, future federal and state funds will be examined together for transit, rather than independently as with roadways.

Federal Transit Revenues

About 80 percent of federal transit funding comes from the HTF's dedicated Mass Transit Account. Federal funding accounts for about 40 percent of Valley Regional Transit's (VRT) annual budget and is used for operations, preventative maintenance, capital expenditures, and other activities. Two transit programs within SAFETY-LU provide the majority of local funds:

- Section 5307, which provides grants for public transportation capital investments, and allows metropolitan areas under 200,000 in population to use these funds for operations. These funds are distributed by formula. For areas of 50,000 to 199,999 in population, the formula is based on population and population density. For areas with populations of 200,000 and more, the formula is based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guide way revenue vehicle miles, and fixed guide way route miles as well as population and population density.

- Section 5309 funds, which are totally competitive in nature. These require the applicant to either go through a technical merits competition with FTA, or file for an earmark request and be subject to political competition.

Section 5307 provides the majority of federal funds available for transit. VRT has leveraged their local funds in a manner to maximize federal grant funds. However, since the 2000 Census, it has become apparent that the Nampa/Caldwell urbanized area population would either exceed 200,000 before the next Census, or the Boise/Meridian and Nampa/Caldwell urban areas would be merged. Either way, VRT will lose the ability to use Section 5307 funds for operations of the Nampa/Caldwell component, plus the distribution formula will be altered. These funds can still be used for preventative maintenance and capital improvements provided local matching revenue can be obtained. The Federal Transit Administration (FTA) considers preventative maintenance a capital expenditure rather than an operational expenditure, even though most local agencies would otherwise classify this as an annual operating cost if not for the 80 percent federal cost-share for capital expenditures.

Completely losing the Section 5307 funds for operations would deal a financial blow to VRT. For 2009, it was estimated that these funds would cover about 15 percent of total operating costs, or $1.7 million of about $11.7 million. This impact could be multiplied because local revenues will have to cover this shortfall, limiting their use for leveraging federal revenues for capital improvements. Without increases in local revenues, VRT may not likely have funds available for capital improvements or expansion beyond the federally-earmarked Boise Multi-Modal Center, and may also have to reduce service in order reduce costs.

Local Transit Revenues

Local revenues come in the form of contributions made by municipalities' General Funds (in proportion to their desired level of service) and from per capita fees that recover VRT Administrative expenditures. Operating revenues are generated from enterprise activities, including such as bus fares, sales of bus passes, and advertising revenues. Together, the above local sources are estimated to generate approximately $8.5 to $9.0 million in revenue in 2009. Although this revenue is not restricted in its use in a federal cost share sense, the intent of the contributing agencies is to have their funds spent in their community to the maximum extent possible.

VRT has long-desired a dedicated local revenue source, such as a local property tax on automobiles or a sales tax increment. All of the future development alternatives in VRT's Capital Improvement Plan were based on obtaining a dedicated local revenue source of some magnitude.[14] Since this new local revenue source has not yet been developed, VRT appears to be following the "Low Growth" alternative of its capital improvement plan to the extent local funds are available. Without a dedicated local source, increases in service and system expansion from its current levels would not be expected.

Under a high revenue scenario, it was assumed that a dedicated local funding source would be developed in the near-term, replacing the current form of General Fund contributions by the cities. This would increase over time at the rate of inflation plus local population growth. In its Capital Improvement Plan, VRT assumed this source would be a property tax on automobiles and considered two levels of funding: a low increment which imposed a 0.35 percent annual tax on their values and a high increment that imposed a 1.0 percent tax. Annual revenues from these increments ranged from $15.5 million to $44.5 million (both in 2005 dollars), at minimum doubling VRT's revenues and at maximum increasing them by a factor of three from their present level, before possible increases in federal grant funds are considered.

The low increment of new local revenues, $15.5 million per year, was intended to finance a portion of an expanded bus-oriented transit system for the region and the high increment, $44.5 million per year, was intended to finance a fixed rail system and supporting bus system. In addition, increased local funding would enable VRT to apply

[14] Valley Regional Transit, *"Regional Operations and Capital Improvement Plan"*. Nelson/Nygaard Consulting Associates, pp 6-30,31. 2005.

for more discretionary federal grants, although there is no guarantee more federal funds would be approved.

Future Federal and Local Revenues -- Most Likely Estimates

The most likely case assumes that VRT would no longer be able to use Section 5307 funds for Nampa/Caldwell operations and will have to raise more local funds to maintain service at its current level. It is further assumed that local entities will not accept reductions in transit service and would ultimately cover the loss of federal operating funds with increases in local funds. No new dedicated sources of revenue are assumed. Therefore, local funds would come from increases in current fee mechanisms, local government General Fund contributions, and increases in fares and pass prices, or a combination of all these measures. However, in addition to recovering the lost federal operating funds, more will have to be raised to recover the lost ability to leverage local funds for additional federal grant funds.

Available federal transit funds are assumed to escalate at a rate of 5.8 percent each year for the VRT service area due to programmatic increases. Federal transit formula revenues increase by five percent every year and an additional five percent every sixth year corresponding to reauthorization of federal surface transportation acts. This continues Congressional practice, which has increased federal transit funds by five percent year over year with one-time increases built into the new acts in 1991, 1997 and 2005.

However, available federal funds do not necessary equal funds actually used since each federal dollar would require VRT to provide a local match, 20 percent in most cases. Also, this assumes that federal Section 5307 funds or their future equivalent cannot be used for operations but can continue to be used for preventative maintenance, planning, capital, and other non-operating purposes.

Local funds are assumed to increase in the near-term to recover the lost revenues. In 2011 and beyond it is assumed that local revenues increase at the rate of inflation plus the rate of local population growth. The same short-term and long-term inflation rates as assumed for the roadway analysis are assumed here. Future population growth rates are based on the COMPASS population forecast. Given these assumptions, in many cases the rate of increase in local funds will effectively cap the increase in federal funds.

Future Federal and Local Revenues – Low Estimate

Under a low scenario, it is assumed that local entities would prefer a reduction in transit service rather than an increase in transit funding. Local revenues are maintained at their current levels, increasing over time at the rate of inflation plus the rate of population growth.

Available federal transit formula revenues are assumed to increase by 4.1 percent, in line with the average growth in fuel tax revenues dedicated to the mass transit account during

1983-2008, without additional federal funding appropriations. However, given the cap in local funding, the ability to leverage federal funds could be similarly capped. As a result, federal revenues are assumed to increase at a minimum of either 4.1 percent or the sum of the inflation rate and population growth rate, depending on the inflation scenario considered.

Future Federal and Local Revenues – High Estimate

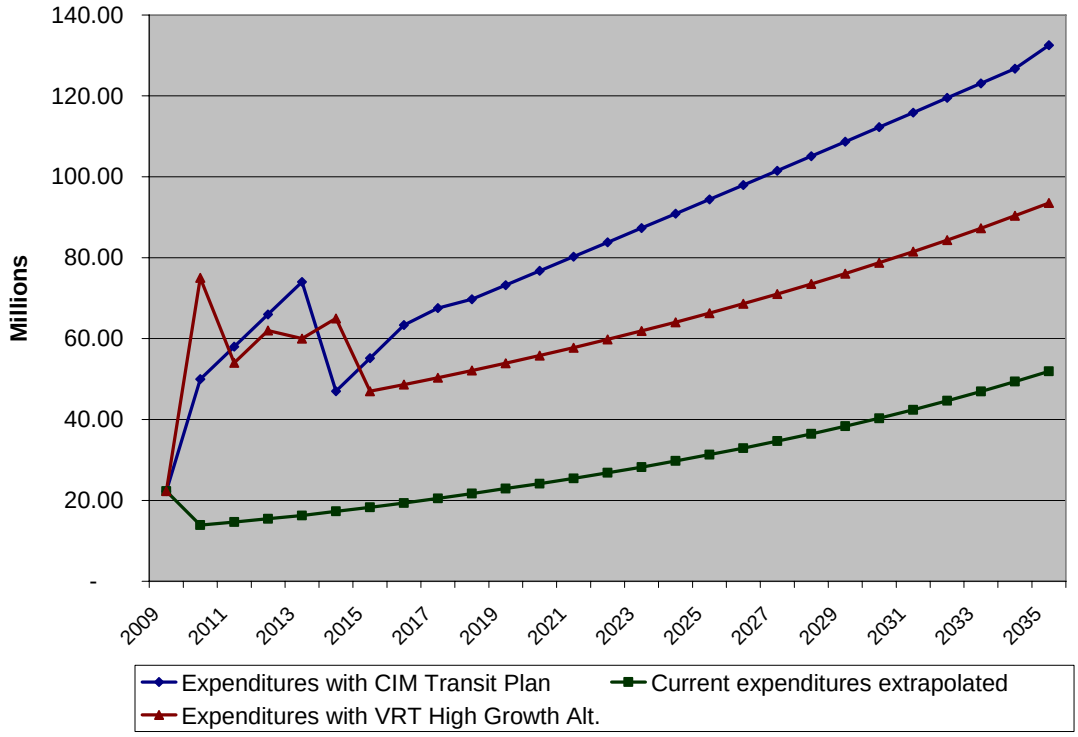
The high scenario examines the level of spending necessary to reach a highly developed transit service, compares this level of spending with current levels, and estimates the additional resources needed to achieve this level.

Estimated Transit Expenditures

As previously mentioned, VRT's High Growth Alternative identified improvements to the regional bus system and other improvements that would ultimately support a rail system through the Boise and Nampa corridor. This system was estimated to cost approximately $320 million (in 2005 dollars) over its first five years of development, resulting in an annual operating cost of about $47 million per year in year six, assumed in this analysis to grow over time with inflation and population growth.

Communities in Motion described a bus and rail system with rail service between Nampa and Boise (to Micron). Initial development cost was estimated to be approximately $270 million, with initial operating costs of $64 million, increasing to $121 million over 25 years. Figure 18 compares estimated annual expenditures from CIM, VRT's High Growth Alternative, and current levels of spending extrapolated into the future. For purposes of this analysis, future transit expenditures for a highly developed system are the average of the CIM and VRT High Growth estimates.

Figure 18. Comparison of Estimated Transit Expenditures from CIM, VRT's High Growth Scenario, and Current Levels



Federal Transit Revenues -- High Estimates

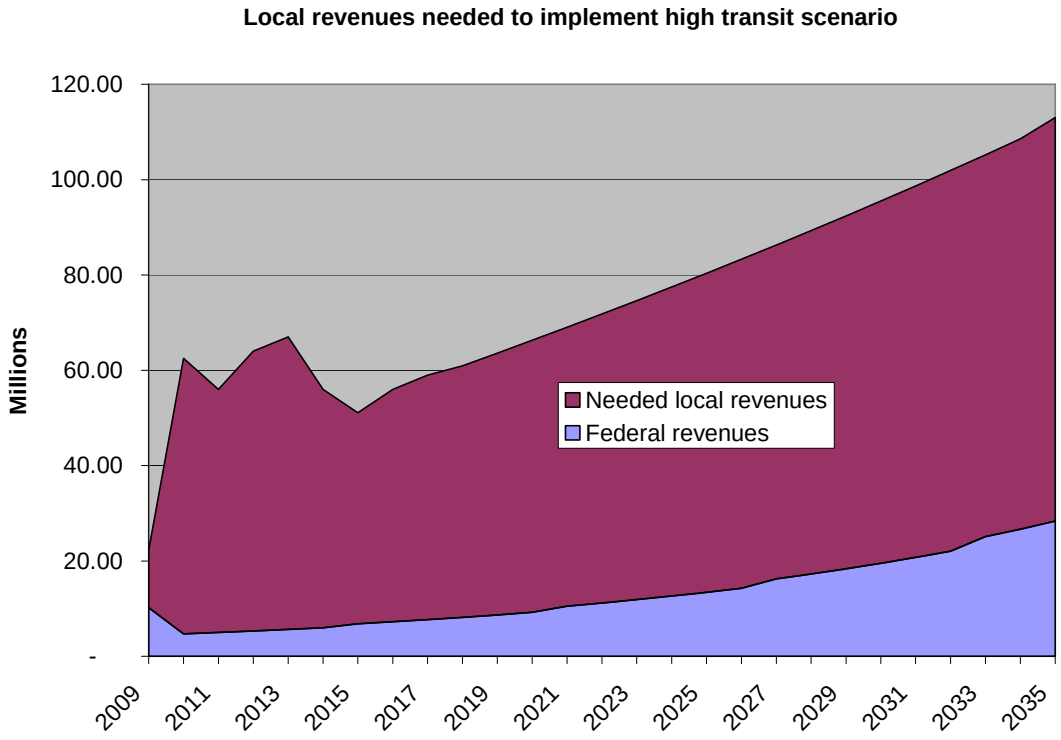
A high estimate revenue increase escalation rate of 6.3 percent per year is based on the following assumptions:

1. Federal transit formula revenues increase by five percent each year with an additional 7.5 percent increase every sixth year corresponding to reauthorization of federal surface transportation acts. Implicit in this assumption is a 50 percent increase in the six-yearly Congressional authorizations in response to national recognition of the increased importance of transit-related funding.
2. Other federal transit revenue assumptions from the most likely scenario remain in effect.

Local Revenues Needed to Fund High Scenario Transit System

Assuming federal revenues increasing at the rate described above and the continuing absence of any state support, Figure 19 shows the estimated level of local revenues needed to support a highly developed transit system.

Figure 19. Estimated Local Revenue Sources Needed to Fund the High Transit Scenario



The estimated level of local funding averages approximately $77 million per year. Based on estimated future population levels and household numbers, this amounts to about $90 per capita per year or about $240 per household.

If the estimated costs of this high transit scenario system are reasonably accurate, this potential system would have lower costs per capita than the comparable transit systems identified in Table 11.

Federal Revenues for Transit -- Commuteride

Ada County Highway District administers the Commuteride program that supplies point to point transit service to small groups of commuters originating in the same neighborhoods to major employer locations. Fees charged for services are used to reimburse ACHD for operating costs and contribute to a capital replacement fund. ACHD underwrites the remainder of the program's costs, including staff time, space, and utilities. Federal funds are used to expand services, build park-and-ride facilities, and develop marketing incentives for expanded use. Compared to other local transit service, Commuteride is more self-sufficient. In 2007, for instance, fees for services brought in $1.8 million, with estimated expenses of $1.9 million. It should be noted that ACHD

applies minimum ridership thresholds to Commuteride vans in order to maximize their financial viability.

For purposes of this analysis, it is assumed that Commuteride is effectively an enterprise and will base user fees on its actual cost of providing service. As a result, revenues will match costs over time.

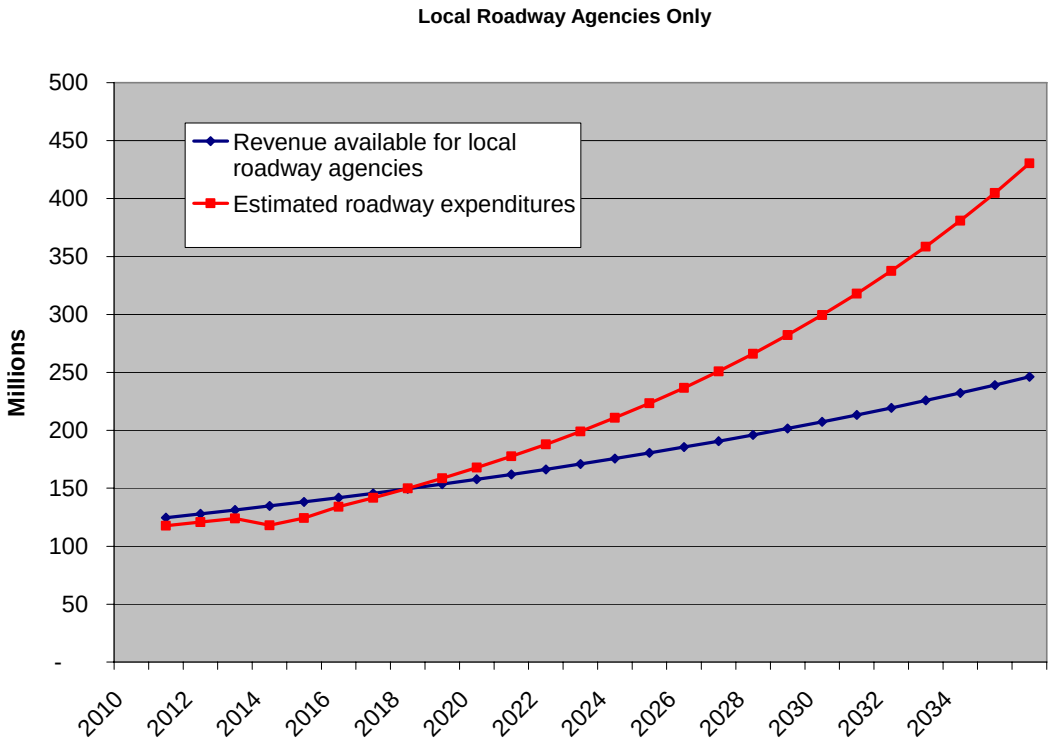
Modification of State Allocation of Highway Distribution Account Funds

The HDA has not kept pace with inflation and economic growth, resulting in a flattening of state gas tax revenues and increasing competition between ITD and local roadway agencies for available funds. At the local level, other revenue sources, primarily property taxes, have been used to make-up for the slow pace of HDA revenue increases, resulting in the state's share of funding for local transportation agencies diminishing over time and the local share increasing. Although from a state-wide perspective, re-allocating HDA revenues is a zero-sum process because no new funds are generated (and gains to local agencies will be offset by losses for ITD), there would be substantial benefit to local agencies in modifying the HDA distribution formula to restore the HDA's relative share of local agency revenue.

For 2009, total HDA revenues are estimated to be $334 million, of which local agencies (cities, counties, and highway districts) are estimated to get $127 million, or about 38 percent of the total HDA funds. The state will receive $191 million, or about 57 percent of the total funds. Of the $127 million in local agency funding, about $31 million, or 17 percent, reaches the COMPASS area roadway agencies.

If the state allocation of the HDA changes to a 50/50 split of the funds remaining after the State Police receive their 5 percent share "off the top", revenues for all local agencies would increase to about $167 million. If local allocations for agencies in the COMPASS area remain the same, annual HDA revenues for local agencies should increase from $31 million to about $41 million. This still results in a financial deficit (Figure 20), but it is reduced from about 1.6 billion to about 1.3 billion over the period.

Figure 20. Revenues and Expenditures for Local Roadway Agencies Resulting from a 50/50 Split of HDA Revenues Between Local Agencies and the State



It would take near-term annual HDA revenues of approximately $50 million, plus an inflation adjustment mechanism for the HDA revenues, for local agencies in the COMPASS area to eliminate the long-term financial deficit. This $50 million is about $20 million per year more than is currently received locally from the state ($31 million), and would represent a state/local allocation of about 40/60, with local agencies receiving the 60 percent. The impact to ITD is not estimated

Relaxation of Spending Limitations

Many of the roadway and transit revenues are restricted, or limited, in their use, requiring some accounting to confirm that specific funds were being used for their intended purposes. With exceptions, the roadway funding restrictions did not appear to result in significant issues in funding agencies' major activities, although overall revenues were deficient. These exceptions are discussed below.

In general, spending restrictions are undesirable because they might prevent funds, or desired levels of funds, from being optimally allocated across roadway functions, transit functions, and between different modes of transportation. Specifically, they may prevent maintenance from being fully funded, alter the capital improvement programs, and create spending disparities between roadways and transit. This section will review these restrictions and how they affect local transportation expenditures.

Summary of Existing Limitations

Table 12 summarizes spending limitations for local transportation revenues.

Table 12. Summary of Spending Restrictions for Major Revenue Sources

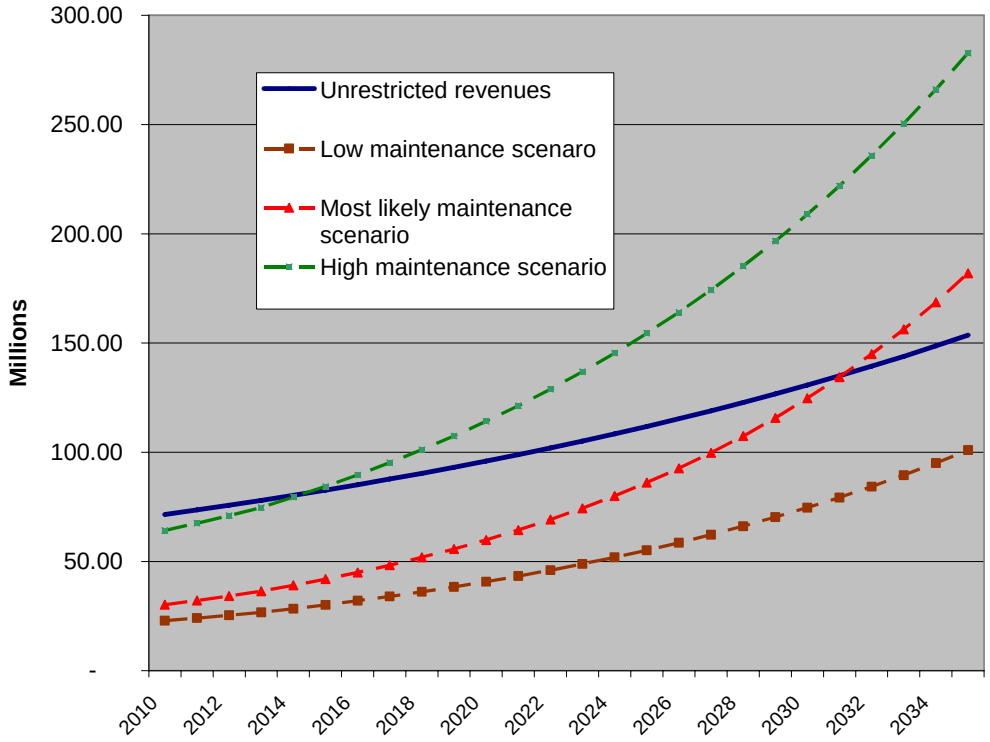
Federal funds	For roadways, generally limited to capital improvements with a local cost share. For transit, limited to capital improvements, although Section 5307 funds can be used for preventative maintenance. Local cost shares are also required.
State Highway Distribution Account funds	For roadways, unrestricted in their use. They are not intended for transit although some supporting facilities within the roadway corridor may be eligible.
Local funds: property tax revenues	For roadways, unrestricted in their use.
Local funds: impact fee revenues	Transportation impact fees are imposed by Ada County and the City of Nampa. These funds are generally restricted to new capacity roadway projects within these entities. However, many portions of reconstruction have capacity components, such as additional lanes and right-of-way, so impact fees may also be used for portions of other capital projects. Transit is not an eligible use for fees levied by ACHD and Nampa, although an impact fee would be theoretically possible if a strong rationale was developed.
Local funds: local vehicle registration fees	This fee is charged by Ada County for ACHD projects and is for capital projects for roadways. The fee's level was doubled in 2009 for purposes of intersection improvements, congestion management, and pedestrian facilities associated with roadways.

The Impact of Spending Limitations on the Financial Analysis

Roadways

The most notable impact of spending limitation is under the high maintenance scenario, where annually occurring costs, including maintenance, administration, and equipment soon exceed the level of unrestricted funds eligible to be used for these activities. In addition, under the most likely revenue scenarios, these unrestricted revenues do not greatly exceed annual, non-capital expenditures. This is shown in Figure 21. In effect, eligible revenues restrict the potential level of maintenance. In this analysis, it appears that maintenance would be capped at approximately $12,000 per mile, higher than current levels of spending and higher than the most likely level, but below many of the benchmarks quoted from other roadway agencies.

Figure 21. Maintenance Cost Scenarios Compared to Unrestricted Revenues Eligible to Pay Maintenance



Although the high maintenance scenario would limit maintenance, funds for capital projects would still be available at their previous levels because there are still sufficient locally-generated capital funds to cover any federal cost shares. However, if maintenance turns out to be insufficiently funded over time, remaining eligible capital funds will be used for re-construction of the deteriorating roadways, leaving impact fee revenues as the only funds available for new roadways. In addition, these new roadways could only be built within entities that have the fee, currently Ada County and the City of Nampa.

The funding limitations also impact the most likely maintenance scenario in instances where long-term inflation plus system growth exceeds long-term revenue growth. In this analysis, HDA funds grow at rate slightly higher than inflation under the most likely scenario but not quite as fast as the sum of population growth and inflation. Had the current analysis been extended through 2050, maintenance funding would have become tenuous for the most likely maintenance scenario as a result.

Transit

The major and immediate spending limitation issue with transit is the loss of ability to use federal Section 5307 funds, or any other funds federal used for transit, for operating expenditures. This issue was discussed in the Revenue sections of this report. This results in near-term loss of about 15 percent of Valley Regional Transit's (VRT) operating revenues, resulting in either an immediate need for more local revenues or a reduction in the level of transit service. In addition, use of relatively more local funds for operations reduces the local funds available for matching federal cost shares, further reducing VRT revenues.

The other major spending limitations are that major sources of transportation revenue, specifically locally-distributed HDA funds, impact fees, and local vehicle registration fees, cannot be used for transit. These are policy decisions that the state and local agencies will have to confront in the future.

Benefits of the Potential Elimination of Spending Limitations

Roadways

An immediate benefit of relaxing limitations on funds currently targeted exclusively for capital projects is an assurance that maintenance can be adequately funded in the future. Overall, there appear to be sufficient local revenues to match potential federal grants at the regional level, so cost-sharing limitations do not initially appear to be significant for roadways. However, it should be noted that at the local level, a relatively small Highway District may not be able to provide cost sharing for large federal grants. For instance, a $10 million dollar project may require a Highway District cost share of over $700,000, overwhelming its annual budget.

Relaxation of impact fee spending limitations would likely be beneficial to the system as a whole because it increases agencies' flexibility to use funds where they get the greatest return. Though desirable for road agencies, this flexibility may be not be favored by "watch dog" organizations who may view the impact fee as evolving into an illegal tax. However, this analysis did not find major instances where impact fee limitations resulted in a "second best" allocation of funds.

Transit

The immediate benefit of relaxing spending limitations on funds for transit is the ability to continue to use federal funds for operations and maximization of federal cost sharing opportunities. This measure would have beneficial impacts for VRT.

However, a larger benefit would result from relaxing limitations on HDA funds and local roadway revenues, allowing them to be also used for transit. This would have two major benefits at the risk of creating a revenue allocation issue:

- Re-allocation of a fraction of these funding sources to VRT would have a highly beneficial impact on local transit. Currently, VRT's budget is in the $10 million range and the loss of a $1.6 million or more in operating funds is a critical issue for them. The local roadway agencies have a combined budget in the $100 million range. A 1.6 million transfer from roadway HDA funds to transit would have a marginally adverse impact to the agencies but a proportionately larger benefit to VRT. Being able to allocate these funds more freely between roadways and transit would "optimize" the local transportation system, subject to overall funding limitations.

- Transit may be more easily funded if they can tap existing revenue sources, rather than create new dedicated ones, in the current economy. That is, it may be politically easier to increase levels of existing impact fees or vehicle registration fees than create a new fee. Possibly the latter source of funds, vehicle registration fees, could be used for transit's most pressing need – operating funds. However, it would be difficult to justify the use of impact fees for transit operating expenditures, for the rationale impact fees cannot be used for roadway operating expenditures.

A potential issue with the sharing of funding sources between roadways and transit is how funds will be allocated between the two modes and who will make these decisions locally. There is not an over-arching local transportation agency with the authority to re-allocate funds. COMPASS is a transportation planning agency and legally cannot take on this responsibility. ACHD does not overlap with VRT, nor do other local roadway agencies. Few roadway agencies would likely voluntarily reduce their budgets to fund transit. In many cases, it would likely require action from the Idaho legislature to make changes in the enabling legislation behind the revenues. In addition, it would take a restructuring of government roles and powers to empower one agency to direct to another how to use its existing funds. More likely, a new regional revenue source, if developed, would be put under some regional governing body.