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## Toll Revenue Potential

### Introduction

The Oregon State Route 35 Columbia River Crossing Feasibility Study began in late 2000 as a multi-tier effort to consider replacement alternatives to an aging movable span bridge. Completed in 1924, the existing "Hood River" bridge has a narrow two lane deck and no pedestrian facilities. It is owned by the Port of Hood River and operated as a toll bridge with a 75¢ toll each way. The bridge connects the south central Washington State communities of Bingen and White Salmon with Hood River on the Oregon side of the Columbia River.

As part of Tier II of the study, public opinion surveys were conducted in October 2001. This consisted of a randomly sampled telephone survey of 400 local residents and an intercept survey of bridge users on a Sunday and Monday. Key objectives of both surveys were to gather information about bridge user travel patterns, gauge interest in a new crossing, and identify their willingness to pay higher tolls — the latter being a key source of financing for a new facility.

The study team employed the survey results regarding willingness to pay tolls along with traffic demand projections to assess the potential range of annual revenue that could be available to help finance a new crossing. A simple financial model was prepared to consider project funding sources and uses of funds. Results from the model can then be used to consider the financial feasibility of various funding scenarios.

### Traffic Projections

Building on previous Tier I work, more detailed traffic projections were produced in Tier II to support the financial feasibility analysis. This involved the development of an econometric regression model to "explain" traffic as a function of various economic and demographic variables, which can then be used to forecast future traffic trends based upon projections for these variables. At the same time, a time-series model was fit to historic traffic data to project future seasonality. Results from the two models were then combined to provide both the underlying growth trend and the seasonal variation in future traffic. For purposes of financing a new bridge crossing, it is necessary to project traffic and revenue for at least the first few years of operation. A 20 year time horizon was identified for the traffic forecasts, to allow for normal EIS, design and build procedures, and potential schedule delays.

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Several available data sources were tested for their explanatory power as independent variables for the econometric traffic model. Explanatory variables were limited to those that had available quarterly projections for the forecast horizon year or to those that could be readily estimated from the projection of a similar, highly correlated data series. Also, statistical validity of the results prevented the use of two or more variables that were highly correlated (very similar) to each other. Finally, since the potential independent variables were either seasonally adjusted or did not exhibit seasonality, it was necessary to seasonally smooth quarterly traffic, the dependent variable.<sup>1</sup> The following model was estimated to predict future bridge traffic, using quarterly data dating back to 1990:

$$QTRAFSA_t = -344,991 + (0.440 \times QTRAFSA_{t-1}) + (59.25 \times HREMP_t) - (26.07 \times HREMP_{t-1}) \\ + \left( 2,476,592 \times \frac{KLEMP_t}{KLPOP_t} \right) - \left( 1,089,700 \times \frac{KLEMP_{t-1}}{KLPOP_{t-1}} \right)$$

where  $QTRAFSA_t$  = Quarterly seasonally adjusted traffic volume at time  $t$   
 $HREMP_t$  = Hood River County Employment at time  $t$   
 $KLEMP_t$  = Klickitat County Employment at time  $t$   
 $KLPOP_t$  = Klickitat County Population at time  $t$

The intercept survey data indicated that more than 75% of monthly bridge traffic is generated by Washington residents, and that 44% of monthly traffic is for commute or business purposes. Hood River County employment proved to have good positively correlated explanatory power for this result — both in terms of the county being an economic center attracting Washington residents as employees, and as an indicator of Washington residents' demand for Oregon retail goods and services, which is driven by Oregon's lack of sales tax.<sup>2</sup> The Klickitat County Employment Share of Population also proved to have good explanatory power. Here, the share of the population that is employed is a proxy for the county's personal income and overall economic activity. The higher the percentage of the population employed, the more likely it is that some Bingen and White Salmon residents will work in Hood River and/or will have more disposable income to spend in sales-tax free Oregon, attracted by shopping opportunities such as WalMart not available on the Washington side. Overall, the econometric traffic model explains 81% of the historical variation in bridge traffic.

In addition, a monthly time-series model was developed to fit historical bridge traffic in order to forecast future monthly seasonality. Time series models isolate growth trends from cyclical effects to fit a model that produces forecasts based solely on the historical data. They tend to do an excellent job of short-

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<sup>1</sup> Census X-11 procedures were used to create multiplicative seasonal adjustment factors.

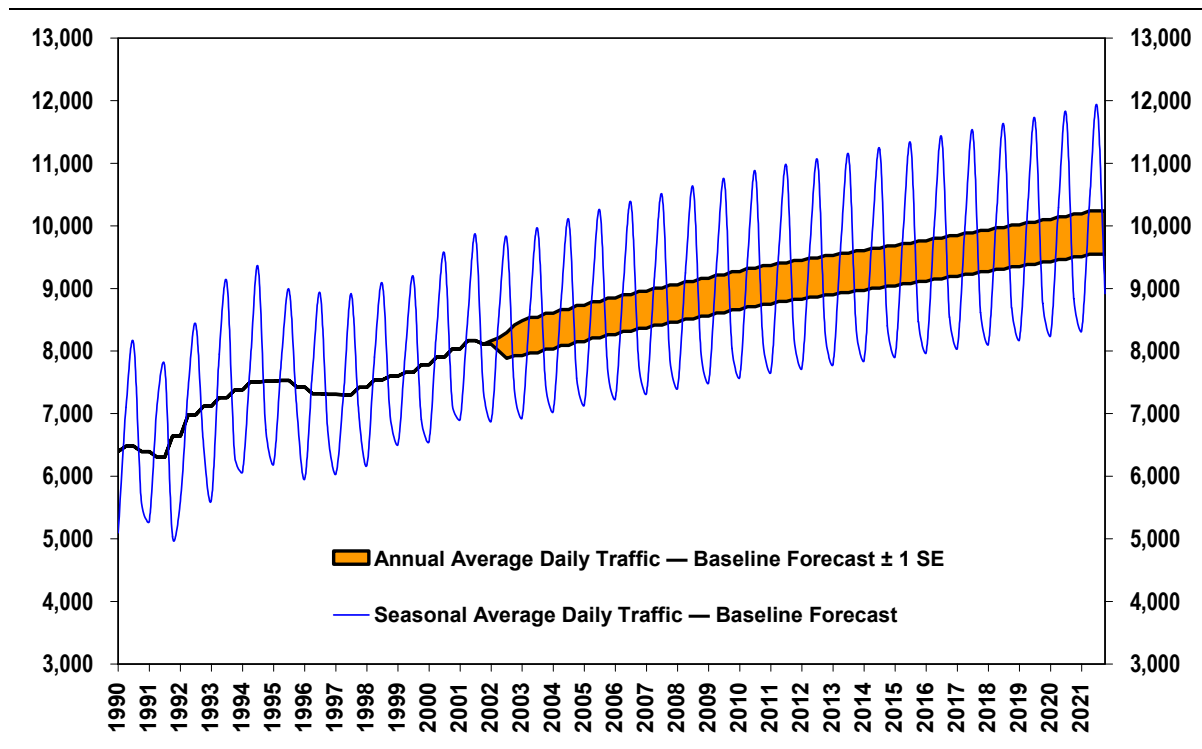
<sup>2</sup> "Good explanatory power" means a statistically significant model coefficient at the 95% confidence level.

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range forecasting and are superior to simple growth trend forecasts; however, long-range time series forecast accuracy can be subject to debate because they do not consider possible changes in the causes of traffic demand or other outside influences. In this case, the time-series model was used to provide monthly seasonal traffic detail which was then applied to the quarterly econometric model traffic forecasts. It is worth noting that both forecasts were within 3% of each other when projecting the 20 year demand forecasts.

**Error! Reference source not found.** presents the historical and 20-year baseline forecast for Hood River Bridge use, expressed in annual average daily traffic (AADT) volumes. Note that the historical trend line becomes a band as it enters the forecast horizon. This band represents a  $\pm 1$  standard error interval for the forecast, which encompasses a 70% confidence interval. In addition, the monthly seasonality of the mean forecast (band center) is superimposed over the forecast trend.

**Figure 1**  
**History and Baseline Forecast of**  
**Hood River Bridge Average Daily Traffic**



It should be noted that the toll rate, expressed in real or constant dollars, was tested as a model explanatory variable, but was not found to be significant. Despite a lack of toll increases, and thus, a declining real toll for nearly all of the bridge history, the real toll did increase slightly between 1990 and 2001, due to a nominal toll increase of 25¢ in late 1994. As such, the assumption for the baseline forecast horizon is that the real toll remains approximately constant. In

other words, the baseline forecast assumes that periodic adjustments to the nominal toll are only intended to compensate for inflation.

## Survey Toll Opinions and Elasticity Concepts

Given the long history of tolls on this bridge, continuing the toll has been put forth as a probable source of funding for a new crossing. In fact, 69% of respondents in the telephone survey supported tolls as a means to finance a new crossing. In order to fully understand and apply the public opinions regarding tolls and to ascertain its funding potential, it is useful to review the concept of toll elasticity of demand and how it relates to the revenue maximizing toll.

### Toll Elasticity of Demand

The concept of demand sensitivity to changes in tolls is referred to as the elasticity of demand. The elasticity coefficient is simply the percentage change in traffic divided by the percentage change in toll. Although the elasticity coefficient is a negative number, since demand decreases for a toll increase, it is usually discussed in absolute value terms. If the absolute value of the coefficient is less than 1.0, demand is said to be inelastic. Therefore, a marginal toll increase causes a relatively small decline in demand such that overall revenue increases.

However, the elasticity of demand is not constant across different toll rates. As bridge tolls rise to consume a larger share of a user's budget, the user becomes increasingly sensitive to further increases, and thus more likely to travel less in order to limit total expenditures. Demand is said to become less inelastic (or more elastic) as the real toll-rate increases. When the absolute value of the elasticity coefficient exceeds 1.0, demand becomes elastic. Therefore, a given percentage increase in the toll would cause a larger percentage reduction in demand, such that overall revenue actually declines. At the cross-over point of 1.0, demand is said to be unit elastic, and revenue is maximized. This relationship implies that there are limits to how much revenue can be generated by tolls.

The elasticity of demand may also rise over time, if the real toll is sufficiently high that existing travelers are induced to seek alternatives, form carpools, or combine trips together. The long term nature of demand to become more elastic, can be partly offset by overall growth in travel demand, due to a rising population base.

### Analysis of Survey Results

Participants in both the phone survey and the motorist intercept survey were asked a series of questions regarding their willingness to pay tolls for their current or most recent trip across the bridge. The results of these responses were used to gauge potential travel behavior with higher toll rates, and thus, estimate demand elasticity. Elasticity estimates were then paired with the

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traffic forecasts to consider the possible range of revenue. While the methods provide a preliminary gauge of potential toll revenue, they are not considered “investment grade” toll traffic and revenue forecasts from which an owner would seek market financing. The latter would require considerable resources, time and market research involving in-depth stated-preference surveys, that were beyond the scope of this study.

The survey analysis and results indicate that bridge traffic demand is generally inelastic, such that there is a range of toll increases that will generate more revenue. For tolls between \$0.75 and \$2.00 per one-way trip, overall elasticity of demand ranges between -0.25 and -1.00, albeit with variation between different market segments (i.e., trip purpose, frequency of use, user demographics, etc.) Using these outcomes, a series of matrices were developed that identify the revenue maximizing toll-rate for different market segments. Table 1 presents the matrix of maximum revenue toll-rates and percentage shares of overall travel, for market segments identified from the intercept survey.

**Table 1  
Intercept Survey Revenue Maximizing Toll by Market Segment**

Intercept Survey Expanded to Monthly Travel — Revenue Maximizing Toll by Market Segments	All Intercept Respondents	Commute & Business Trip Purposes	All Other Trip Purposes	1 Round-Trip per Week	2-4 Round-Trips per Week	5+ Round-Trips per Week
All Intercept Respondents	\$2.00 100%	\$2.00 44%	\$2.00 57%	\$2.00 21%	\$2.00 26%	\$2.00 53%
Washington Residents*	\$2.00 78%	\$2.00 33%	\$2.00 45%	\$2.00 11%	\$2.00 20%	\$2.00 47%
Oregon Residents	\$2.00 22%	\$2.00 11%	\$1.50 11%	\$2.00 10%	\$1.00 5%	\$2.00 7%
Monday / Weekday Users	\$2.00 74%	\$2.00 41%	\$2.00 34%	\$2.00 13%	\$2.00 19%	\$2.00 43%
Sunday / Weekend Users	\$1.50 <sup>1</sup> 26%	\$2.00 3%	\$1.50 23%	\$2.00 8%	\$1.00 7%	\$1.00 11%

\* Includes an insignificant percentage of residents from other states

<sup>1</sup> Insignificantly different at all surveyed toll rates

As shown in Table 1, the overall maximizing toll rate is \$2.00. Demand for most of the market segments did not fall off sufficiently fast to lower total revenue at tolls between the current 75¢ and \$2.00. Only two market segments had a revenue maximizing toll of less than \$1.50. The demand characteristics of moderately infrequent users (2-4 round-trips per week) that were either Oregon residents or surveyed on a weekend yielded a revenue maximizing toll of \$1.00. Combined, these two groups represent only 10% of existing monthly bridge use.



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Table 2 presents the matrix of maximum revenue toll rates and percentage shares of overall travel for various phone survey market segments. Note that the phone survey responses to willingness to pay tolls may not be as robust as the intercept survey, because although respondents were asked to consider their most recent trip across the bridge, there is a tendency to answer such survey questions considering an “average” or “usual” trip, which tends to blur the true variability in travel behavior.<sup>3</sup> Nonetheless, the overall revenue maximizing toll rate was also \$2.00 for the phone survey respondents. However, in this case, demand appears to be stratified into subgroups with different revenue maximizing tolls. For one group, comprised of the two age extremes (young adults and senior citizens) and/or the lower income category, revenue is maximized at a \$1.00 toll and demand falls off rapidly above that. For the other group, comprised of respondents age 25 to 65 and/or mid-to-high incomes, demand falls off rather slowly to at least \$2.00, suggesting that this dollar value would be the revenue maximizing toll.

Overall, the predicted level of revenue at \$2.00 is insignificantly greater than the revenue projected at \$1.00, though both exceed the revenue projected at \$1.50. The advantage of analyzing the phone survey data is the ability to see how factors such as age and income affect willingness to pay tolls, questions which would have made the intercept survey too long. However, there are shortcomings to this approach as well — namely that the phone survey results cannot be expanded to approximate monthly bridge use and correctly weight the responses according to actual travel patterns by day of week, state of residence, or other relevant demographic stratification.

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<sup>3</sup> Only those phone respondents who had used the bridge in the past week were asked the toll questions.

**Table 2**  
**Phone Survey Revenue Maximizing Toll by Market Segment**

Phone Survey Respondents with Weekly Bridge Use — Revenue Maximizing Toll by Market Segments	All Phone Respondents	Commute & Business Trip Purposes	All Other Trip Purposes
All Phone Respondents	\$2.00 <sup>2</sup> 100%	\$2.00 32%	\$1.00 <sup>1</sup> 68%
Age 18 - 24 or > 65 Years	\$1.00 29%	\$1.50 5%	\$1.50 <sup>3</sup> 24%
Age 25 - 65 Years	\$2.00 71%	\$2.00 27%	\$1.50 44%
Income < \$30,000	\$2.00 32%	\$2.00 8%	\$1.00 <sup>1</sup> 22%
Income > \$30,000	\$1.00 <sup>1</sup> 60%	\$2.00 21%	\$2.00 <sup>2</sup> 40%

<sup>1</sup> Insignificantly different from \$0.75

<sup>2</sup> Demand exhibits two similar revenue maxima, the other at \$1.00

<sup>3</sup> Responses for those aged 65+ were dissimilar to those aged 18-24

## Proposed Toll Policy and Financing Options

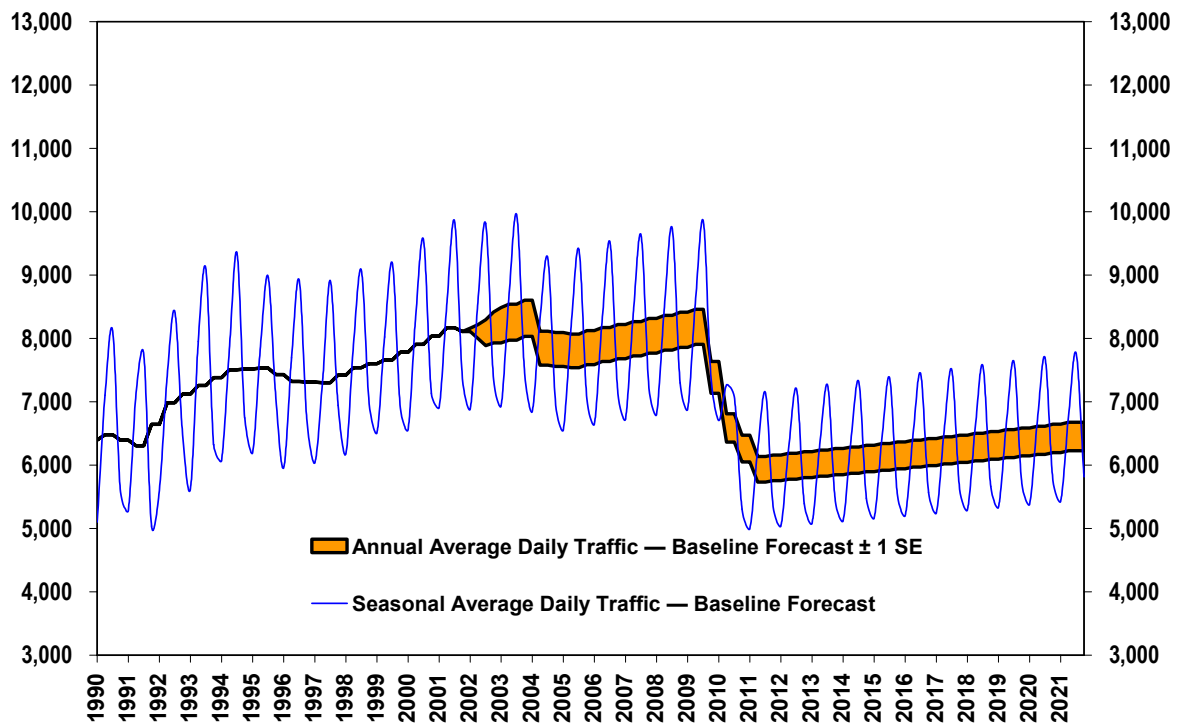
The following presents a proposed toll policy for a new crossing and considers the toll revenue and bond financing capacity of this toll structure.

### Revenue Maximizing Toll Rate and Traffic Forecast

The survey results indicate that the revenue maximizing toll is upwards of \$2.00. Considering that demand may become elastic over time, and to err on the side of favoring greater mobility, the revenue maximizing toll was conservatively estimated at \$1.50 in year 2001 dollars. This is equivalent to \$1.75 in 2010 dollars, the year in which a new crossing would realistically open. Until then, it may be politically unacceptable to implement the full increase in the real toll from the existing 75¢; however, the financial feasibility will be improved by implementing a portion of the toll increase as soon as possible and dedicating the additional revenues to replacement costs.

The assumption of this financial analysis, which will be explained in more detail later herein, is that the nominal toll would be bumped to \$1.00 in 2004 and to \$1.75 in 2010. Using the estimated elasticities, this yields a new, lower traffic projection, as shown in Figure 2.

**Figure 2**  
**History and Increased Toll Forecast of**  
**Hood River Bridge Average Daily Traffic**



## Toll Policy Considerations

The Port of Hood River, as owner/operator of the existing bridge, currently has sole authority in setting toll rates and sole discretion regarding the use of toll proceeds. Since the last toll increase in late 1994, the Port has been depositing 25¢ of each 75¢ toll collected into a bridge repair and replacement (R&R) fund. The remaining 50¢ flows to the Port's general fund and typically more than covers routine operations and maintenance costs.

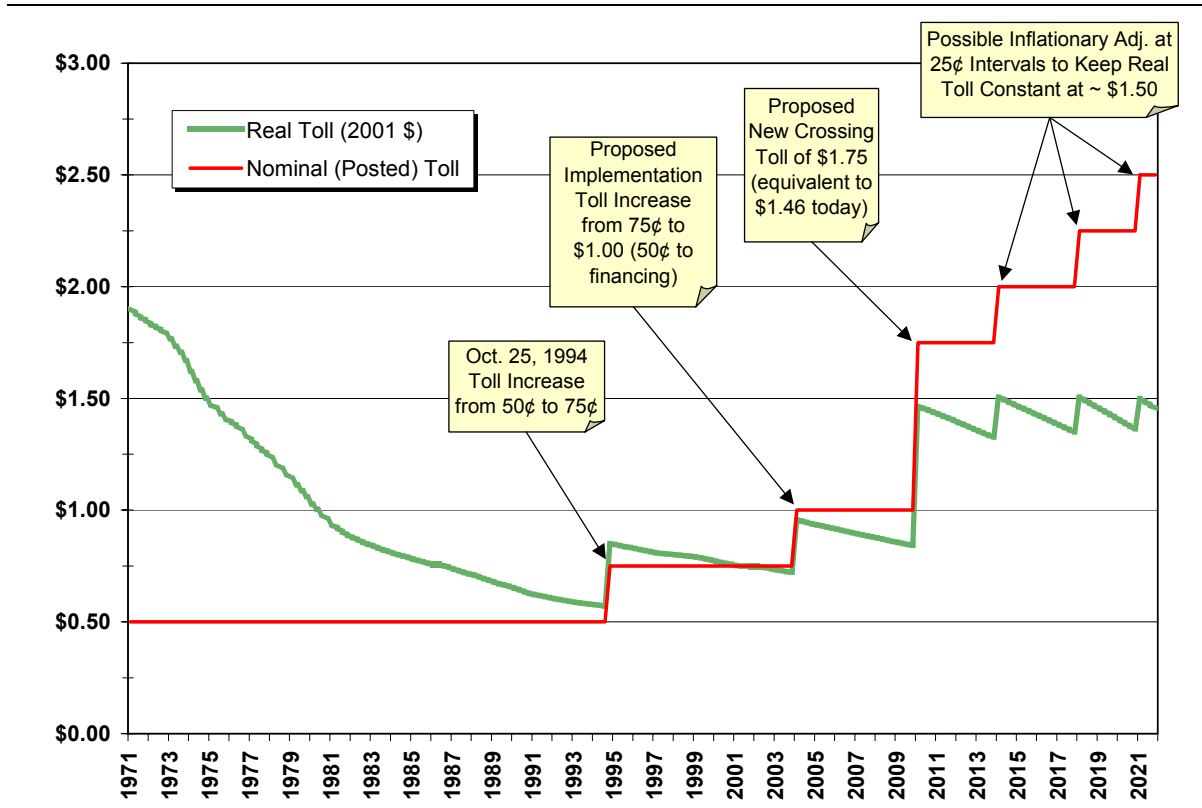
A major re-decking of the existing bridge will be necessary in the next several years. This re-decking will be particularly important if there are no bridge replacement plans under consideration. The Port recognizes that this \$7-8 million project is looming, and will likely need to sell bonds to finance part of the cost. Financing will be required as the R&R fund balance totals approximately \$1.2 million, with annual growth approaching \$0.7 million.

Assuming that the State of Oregon (or Washington) decides to form a toll bridge authority to implement a state-owned replacement crossing, there may be an opportunity to forge an agreement with the Port of Hood River. The agreement with the Port could be to both raise the existing toll during design and construction, and capture part of this revenue to help finance the cost of the new crossing. This might be done in exchange for the state agreeing to retire the existing bridge as part of the overall project cost. Such an agreement would require the passing of a resolution by the Port Commissioners.

For purposes of this financial analysis, it was assumed that commencement of a state-directed replacement project could eliminate the need to do a full re-decking of the existing bridge. If this were the case, lower cost and shorter-term repairs and maintenance could be undertaken in the interim. It was further assumed that the Port could complete interim maintenance and other necessary repair activities on the existing bridge and continue normal operations through 2010, with a 2003 year-end projected R&R fund balance of \$2.7 million and an ongoing 50¢ from each standard vehicle toll.

With a toll increase to \$1.00 in 2004, this would free up 50¢, or about \$1.5 million in annual toll revenue to be used to help fund the capital costs for a new crossing. From 2004 through 2009, these local funds would add up to about \$9.0 million to fund part of the bridge capital investment. Upon opening of the new bridge, the proposed toll would increase to \$1.75 (equivalent to \$1.50 in 2001 dollars), with periodic inflationary increases at 25¢ intervals to keep the real toll approximately constant. The existing oversize vehicle toll multipliers and frequent user discount policies via prepaid toll coupons are assumed to remain in place. Figure 3 depicts a history of the nominal and real toll rates since 1971, as well as the proposed nominal toll increases and resulting real tolls forecasted out to 2021. Note that at no time is the proposed toll rate higher in real terms than the 50¢ toll was in 1975.

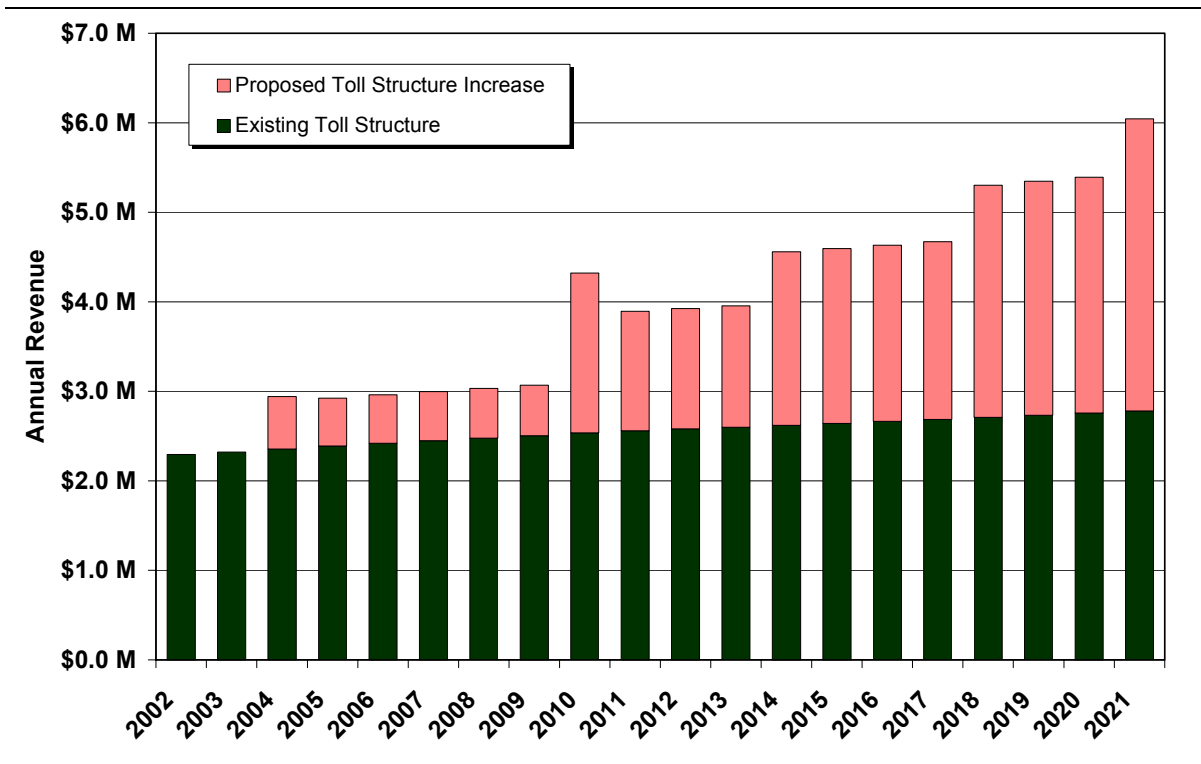
**Figure 3**  
**Historical and Proposed Nominal and Real Toll Rates**



## Revenue under Proposed Toll Structure

Figure 4 shows the projected revenue under the current toll structure and the additional revenue that would be generated with the proposed toll policy. The dark bars indicate the revenue generated from the baseline traffic forecast, whereas the lighter bars show the net additional revenue from the higher tolls (and their corresponding lower annual traffic projections). The 2004 toll increase to \$1.00, the 2010 increase to \$1.75, and periodic inflationary increases thereafter are reflected in Figure 4 as well. Given that the 2010 increase is relatively substantial at 75%, the projected decrease in demand is assumed to lag behind the toll increase, with the full effect not taking place until mid 2010. As such, the revenue expected in the first year of operation for the new crossing will likely be higher than in the immediately successive years. No ramp-up period is expected, since tolls are not new to this crossing.

**Figure 4**  
**Projected Revenue for Existing and Proposed Toll Rates**



## Toll Revenue Financing Capacity

Figure 4 indicates that when the new crossing opens in 2010 the annual toll revenue potential is approximately \$4 million. Considering the forecast traffic volume range indicated in Figure 2, the proposed \$1.75 toll in 2010 is expected to yield between \$3.5 and \$4.5 million per year.

Nominal revenue would be expected to eventually increase with traffic growth and inflation; however, the financial markets would tend to consider only initial revenues to be available as leverage in borrowing for capital investment.

A relatively simple financial model was developed to identify the capital investment purchasing potential of toll revenues via the sale of municipal bonds. The following assumptions were employed by the model:

- 30 year debt via the sale of municipal revenue bonds
- 1.25% issuance cost
- 6.0% interest rate
- Construction duration of 3 years
- Principal payments deferred during construction
- Interest during construction capitalized as a project cost
- 1.2 debt service coverage ratio required

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The latter assumption regarding debt service coverage ratio means that the cash flow available for debt service — toll revenues less any costs that must be paid out of toll revenues — must exceed the annual principal and interest payments on the bonds by 20%. This is a typical requirement of the bond holders and financial markets, which must be met in order for the borrower (the state or toll authority) to achieve/maintain a good credit rating and receive an interest rate and other credit terms commensurate with that credit rating.

It is further assumed that toll revenues prior to opening would be insufficient to cover principal payments and all interest payments. As such, it was assumed that interest costs during construction would be capitalized as a project cost — the amount borrowed would be increased by the amount necessary to cover interest payments — and that principal payments would be deferred until after construction. Alternatively, the bond sale could also be structured to capitalize all debt service costs during construction.

Based upon these assumptions, each \$1 million of annual net revenue could finance approximately \$8.8 million of direct capital investment, or about \$10.9 million of project costs including capitalized debt service.

Assuming \$0.5 million for annual operations and maintenance of a new crossing, leaves approximately \$3.5 million as the middle-range of net toll revenues available for debt service. This in turn would leverage approximately \$38 million in net bond proceeds to be used toward project costs. Combined with the funds set aside (\$0.50) from each \$1.00 in tolls paid between 2004 through 2009, the total local funding share from tolls could amount to nearly \$50 million.

Assuming construction occurs over three years from 2007 through 2009, construction cost estimates in today's dollars should be escalated by at least a factor of 15% to account for projected inflation.

Finally, it should be kept in mind that the \$1.50 estimated revenue maximizing toll is equivalent to a toll of \$1.75 in 2010, rounded to the nearest quarter. And since this revenue maximizing toll estimate is most likely conservative, it may be reasonable to consider a \$2.00 opening day toll, which would generate approximately 7-10% more revenue net of its demand impacts.

## **Annual Revenue Required to Solely Finance a \$150 Million Project**

Assuming a project cost of \$150 million in today's dollars, the question may be asked as to what is the equivalent one-way toll, assuming the current traffic volumes, needed to finance this level of investment. While it is unrealistic to assume that the resulting toll would not cause traffic demand to decrease considerably, such a measure can nevertheless help establish perspective and convey the message that tolls alone cannot finance a project with these characteristics.

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Put another way, what annual revenue stream, regardless source, would be needed to finance a \$150 million project cost with no up-front funding or grants? For this analysis, the revenue impacts of higher tolls paid by trucks, RVs, and trailers, as well as the discounts given to frequent users who purchase prepaid toll coupons have been ignored.

A one-way toll of \$5.91, if applied to the 2.98 million one-way bridge trips in 2001 — assuming no demand reaction to the \$5.00 increase in the toll rate — would be equivalent to an annual revenue of \$17.6 million or \$17.1 million net of annual operating and maintenance costs of \$0.5 million. The latter amount would be sufficient to bond \$186 million, of which \$36 million would be used to cover interest and financing expenses during construction, leaving \$150 million for direct capital investment and construction related expenditures.

## Summary of Findings

- Construction of a new crossing would not likely begin before 2007, with a projected opening date at the beginning of 2010. As such, any cost estimates in today's dollars should be escalated by at least 15% for interim inflation.
- The revenue maximizing toll has been conservatively estimated at \$1.50 in 2001 dollars. This is equivalent to a toll of \$1.75 in year 2010 dollars, rounded to the nearest quarter. If implemented, annual traffic demand would likely drop by approximately 30-35% relative to the current nominal toll of 75¢, which is 63¢ in 2010 dollars.
- In 2010, this toll is expected to generate between \$3.5 and \$4.5 million in gross revenues before O&M costs. O&M costs are estimated at approximately \$0.5 million per year in today's dollars.
- Each \$1 million of annual net revenue could finance approximately \$8.8 million of direct capital investment, or about \$10.9 million of project costs including capitalized debt service (the borrowing of additional funds to make loan payments during construction).
- Under the proposed toll structure with an increase to \$1.00 in 2004 and to \$1.75 in 2010, combined with 50¢ of each toll set aside for capital costs between 2004 and 2010, toll revenues appear capable of financing upwards of \$50 million in project costs.



## Other Local Revenue Potential

### Funding Needs

For the purposes of this analysis, it was assumed that approximately \$1 to \$2 million annually would need to be raised from local funding sources over the next 20 years. It is assumed that the bridge will be funded 50% by state and federal sources, and 50% by local sources (either toll revenues or another local revenue source).

### Equitable cost distribution

Funding a costly project such as this requires sensitivity to political issues, which are in many cases about sharing costs in an equitable or fair way. A fundamental principle of public finance is that people should pay in proportion to the benefits they receive or the costs they impose, unless they belong to a group meriting special treatment. This user-pays principle clearly underlies the use of tolls, but non-toll revenue can also be evaluated from this perspective.

### Inter-State Cost Distribution

Survey data shows that most bridge users are from Washington State; the motorist intercept study conducted in October 2001 shows that nearly 72% of respondents and nearly 80% of monthly bridge users are Washingtonians, with all but about 1% of the remainder from Oregon. Washington residents are drawn by the employment opportunities in the Hood River area and the tax free shopping in Oregon. Initially, this would suggest that most of the local funding should come from Washington rather than Oregon, and indeed the toll revenues would.

However, there are two issues that modify this initial assumption. One is that Oregon residents benefit from Washington residents' trips to Oregon, through access to a wider labor pool and a larger consumer market for goods and services. The other is a more practical concern; the Washington study area does not have as large a funding base as the Oregon study area. Klickitat and Skamania Counties are mostly rural, and the small municipalities in the immediate study area (White Salmon and Bingen) are much smaller than the city of Hood River—both in terms of population and in commercial and industrial activity. Assuming a given tax rate, revenues from property taxes, sales taxes, gas taxes, and other taxes on the population and employment base will raise less revenue in White Salmon and Bingen than in Hood River.<sup>4</sup>

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<sup>4</sup> Note: Oregon does not currently have a sales tax.

## Intra-State Cost Distribution

Many funding sources are available only to counties, not to cities. Unfortunately, trip patterns do not suggest a benefit that is sufficiently countywide, at least on the Washington side, to warrant a contribution solely from countywide taxes.

**Table 3**  
**Intercept Survey Washington Bridge Users**  
**by Zip Code of Residence**

Zip Code	% of WA Users
White Salmon	36.8%
Bingen	13.7%
Underwood	7.7%
Trout Lake	6.6%
Carson	6.0%
Lyle	4.4%
Glenwood	2.2%
Husum	1.6%
Stevenson	1.6%
Vancouver	7.1%
Other WA	12.1%
Total	100.0%

Considering the Washington side. White Salmon residents made up 37% of WA respondents to the motorist intercept survey, and Bingen residents composed 14% of WA respondents.<sup>5</sup> About 27% of WA respondents were from unincorporated areas in Western Klickitat County (Lyle, Trout Lake, Glenwood and Husum) and Eastern Skamania County (Carson and Underwood). Together, these communities were the home of 78% of Washington respondents. Because of the availability of other bridges to the west and east (Bridge of the Gods from Skamania County and the U.S. 97 and 197 bridges from Klickitat County), the current SR-35 crossing does not attract many users from beyond these communities. In fact, more of the remaining 22% of Washington respondents were from Vancouver rather than elsewhere within Klickitat or Skamania Counties. Central and Eastern Klickitat Counties were not represented in the motorist intercept survey; no respondents reported their home location as Goldendale. The same was true of Western Skamania County, with only 1.6% of Washington respondents coming from Stevenson.

The data above show that most of each County's population in Washington is probably beyond the immediate benefit area of the SR-35 crossing. For this reason, countywide funding sources from Klickitat or Skamania County are not recommended as the primary source of revenue. At the same time, it is

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<sup>5</sup> Note that residency within the city's zip code probably extends beyond the current city limits. This is likely to overstate the number of users who live within the city limits of Bingen and White Salmon, but not the number of users in that general area of southwestern Klickitat County.

important to keep in mind that White Salmon and Bingen residents may compose only half of the Washington users, so that taxes within those cities would be subsidizing users from elsewhere in Washington. In short, relying only on countywide taxes would tax too many non-users, while relying only on city taxes in White Salmon and Bingen would not adequately tax all users, in comparison to a strict user-pays system like tolls. One option to address this would be a two-tiered system, consisting of a basic countywide tax, supplemented by a city tax within the municipalities of White Salmon and Bingen, residents of which would benefit more than other county residents due to their proximity to the bridge.

**Table 4**  
**Intercept Survey Oregon Bridge Users**  
**by Zip Code of Residence**

Zip Code	% of OR Users
Hood River	39.7%
The Dalles	8.8%
Mosier	8.8%
Cascade Locks	1.5%
Portland	17.6%
Other OR	23.5%
Total	100.0%

Considering the Oregon side, there are relatively few users from Wasco County, essentially ruling out a countywide tax source. Especially considering that Wasco County has the U.S. 97 and 197 bridges within its jurisdiction. Hood River County, in contrast, has less land area than either Skamania or Klickitat County, and the bridge's benefits may extend countywide in addition to being concentrated to the city of Hood River. Survey data do not reveal how many bridge users are from within the city limits of Hood River versus the unincorporated areas near Odell, Dee, and Parkdale, but they do show that few users are from Cascade Locks in the western part of the County. A conclusion is that a countywide tax would be more equitable here than for the Washington counties; it would still include many residents who may not be frequent bridge users, but a tax within only the city of Hood River would probably miss too many bridge users from elsewhere in the County. In this case, as with Washington, it might be possible to have a two-tiered taxing system that combines a countywide tax with a citywide tax within Hood River, so that everyone in the county pays some amount of tax toward a new bridge crossing, but those living in the city of Hood River pay an additional amount because of the higher benefits they receive from their proximity to the bridge.

## **Other Considerations: Revenue Potential and Administrative Ease**

The assignment of costs to users is not the only factor to consider. Whether a funding source can generate enough revenue, within the relevant political and legal constraints, to justify the administrative effort necessary to collect and

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administer the revenue stream is also very important. For this reason sources that would generate very little revenue while requiring special legal authorization or complicated new administrative systems would not be recommended. The local revenue source that seems to fare the best under the criteria of revenue potential and administrative ease is the local property tax. It has a large base, and administration procedures are already in place.

## Local sources: Washington

For the purposes of this analysis, it is assumed that roughly half of the \$1 million to \$2 million needed from non-toll local sources will come from Washington, and the other half will come from Oregon. Therefore, local sources with approximately \$500,000 to \$1 million in revenue were reviewed.

### Property Tax

#### Countywide

Washington counties are limited to a tax rate of \$1.80 per \$1000 of assessed value (AV) for the county's General Fund, and \$2.25 per \$1000 AV for the county's Road Fund. Klickitat County's rates are less than this maximum, at \$1.46 for non-Road Fund activities and \$1.93 for the Road Fund. Therefore, there is potential for up to a 23% increase in non-Road Fund tax rates and 16% increase in Road Fund tax rates. The Road Fund levy is not applied in the incorporated cities of Goldendale, White Salmon, or Bingen.

Referendum 47, passed in 1997, limits the annual increase in the tax levy (the combination of the tax rate and the assessed valuation of existing construction) to inflation or 6%, whichever is less. Voters can, however, increase taxes for "special" levies that support bonds for capital construction. The requirement is at least 60% approval by at least 40% of the number of voters who participated in the previous general election. The tax rate must still be below the maximum amount stated in the previous paragraph.

**Table 5**  
**Revenue Potential from Klickitat County Property Tax Increase**

Additional General Fund Rate (per \$1000 AV)	Additional Road Fund Rate (per \$1000 AV)			
	\$0.00	\$0.07	\$0.17	\$0.31
\$0.00	\$0	\$66,812	\$162,258	\$295,882
\$0.14	\$174,754	\$241,567	\$337,012	\$470,636
\$0.34	\$424,404	\$491,216	\$586,662	\$720,286

Source: ECONorthwest based on Klickitat County Assessor's Data

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## **Citywide**

Washington cities are limited to \$3.60 per \$1000 AV, with up to \$0.50 of that for library districts and up to \$1.50 for fire districts. Neither Bingen nor White Salmon have fire districts, but they do belong to the county library district, which levies a \$0.50 rate, leaving a \$3.10 rate available for each city. Bingen is currently at its maximum levy of \$3.10, while White Salmon's permanent rate is \$1.89, plus a special bond levy of \$0.62. At present, therefore, White Salmon has approximately \$0.59 per \$1000 AV available in taxing capacity, which would represent a 24% increase over the current tax rate. As with the county tax, voters would need to approve such an increase with at least a 60% majority. State law limits the annual tax levy increase for cities with populations less than 10,000 to 6% (those with populations greater than 10,000 are limited to 6% or inflation, whichever is less).

As shown in the table below, raising the property tax rate in White Salmon to the maximum level would raise less than \$70,000 annually.

**Table 6**  
**Revenue Potential from City of White Salmon**  
**Property Tax Increase**

Additional Tax Rate per \$1000 AV	Additional Revenue
\$0.15	\$17,435
\$0.30	\$34,870
\$0.45	\$52,306
\$0.59	\$68,578

Source: ECONorthwest based on Klickitat County Assessor's Data

## **Port District**

Port Districts in Washington are allowed to levy up to 45¢ per \$1000 AV and can use the revenue for transportation projects within the district. The Port of Klickitat currently levies \$0.23 per \$1000 AV, collecting \$151,500 in 2002. Raising the levy to the maximum amount would only raise an additional \$145,000 annually.

**Table 7**  
**Revenue Potential from Port of Klickitat Property Tax Increase**

Additional Tax Rate per \$1000 AV	Additional Revenue
\$0.10	\$66,011
\$0.15	\$99,016
\$0.22	\$145,224

Source: ECONorthwest based on Klickitat County Assessor's Data

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## Local Sales & Use Tax

### Countywide

Counties in Washington are allowed to levy a 0.5% sales and use tax, and all counties presently have this measure in place. Counties are also allowed to levy an optional, additional 0.5% sales and use tax that is subject to voter referendum. Klickitat and Skamania Counties are two of the three counties that do not levy this additional tax, presumably due to the negative effect it would have on sales within the counties given the proximity of tax-free shopping opportunities available in Oregon. Counties receive 15% of the revenues from cities within the county, as long as the county rate is at the city rate. Because White Salmon and Bingen's city sales tax rates are 0.5%, Klickitat County currently gets 15% of the sales tax revenue from those two cities. If Klickitat County chose to impose the additional 0.5% tax, it would receive the entire additional amount in those two cities, unless either of the cities also decided to impose the additional tax, in which case the County would get its standard 15% of city revenue. By raising its sales tax to the level of Goldendale, the County would also get 15% of Goldendale's sales tax revenue.

As shown in the table below, a sales tax increase of 0.5% in Klickitat County would generate just over \$870,000 annually if White Salmon and Bingen did not impose the additional tax, assuming that sales remained at 2001 levels. In reality, the sales tax increase might lead to a decrease in local purchases and more purchases in nearby Skamania County (with a lower tax rate) or, more likely, across in the river in Oregon. If this occurs, the loss in revenue faced by local business owners could very well outweigh the fiscal benefits to the County, especially in the cities along the river like White Salmon and Bingen.

**Table 8**  
**Revenue from a 0.5% Sales and Use Tax in Klickitat County**

	% Decline in Sales		
	0	-1%	-5%
Without City increase	\$871,675	\$862,958	\$828,091
With City increase	\$623,491	\$617,256	\$592,317

Source: ECONorthwest based on 2001 WA Dept. of Revenue data

### White Salmon and Bingen

Cities in Washington, like counties, all impose a 0.5% sales and use tax, with an optional additional 0.5% tax subject to voter referendum. White Salmon and Bingen are among several cities on the border with Oregon that do not levy the full amount. If they did, and Klickitat County stayed at 0.5%, these two cities would get all the taxes resulting from the additional revenue. If Klickitat County followed suit, 15% of the revenues would go to the County. Again, price elasticity of demand is an important issue. Given the tax-free shopping available Oregon, an additional sales tax would probably decrease sales volume in Bingen and Hood River, and the loss of revenue to local business owners

might not justify the small increase in sales tax revenues to the city governments.

**Table 9**  
**Revenue Increase from a 0.5% Sales and Use Tax**  
**in White Salmon and Bingen**

	% Decline in Sales		
	0	-5%	-10%
Without County increase	\$166,368	\$158,050	\$149,731
White Salmon	\$110,341	\$104,824	\$99,307
Bingen	\$56,027	\$53,226	\$50,424
With County increase	\$141,413	\$134,342	\$127,272
White Salmon	\$93,790	\$89,100	\$84,411
Bingen	\$47,623	\$45,242	\$42,861

Source: ECONorthwest based on 2001 WA Dept. of Revenue data

## Local Option Vehicle License Fee

Washington State law allows counties to levy up to \$15 annually per vehicle license issued. The revenues are shared with the cities in the county on the basis of population, but with the unincorporated population of the county weighted 1.5 times (as with the local option gas tax). Voter approval is not required, but the fee is subject to repeal through voter referendum. Cowlitz County implemented this fee, but it was subsequently repealed by voters. At present, only King, Snohomish, Pierce, and Douglas Counties impose this \$15 fee.

Elasticity of demand is not a huge issue with this fee, as most people will still choose to have a licensed vehicle, and they do not have any legal options for licensing it outside their county of residence. Based on 2001 data, it is estimated that a \$15 fee would raise about \$218,000 annually for Klickitat County, assuming vehicle registration numbers remained constant.<sup>6</sup> White Salmon's and Bingen's shares of the revenue would be quite small.

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<sup>6</sup> This includes not only passenger vehicles, but also trucks less than 6000 pounds, which currently pay the combined licensing fee (CLF).

**Table 10  
Revenue Potential of Local Option Vehicle License Fees  
within Klickitat County**

	\$5	\$10	\$15
Klickitat County (unincorp.)	\$72,773	\$145,547	\$218,320
White Salmon	\$8,485	\$16,970	\$25,455
Bingen	\$2,586	\$5,171	\$7,757
Goldendale	\$14,346	\$28,692	\$43,038
<b>Total Countywide</b>	<b>\$98,190</b>	<b>\$196,380</b>	<b>\$294,570</b>

Source: ECONorthwest based on April 2002 data from WA Department of Licensing

In March 2002, the Washington legislature authorized an annual vehicle registration fee of up to \$100 for counties who present the option to voters along with a list of the projects the fee would fund. Cities within the county would get 15% of the revenues, the county would get 15% of the revenues, and the rest would be allocated through the state for projects identified in transportation improvement plans. State or local roads would be eligible. It is more likely that a \$15 fee would be approved by Klickitat County voters than a \$100 fee.

## Local Option Gas Tax

State law allows counties to enact a local option gas tax of up to 10% of the state rate, which would be 2.3¢ per gallon at today's state rate of 23¢ per gallon. Countywide voter approval is required. The revenue would be shared on a per capita basis with the cities within a county, but the unincorporated population would be weighted 1.5 times. At present, no counties have implemented this local option gas tax.

No data is available on how much gas is purchased within Klickitat County, but if we assume that it is roughly proportional to population, we can assume that roughly 0.323% of the state's annual 2.7 billion gallons of gasoline consumed annually would be purchased in Klickitat County.<sup>7</sup> At 2.3¢ per gallon, this would raise approximately \$194,000 annually for the County and its cities. In fact, the amount of revenue raised might be less due to elasticity issues. More drivers might purchase their gas in Skamania County or Hood River County if this tax were implemented.

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<sup>7</sup> In 1999, 7.3 million gallons of gasoline per day were consumed in Washington. Source: web site of Energy Information Administration, U.S. Department of Energy. Population figures from 2001 estimates by Washington Office of Financial Management (OFM).



**Table 11**  
**Revenue from a Klickitat County Local Option Gas Tax**

	% Decline in Gas Sales		
	0	-5%	-10%
1-cent increase	\$86,068	\$81,765	\$77,461
County (unincorporated)	\$63,789	\$60,600	\$57,410
White Salmon	\$7,437	\$7,066	\$6,694
Bingen	\$2,266	\$2,153	\$2,040
Goldendale	\$12,575	\$11,946	\$11,317
2.3-cent increase	\$197,957	\$188,059	\$178,161
County (unincorporated)	\$146,715	\$139,380	\$132,044
White Salmon	\$17,106	\$16,251	\$15,396
Bingen	\$5,213	\$4,952	\$4,692
Goldendale	\$28,922	\$27,476	\$26,030

Source: ECONorthwest based on U.S. Dept. of Energy data on state gas consumption and 2001 population figures from WA Office of Financial Management (OFM).

**Local Real Estate Excise Tax**

Cities and counties may each levy a 0.25% real estate excise tax on the value of real estate transactions within their jurisdiction, and the proceeds can be used for any local capital improvements, including bridges. If both a city and its county levy the tax, the revenue goes to the city. Klickitat County and all three incorporated cities (Goldendale, White Salmon, and Bingen) levy this 0.25% tax.

Counties and cities that are not imposing the optional 0.5% sales tax allowed by law can levy an additional 0.5% real estate excise tax. Klickitat County and its cities would be eligible for this tax increase. The dampening effect on real estate sales would probably be less than the effect of a sales tax increase, since demand is not as transferable to neighboring areas, but it is still possible that demand could have some elasticity. No counties and only two cities in Washington currently impose this optional real estate excise tax.

**Table 12**  
**Revenue from an Additional 0.5% Real Estate Excise Tax in Klickitat County**

	% Decline in Value of Real Estate Transactions		
	0	-0.5%	-2%
Klickitat County (unincorporated)	\$793,694	\$789,726	\$773,931
White Salmon	\$44,536	\$44,313	\$43,427
Bingen	\$8,998	\$8,953	\$8,774
Goldendale	\$23,138	\$23,022	\$22,562
Countywide Total	\$870,366	\$866,014	\$848,694

Source: ECONorthwest based on data from Klickitat County Treasurer’s Office

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## Local Improvement Districts

Local improvement districts (LIDs) are allowed by state law in both Washington and Oregon. They are generally small and pay for improvements that are deemed to be of uniquely local benefit to certain property owners, who then pay an assessment over time that covers the cost of the improvement. In both states a LID can be formed by a petition of the property owners who own a majority of the affected property, or by the County Board or City Council.

LIDs are probably not an appropriate funding mechanism for the SR-35 crossing, because the benefit of the bridge cannot be easily aligned with a select group of property owners, as would typical LID projects like sidewalk construction and local street improvement. The SR-35 crossing would have a benefit extending at least within the city limits of White Salmon, Bingen, and Hood River. In addition, LIDs are difficult to set up and administer. They are also meant to be based on an increase in property values occasioned by the local improvement, and the SR-35 crossing would probably not result in a clear increase in property values as it is, in part, a replacement of an existing facility.

## Tax Increment Financing

Tax increment financing (TIF) is based on a similar principle as LIDs—that a local public improvement will create a rise in adjacent property values, and the benefiting property owners can therefore pay for the improvement. In this case, though, property owners do not pay an additional amount beyond their normal tax rate; rather, the costs are paid by an increase in tax revenue that results from the increase in property values beyond a baseline amount. As with LIDs, a TIF program is probably not appropriate for the SR-35 crossing because the benefits are too diffuse, and the new bridge may not clearly increase property values. Moreover, in Washington there have been legal problems with authorizing the use of TIF; most forms were ruled unconstitutional by the State Supreme Court in 1995 and would likely require a change to the state Constitution to implement.

## Local Sources: Oregon

### Property Tax

#### Countywide

Oregon property taxes are limited to a tax rate of \$10 per \$1000 of real market value (RMV) for non-school expenditures. All areas of Hood River County are below this limit at present; the highest rate within the County is about \$5.60 in the City of Hood River. This translates to a rate just over \$7 per \$1000 of assessed value (AV, which is less than RMV), consisting of \$1.69 from the County, \$3.16 from the City of Hood River, and the rest from other districts like

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the park district, the port district, the transit district, and the community college district.<sup>8</sup> The County could therefore raise its taxes by nearly \$4 per \$1000 RMV without exceeding this Measure 5 cap, assuming other taxing districts within the County did not raise rates.

As a result of Measure 50, passed in the late 1990s, property tax rates in Oregon are frozen, and any increase to the tax rate can only be temporary for short-term operating expenses or the repayment of bonds for capital construction. The increases must be approved by voters with a “double-majority” where at least 50% of registered voters vote, and a majority of those approve the measure.

A property tax increase to support bonds related to construction of a new SR-35 crossing has large revenue potential.

**Table 13**  
**Revenue from Property Tax Increase in Hood River County**

Additional Tax Rate per \$1000 AV	Additional Revenue
\$0.10	\$111,040
\$0.25	\$277,599
\$0.50	\$555,198
\$1.00	\$1,110,396
\$2.00	\$2,220,792

Source: ECONorthwest based on Hood River County Assessor’s data

## **Citywide**

Oregon cities are subject to the same property tax limitations as described above with respect to counties. Any increase to the property tax rate would have to be approved by voters, and the combined increase of the county, the city, and other taxing districts could not exceed the approximately \$4 per \$1000 RMV that remains under the Measure 5 cap.

Because the assessed valuation within the City of Hood River is little more than one-third that of the entire county, a larger tax rate increase is necessary to generate comparable revenues.

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<sup>8</sup> Source: Oregon Department of Revenue web site; figures for 2000-01.

**Table 14**  
**Revenue from Property Tax Increase in the City of Hood River**

Additional Tax Rate per \$1000 AV	Additional Revenue
\$0.25	\$86,681
\$0.50	\$173,362
\$1.00	\$346,724
\$2.00	\$693,449
\$3.00	\$1,040,173

Source: ECONorthwest based on Hood River County Assessor's data

**Port District**

Port Districts in Oregon are allowed to levy up to \$2.50 per \$1000 RMV. The Port of Hood River currently levies only \$0.0332 per \$1000 AV; the amount per RMV is probably even less. The collections are only about \$40,000 per year, making up only about 1% of the Port's annual budget. An increase in the tax rate could generate substantial revenue if the rate approached the maximum allowable. However, use of this mechanism would likely assume that the Port is at minimum a partner, and most likely, remains the owner/operator of the SR-35 bridge.

**Table 15**  
**Revenue from Property Tax Increase by the Port of Hood River**

Additional Tax Rate per \$1000 AV	Additional Revenue
\$0.25	\$259,245
\$0.50	\$518,490
\$1.00	\$1,036,981
\$1.50	\$1,555,471
\$2.00	\$2,073,961

Source: ECONorthwest based on Hood River County Assessor's data

**Local Option Vehicle Registration Fee**

Oregon counties are authorized to impose a \$15 annual fee on vehicle licenses within the County, if voters approve. Agreement must also be reached among the cities and the county on how the revenue will be spent. No counties currently impose this fee, though several have tried unsuccessfully to win voter approval. Multnomah, Clackamas, Marion, Umatilla, Washington, and Yamhill Counties all tried unsuccessfully in 1997; as recently as March 2002 a measure in Benton County failed in all 20 precincts with an overall 75% rejection rate.

If Hood River County were successful in convincing voters to pass the \$15 vehicle registration fee, nearly \$400,000 annually could be raised, assuming vehicle registration numbers remained constant.

**Table 16**  
**Revenue from Local Option Vehicle Registration Fees**  
**within Hood River County**

	\$5	\$10	\$15
Hood River County	\$130,925	\$261,850	\$392,775

Source: ECONorthwest based on 2001 vehicle registration data from Oregon Dept. of Transportation, Financial Services Division.

**Local Gas Tax**

State law allows Oregon counties and cities to impose a gas tax of up to 3¢ per gallon, subject to voter approval. Most attempts at securing voter approval have failed, but the cities of Woodburn, Tillamook, The Dalles, and Pendleton all have a local gas tax, as do Multnomah and Washington Counties. Revenues must be shared on a per capita basis among the cities and the unincorporated county.

No data is available on gas consumption within each county or city in Oregon, but if we assume that the 1.64 billion gallons of gasoline consumed annually in Oregon were distributed by population, a gas tax within Hood River County could raise significant revenue. A tax within the city itself would raise less revenue because there are gas stations in nearby unincorporated parts of the County that would probably increase their share of sales if gas prices were higher within the city limits. If a countywide gas tax were passed instead, elasticity and substitution of demand would probably not be a large issue, unless people drove to nearby Mosier in Wasco County to save a few pennies per gallon.

**Table 17**  
**Revenue from Local Option Gas Tax in Hood River County**

	Local Gas Tax		
	1¢	2¢	3¢
Countywide receipts	\$97,313	\$194,625	\$291,938
County (unincorporated)	\$63,537	\$127,073	\$190,610
City of Hood River	\$28,438	\$56,876	\$85,314
Cascade Locks	\$5,338	\$10,676	\$16,014

Source: ECONorthwest based on Oregon Dept. of Transportation data on statewide fuel consumption and 2001 population data from Portland State University's Population Research Center (PRC).

**State Sources: Washington**

**Gas Tax Distribution**

State gas tax revenues from the 23¢ per gallon surcharge are distributed to cities and counties according to a complicated formula that includes population, needs, costs, and a baseline allocation.

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The state is proposing a 9¢ per gallon increase in the gas tax, which will be on the ballot this November. A 5¢ increase would occur at the beginning of 2003, and the additional 4¢ would be added in 2004. The statewide financing plan also includes a proposal for a 1% surtax on car sales and a 30% increase in trucking fees. The legislature recently produced a \$7.7 billion list of transportation projects that is intended to give voters an idea of what the new fees would pay for.

The gas tax increase would represent a 39% increase over the current statewide gas tax. If Klickitat County received the same share of the increase as it did of total gas tax revenue in FY 2001, nearly \$1 million annually in new revenue could come to the County. Revenues to White Salmon and Bingen would be much less. The new revenue, however, may not actually be distributed according to the current formula; it will probably be tied to a specific list of projects (which currently does not include a SR-35 crossing).

## **Other Funds**

Washington has several state grant programs available, but most of them would not be applicable to the SR-35 crossing. The County Road Administration Board (CRAB) administers the Rural Arterial Program (RAP) and the County Arterial Preservation Program (CAPP), but these are limited to county roads. The Transportation Improvement Board (TIB) administers programs that are limited to urban areas.

## **State Sources: Oregon**

### **Gas Tax Distribution**

Oregon's state gas tax revenue is combined with weight-mile tax revenue and revenue from registration fees in the State Highway Fund. About 16% of the State Highway Fund revenue is apportioned to cities on the basis of population, and just over 24% is apportioned to counties on the basis of registered vehicle numbers. Hood River County received \$1,078,009 from its State Highway Fund apportionment in FY 2000-01, and the City of Hood River received \$231,496. Most cities and counties use these funds for maintenance rather than new capital expenditures. A proposed 5¢ increase to the state gas tax failed at the ballot in May 2000, and no proposed increase is currently on the legislative agenda.

### **Oregon Transportation Infrastructure Act (OTIA)**

The Oregon Transportation Infrastructure Act of 2001 generated \$400 million in financing for Oregon road and bridge projects through bonds backed by increased truck fees and auto title fees. Just over \$35 million went towards 38 city and county bridge projects. State bridge projects were limited to I-84 and I-5, where the greatest need was deemed to exist.

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Though the OTIA 2001 funds have already been awarded, the Governor is proposing a similar OTIA for 2002 that would devote over \$750 million towards road and bridge improvements. The plan would be backed by a \$15 increase in the annual auto registration fee and an increase to the weight-mile tax on trucks. In addition, some of the state's annual \$70 million commitment for bridge repair and construction would be used to back \$400 million bonds to meet critical bridge repair needs.

## Summary of Findings

- As indicated in the Toll Revenue section, each \$1 million of annual net revenue could finance approximately \$8.8 million of direct capital investment, or about \$10.9 million of project costs including capitalized debt service. This helps put perspective on how \$1 million in annual non-toll local revenues can contribute to overall project costs.
- The amount of \$1 million in annual tax revenue in Washington is the equivalent of \$134 per household in Klickitat County. If we limit the revenue requirement to White Salmon and Bingen, we need \$853 per household in those two cities. On the Oregon side, raising \$1 million annually requires the equivalent of \$138 per household in Hood River County, or \$412 per household in the City of Hood River.
- Using a tax that charges businesses as well as households, like a property tax, would decrease the household contribution for most households. Raising \$1 million annually through a property tax requires \$0.80 per \$1000 AV in Klickitat County, or \$80 for a house with an assessed value of \$100,000. Alternately, it requires \$8.60 per \$1000 AV in White Salmon. On the Oregon side, raising \$1 million annually requires \$0.90 per \$1000 AV in Hood River County, or \$90 for a house with an assessed value of \$100,000. It requires \$2.88 per \$1000 AV in the City of Hood River, or \$288 for a house with an assessed value of \$100,000.
- The key issue is how the costs will be distributed — will the cost be spread over the greatest number of people so as to avoid excessive burdens on any one, or will the user-pays principle be followed by targeting costs to the municipalities closest to the bridge? Recognizing that all the options in this memo are second-best solutions compared to tolls, in terms of tying costs to benefits received, it may be best to consider exploring a mix of countywide and city-based taxes.

## Washington

\$1 million in annual tax revenue is attainable from some combination of countywide taxes:

- A property tax increase to maximum limits would raise \$296,000 through the Road Fund only or \$720,000 if the General Fund tax rate were raised too.

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- A 0.5% real estate excise tax increase would raise up to \$794,000.
- A 2.3¢ per gallon local option gas tax would raise up to \$198,000.
- A vehicle license fee of \$15 would raise up to \$295,000.
- A 0.5% sales tax increase would raise between \$592,000 and \$872,000.

The problem with all of these is that most of the benefit of the new bridge crossing is not countywide. Most of them are rare in Washington (the license fee, the local option gas tax, and the additional real estate excise tax) or impractical for a border county (the additional sales tax).

But if we limit ourselves to the cities of White Salmon and Bingen only, it is impossible to raise \$1 million annually, because of the small economic bases of these small towns.

- White Salmon could generate \$44,000 from a 0.5% real estate excise tax increase; Bingen could only generate \$9,000.
- White Salmon could generate between \$84,000 and \$110,000 from a 0.5% sales tax increase; Bingen could generate between \$43,000 and \$56,000.
- White Salmon could generate up to \$69,000 from a property tax increase to the maximum rate allowable; the Port district could generate about \$145,000; Bingen is already at the maximum rate.

## Oregon

The situation with respect to Oregon is easier, for two reasons. One is that Hood River County is small and the benefits of a new bridge could be seen as countywide, more so than in Klickitat County. The other reason is that the City of Hood River has a larger economic and population base than the small cities of southwestern Klickitat County.

Raising \$1 million annually from countywide sources in Hood River County could use a combination of the following:

- Property tax increases up to the maximum level could generate up to \$2.2 million.
- A local option license fee of \$15 could raise \$393,000.
- A 3¢ gas tax could generate \$292,000 annually.

The maximum property tax increase alone would be too hefty an increase, but using all three sources could also be politically problematic.

A property tax increase in the City of Hood River could generate up to \$1 million annually, but the rate required would also probably be too burdensome for city



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residents. A property tax increase by the Port of Hood River (which includes most of the county in its taxing district) could raise up to \$2.1 million, similar to Hood River County, but that would go against its traditional minimization of property tax collections.

One possible combination is a \$0.25 tax increase by the Port, a \$0.25 tax increase by the City of Hood River, and a \$0.50 tax increase by the County. This would generate close to \$1 million annually while keeping tax rates below maximum levels and charging city residents \$1 per \$1000 AV compared to \$0.75 for most other county residents.