

OREGON DEPARTMENT OF TRANSPORTATION

Oregon Innovative Partnership Program

Preliminary Findings Report: Analysis of the Proposed Concession Arrangement for the Newberg-Dundee Bypass Project



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Preliminary Findings Report

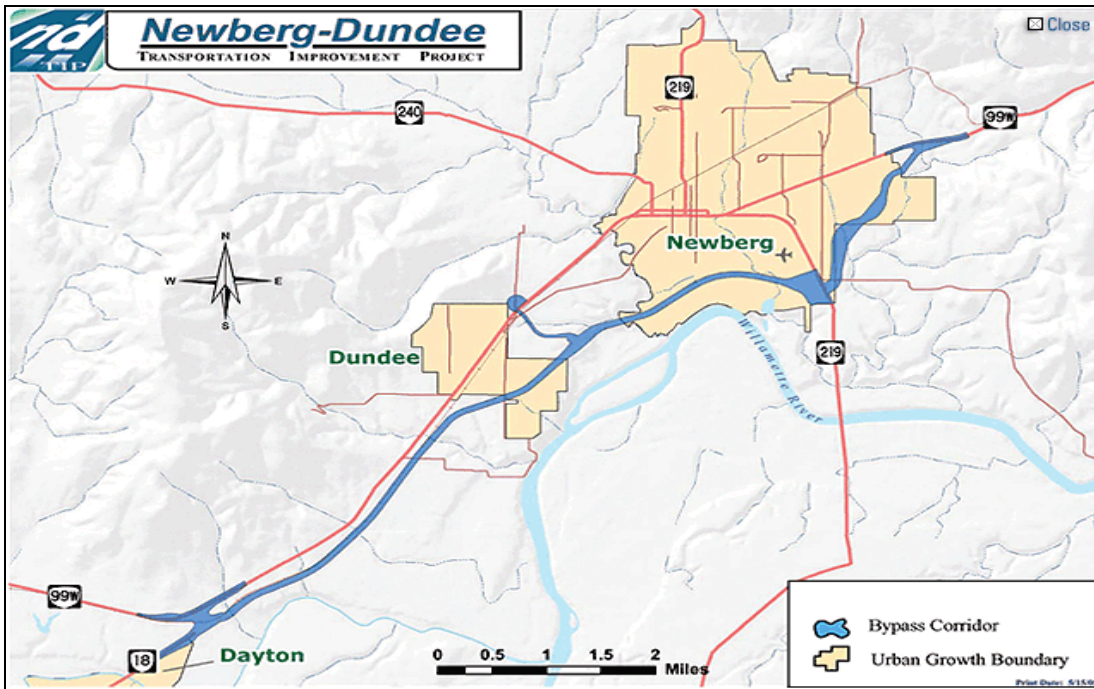
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I. Introduction

Bear Stearns and Sperry Capital (“Bear Stearns”) has been retained by the Office of Innovative Partnerships (“OIPP”) within the Oregon Department of Transportation (“ODOT”) to assist in analyzing the proposed concession arrangement for the Newberg-Dundee Bypass Project (the “Project”). Under our Work Order Contract, we have agreed (i) to analyze the Milestone 1 Report delivered by the Oregon Transportation Improvement Group (“OTIG”), and comment on the merits of OTIG concession proposal and (ii) to analyze alternative approaches to Project development and funding. Finally, we are charged at this stage to make recommendations as to the appropriateness of each potential approach to the stated OIPP Program Objectives.

The analysis provided by Bear Stearns takes into account the Milestone 1 Report dated December 12, 2006 and the Technical Appendices provided to Bear Stearns in May 2007.



Project development in Oregon is complex and traditional financial resources are limited. We appreciate the challenges OTIG faced in working with State and local Project stakeholders in the Project’s conceptual development. The detailed information in the Milestone 1 Report clearly underscores the complexity of financing the Project, in its present scope, pursuant to a concession agreement as a tolled facility. Finally, we believe that the Milestone 1 Report provides stakeholders with a valuable overview of the Project’s challenges.

We understand that in the development of the Milestone 1 Report, OIPP requested that OTIG provide a range of tolling options for the Project. Furthermore, we understand that OIPP specifically requested that OTIG refrain from presenting a single preferred recommended alternative in the Milestone 1 Report. We also understand and appreciate

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OTIG's goal of presenting the information in the Milestone 1 Report in such a format that can be read by a wide audience of stakeholders. Therefore we understand that OTIG refrained from encumbering the Milestone 1 Report with complex traffic and revenue forecast materials. We recognize and appreciate that OTIG has offered and provided additional information to OIPP as well as for our review. Nevertheless, we have based our comments on largely on the information presented in the Milestone 1 Report.

II. Tolling System

OTIG has offered a menu of tolling alternatives that might be utilized for revenue operations on the Project and for OR 99-W. Tolling technologies have made significant advances over the past decade, and revenue enhancement from innovative tolling applications such as time of day pricing may be important to bridging any feasibility gap for the Project.

The daily traffic volumes for the Project are relatively modest, and it is difficult to envision a closed, video tolling system being justified by the anticipated annual revenue in the early years of operation. While a fully electronic tolling system could be an objective in the future, it is not possible for the Newberg-Dundee Bypass, in a State with no toll roads, to open with a requirement that all users have a transponder from day one. Further, a ticket-based, closed barrier system implies operating costs that cannot be justified by the traffic volumes. OTIG concluded that it would be challenging to require all users to have a transponder from day one and in fact assumed a 10-year phased introduction of electronic tolling with an interim cash collection alternative. OTIG included the cost of cash collection in the financial analysis, with such costs being eliminated as the interim cash collection system was removed. Bear Stearns does not disagree with these observations.

Distance Tolling Is Impractical: For the Bypass Only tolling option, OTIG considered both distance tolling and point tolling. In Bear Stearns' view, only point tolling makes practical sense for this proposed facility. In order to implement distance tolling, OTIG would be required to either have full video tolling capability or manned toll facilities at each point of access and egress to the road. This does not seem justified by the traffic volumes on the Project.

Video Tolling Not A Cost Effective Solution: While video tolling technology is now working successfully on both the 407ETR in Toronto and the Cross-Israel toll road, the traffic volumes on these much larger projects justify the capital and operating costs required. Under video tolling, users of the toll facility do not need to have a transponder or pre-pay for use, but rather either have a transponder or will have a video image taken of their license plate when entering and exiting the toll facility. The toll operations back office then matches the images for each vehicle entering and exiting the toll road, calculates the toll for the appropriate vehicle class and distance, and mails an invoice to the address to which the vehicle is registered. It should be noted that video tolling would require extensive coordination with Oregon's Department of Motor Vehicles. It could be difficult to identify out-of-state vehicles and to enforce payment of video tolling. OTIG points out that an interoperability agreement with the State of Washington is likely to be necessary for the implementation of all electronic tolling system.

OTIG has explained that their financial model assumes cash collection as one aspect of the toll collection protocol for the initial years of operation, with a further assumption

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that cash collection is phased out and removed in later years. Bear Stearns agrees that cash collection could be phased out over time.

Requiring Transponders Is Impractical: One other system might be applicable to distance tolling on the Bypass. On the SR 91 in Orange County, drivers can choose between the free general purpose lanes or the 91 Express Lanes. 91 Express Lanes users in Orange County are required to have a transponder. When vehicles pass through the toll zone, if the electronic tolling equipment does not get a clear read from an installed transponder, a video image is captured. Under the toll system for the 91 Express Lanes, such a user with a California license plate is first contacted by mail with an offer to become a 91 Express Lanes transponder customer. If the user does not then become a transponder customer, the user is considered a violator and a fine is assessed by mail. For the Newberg-Dundee Bypass, Bear Stearns is of the opinion that it may be impractical for all users to have installed transponders. Unlike the SR 91 project, where few customers reside outside of the service area, the Newberg-Dundee Project will have a significant number of “visitor” trips, making the marketing of transponders to all users of the Project difficult.

Toll Rate Differentials Complex: In the process of exploring the viability of tolling the existing OR 99W, OTIG determined that local residents were resistant to the idea of paying a toll to use the existing 99W. To address this concern, OTIG sought to identify possible project definitions and alternative tolling protocols that might prove acceptable. One option would exclude residents of Newberg and Dundee from paying tolls on the existing 99W and a second alternative would exclude both these residents as well as residents of additional local communities.

Establishing toll rate differentials based upon residency is extremely uncommon in the U.S. The accepted manner to reduce the burden of tolls on those users most reliant on the toll facility is to provide volume discounts, where a lower toll is charged to vehicles which use a transponder, make a certain number of trips during a given period or prepay for a given number of trips. This is a potential solution to the issue of local trips in Newberg- Dundee.

OTIG has also analyzed an option under which there is an exclusion from tolls on 99W for any vehicles which remain in the Newberg-Dundee corridor for two hours or more. This is in reaction to stakeholder concerns raised that tolling the existing road would have a negative social and economic impact on the communities.

This tolling concept is also unprecedented to our knowledge. Putting aside the issues raised by establishing a tolling protocol never before used, the tolling system requirements for this concept are extremely demanding. In order to monitor the time any vehicle entering the tolling zone on 99W remains in the zone, electronic readers will need to be installed at each point of access or egress. Similar to the issue raised with the proposal to use distance tolling on the Bypass, excluding “visitors” from the imposition of a toll will require either that all vehicles have a transponder for use of 99W or that video images be taken of every vehicle entering and leaving the toll zone. Further, it is

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not clear whether the intended policy would to be limited to trips that use either 99W or the Bypass exclusively. If a vehicle entered Newberg via 99W and left Newberg via Bell Road, it is not clear if the intent would be that this vehicle would be charged a toll for the use of 99W regardless of time spent in Newberg. If the visitor exclusion is intended for vehicles using any road in the network, this implies that video monitors will be installed on Bell Road and other local roads. In other words, while the concept of an “exclusion zone” (OTIG references the London example) is technically feasible, it requires that video monitors be installed on every road that provides access to the zone. This is impractical for the volumes and the local road network in Newberg and Dundee. If the intent would be to only toll vehicles entering and exiting the area using either 99W or the Bypass, an unacceptable level of diversion to local roads would be inevitable.

Conclusion: Bear Stearns and OTIG are in fundamental agreement as to how the Project should be tolled, with cash collection included as a payment option upon opening and free-flow tolling to be implemented at a time when transponders have become largely accepted and video enforcement has been enabled by the Legislature. At the time OTIG delivered their report there was an understood objective to leave as many options available for consideration as possible.

In Section 3.5.8.2, OTIG has concluded that all-electronic tolling is a goal for the intermediate term, a statement with which Bear Stearns agrees. As noted above, Bear Stearns believes that mandatory use of transponders is impractical for this project. The amount of use for either 99W or the Bypass by infrequent users (to whom it would be difficult to market transponders) and the lack of an alternative route under the Corridor tolling approach suggest that requiring vehicles to install a transponder prior to travel through the Newberg-Dundee corridor would result in an unacceptable amount of violations.

Further, the marginal benefit of eliminating tolls for visitors to the corridor would appear to be outweighed by the capital cost, operating cost, and operating complexity implied by a video capture and match requirement for all transactions. OTIG states that “It is unlikely that the Project could support the full costs of a fully electronic tolling system . . .” (pg.136). Bear Stearns agrees with the conclusion reached by OTIG and recommends that these options be eliminated from further consideration

The relatively small size and modest traffic volumes for the Project suggest the use of point tolling. OTIG proposes that a point tolling scenario collect tolls only at one location; between Hwy 219 and the Dundee Interchange. SDG’s traffic forecast reflects significant traffic diversion around this single toll plaza. Bear Stearns recommends that further analysis is appropriate regarding utilization of point tolling at two locations-Rex Hill and west of the Dundee Interchange. An unmanned coin and transponder reader should be a consideration for ramp toll collection. In addition, Bear Stearns believes that the Project feasibility may benefit from time of day point tolling, and recommends that additional traffic and revenue work further investigate this option.

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III. Operations and Maintenance

Bear Stearns also reviewed the assumed operations and maintenance costs used in the OTIG model. We find these assumptions reasonable based upon our experience with similar projects. We note that tolling staff is eliminated as an expense after ten years of operation. This results in the assumption that the Project will use electronic tolling exclusively after the first ten years, an assumption we also find reasonable, but believe it is important enough to warrant specific notation in the Milestone 1 Report.

The assumed cost of \$6.5 million for operations and maintenance in the first year of operations seems somewhat conservative based upon the experience of recent start-up toll facilities of similar size, and is a reasonable estimate in our opinion. The operating and maintenance expenses for the Pocahontas Parkway (Richmond, Va.) in its first full year of operations was approximately \$1.9 million and the first full year of operations budget for the Northwest Parkway (Broomfield, CO) was approximately \$5.9 million. The differential between these two projects derives from using different legal structures. Pocahontas was funded using a 63-20 corporation sponsored by the Virginia Department of Transportation with the operations and maintenance functions handled by the State, which allowed the Project to operate with virtually no dedicated staff. The Northwest Parkway, having no State involvement, required a dedicated staff to undertake all necessary functions. The Project, which has State sponsorship, is likely to be somewhere in between.

The configuration of the toll system for Bypass Only is not discussed in the OTIG report other than stating that the Point Tolling scenario assumes the toll is collected between Hwy 219 and the Dundee Interchange. Bear Stearns believes that traffic volumes at the intermediate interchanges are not sufficient to justify manned cash collection at these locations. Parsons Brinkerhoff has undertaken an initial evaluation of operations and maintenance costs assuming full ETC/manned cash collections at the eastern and western termini of the Project and ETC/coin machines at the intermediate ramps. Their initial year assumption of approximately \$3.7 million (without accruing for major maintenance) appears reasonable. The major maintenance costs projected by OTIG are in line with the estimates provided by Parsons Brinkerhoff. The largest variance between the OTIG estimate and the PB estimate derives from the costs for insurance that a private operator would incur and which is included in the OTIG estimate. This insurance expense is estimated at \$1.5 million (2006 dollars) in the OTIG projection, and is likely the largest difference in the assumed operating costs between the concession approach and a public toll road project.

OTIG has projected that all operations and maintenance expenses increase at the assumed rate of inflation in the financial model. While certain expenses certainly will grow at roughly the rate of inflation, Bear Stearns believes that industry experience demonstrates that there are expenses which will grow based upon other factors, such as traffic volume. In particular, the OTIG financial model assumes that the cost of collecting tolls electronically will increase based upon both traffic volume (or transactions) and inflation. This results in significant growth in this important expense category and higher total

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expense than would be anticipated based upon the experience of other start-up toll roads. OTIG has assumed \$.14 cost per electronic toll transaction in year one. This is higher than the industry average of \$.09-\$.11 for early stage tolling operations, but may be reasonable for the first year of operation. Bear Stearns would anticipate that this cost per transaction would go down over time, both as it converges on the industry norm and also as the industry norm continues to decline, as it has over the past decade. The Report sets out the assumption that OTIG would be given the right to impose tolls on existing 99W, but would not be responsible for the costs of maintaining this existing road. This assumption may prove problematic as any financial stress on the concession project may result in disputes related to the State's level of maintenance of 99W. There is no precedent we are aware of for a private company to toll an existing roadway but not be responsible for roadway maintenance.

IV. Traffic and Revenue Forecasts

OTIG's initial report on the Project traffic and revenue forecasting appears standard to the industry, as concluded by Wilbur Smith Associates ("WSA") in their review of OTIG's initial traffic forecast. WSA states that their methodology is sound and that the traffic and revenue forecasts appear reasonable for the scenarios considered. While the survey samples were too small to be considered reliable, we anticipate that this would be rectified in the more detailed analysis yet to be undertaken.

Demographic Analysis. Steer Davies Gleave ("SDG") a member of the OTIG team, undertook the traffic and revenue analysis as one aspect of their review. Bear Stearns found the source data collection effort to be appropriate to the assignment, and found the development of socioeconomic data to be used as an input to the traffic model to be sound. We did note that SDG has projected the potential users of the Project to be extremely price sensitive, as discussed in the Bypass Tolling section of the Report. The Report sets out that the toll free usage of the Bypass is anticipated to be in the range of 26,500 to 33,000 vehicles daily in the year 2025. While the toll-free usage is not provided for a base year, the Report notes that 2002 traffic on 99W was in the range of 32,000 to 40,000 vehicles per day. The Report states that projected 2006 usage of the Bypass (if it existed) is approximately 5,000 vehicles per day at a \$1 toll, with demand dropping to fewer than 1,000 vehicles per day at a \$1.50 toll. While this level of price sensitivity is not consistent with other recently opened toll facilities this does not make the forecast incorrect.

Presentation of Annual Toll Revenue Forecasts. The Technical Appendix describes the traffic and revenue work undertaken by OTIG. Their undertaking during the Milestone 1 period involved establishing a base financial model that projected the revenue necessary to earn a target return on a stated equity investment. After consultation with OIPP, OTIG determined the toll revenues necessary to the viability of their plan of finance and the traffic forecaster SDG was charged with determining the toll rates that reached these "Target Revenues" under a variety of tolling assumptions.

The traffic and revenue analysis and evaluation for a Bypass Only tolling scenario is a very important section of the Milestone 1 Report. OTIG has concluded that this scenario is not adequate to support debt funding of the Project, a conclusion with which Bear Stearns agrees. The further statement that this revenue scenario is incapable of covering the costs of operating the Project in some cases, however, is not a conclusion with which Bear Stearns agrees. Using Bear Stearns' financial model, the Project under a Bypass Only tolling assumption is capable of covering operating expenses and making a contribution towards capital costs. Traffic work undertaken by WSA at the direction of Bear Stearns supports the premise that alternative tolling scenarios are likely to increase the revenue potential of tolling only the Bypass.

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The OTIG methodology for the Milestone 1 traffic work for the Corridor Tolling scenarios was to assume that the “Target Revenues” necessary to achieve the financial returns sought by the financial sponsors were an input.

As discussed below, alternative capital funding approaches are available that would lower dramatically the revenues needed to fund the Project. The decision to limit the presentation of the Corridor Tolling toll forecasting effort to focus solely on the “Target Revenue” scenario significantly reduces the value of the work product to OIPP as a planning tool..

Exclusions from Corridor Tolling: OTIG has endeavored to provide alternatives to the existing users of 99W that are intended to make the potential tolling of an existing roadway palatable. Specifically, OTIG has developed revenue forecasts that assume (i) residents of certain communities are exempt from tolls, (ii) travelers entering the Newberg-Dundee corridor for a limited period of time are exempt, and (iii) both categories are exempt. Based upon Bear Stearns’ experience, these scenarios are either impractical operationally or potentially not permissible under existing law.

Impact Of Travel Speeds On 99W: The screenline 1 (located at Rex Hill) capture rate of corridor traffic by the proposed Bypass is an important consideration for the Project development on a number of levels. OTIG has provided a very useful discussion of the impact that various “Downtown Revitalization Measures” may have on the travel speeds on 99W, which has a direct relationship to the Bypass capture rates. The OTIG report discusses a number of important considerations to any financing plan that assumes that “Downtown Revitalization Measures” will be taken to reduce the attractiveness of a free competitor. These considerations include: the willingness of responsible jurisdictions to make the proposed changes, the risk that certain changes will be modified in the future, and the skepticism that potential lenders may have towards traffic and revenue projections that rely on steps to reduce the attractiveness of a competing roadway. All of these are legitimate concerns.

OTIG has provided a revenue forecast based upon a slower travel time on 99W resulting from the implementation of “Revitalization Measures”, and it clearly has a material benefit to the number of vehicles anticipated to choose the Bypass. Under the “Bypass Point Tolling Revitalization High Delay” scenario, revenues increase to \$9.5 MM in 2010, to \$18.8 MM in 2020 and to \$38.5 million in 2030 (when the CPI escalator is assumed to be 2.5 percent). Partly based upon OTIG’s own analysis, Bear Stearns believes that the Bypass Only scenario should not be eliminated from further analysis at this stage of Project development.

Case for Multiple Toll Plazas: Recognizing that OTIG’s analysis demonstrates the drawbacks to using a single toll plaza on the Bypass, as many vehicles will use local roads to avoid the toll plaza, Bear Stearns anticipates that a Point Tolling scenario with Revitalization High Delay and two toll plazas will result in higher annual revenue. The Report appears to assume that delays on the existing 99W will only be achieved with additional capital expenditures. This is logically not the case, as there would be virtually

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no cost to lowering the speed limit on 99W and imposing longer signal delays at urban intersections. Slower travel speeds on 99W have a significant impact within the traffic forecasting methodology on the feasibility of the Bypass. Noting that the SDG travel speeds on existing 99W are largely in excess of 40 mph, with several sections in excess of 50 mph, lowering the speed limit on 99W within the Urban Growth Corridor to 25 mph would add significantly to the travel time savings accruing to the Bypass. Making the existing 99W a less attractive alternative for east-west travel is an important determinant of the use of the Bypass, and lowering allowable speeds on this road would be both an effective measure to this end and consistent with the stated objectives of the local communities to make their downtown areas more pedestrian-friendly.

We noted that the Tolling Scenarios Report dated August 4, 2006 stated “The basic assumption is that vehicles using the corridor even for shorter trips regardless of final destination will pay a flat toll when entering the Bypass, whether at an intermediate interchange or at the east or west accesses of the Bypass”. This would be the logical starting point for any tolling configuration for the Bypass. In the discussion of Bypass Tolling Options in Section 3.4.7, this plan has been changed (“all traffic on the Bypass pays the same toll at a specified point on the Bypass . . .”). While operating costs are reduced by collecting tolls at only one location, Bear Stearns believes that an explanation as to why the preferred Bypass tolling structure was changed would have been useful. We believe additional exploration of the possibility of a Bypass Only Tolling approach to the Project would involve analyzing the economic implications of multiple tolling locations.

Peak Hour Congestion The Report was also somewhat confusing in its discussion of the basic need for the Project, i.e., congestion relief within Newberg and Dundee at peak hour:

- At the outset of Section 3.4.1, reference is made to “consistent travel times at around 14 to 16 minutes”
- In pages 17-20 of Appendix D to the Milestone 1 Report, the observed travel times provided by SDG have so little variability (maximum of 9 mph between peak and off peak) that it suggests little peak hour congestion
- The table on page 48, however, states a travel time of 31 minutes for westbound peak, a full 18 minutes higher than the minimum travel time
- On page 41, the Milestone 1 Report states “data collected by Steer Davies Gleave shows that speeds outside of traditional peak hours are significantly higher than inside of peak hour”.

It is clear that OTIG’s traffic analysis has determined that a Bypass option would potentially have much greater value at certain times of day than others. This suggests a potential application of time of day pricing to determine what the potential revenues for the Project may be. This has not been explored within the OTIG Milestone 1 Report and, in combination with a phasing of the Project, may provide an alternative for proceeding with the Project without tolling on 99W. Bear Stearns recommends that further traffic

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analysis work is necessary before conclusions can be made on the most appropriate approach to the Project definition and capital funding.

The potential for peak hour congestion on 99W is critical to the financial viability of the Bypass as a stand-alone project. While the conclusion that the full Project scope cannot be fully funded by tolls on the Bypass alone appears sound, the revenue potential of the Bypass only approach is not fully explored. If there are significant delays on 99W at peak hour, the Project appears to be a good candidate for variable pricing. As OTIG points out, the Project is intended to serve as a “congested network avoider” with similarities to a river crossing, evidencing the limited alternatives for east-west long distance trips. This suggests an opportunity to raise tolls when these long distance trips are most prevalent (late Friday and Sunday afternoons). If additional sources of Project funding can be identified or if significant changes to Project scope to lower initial financing requirements were to be considered, additional analysis of the Bypass Tolling may be called for.

Presentation of Required Toll Levels: The Milestone 1 Report sets out to determine the toll rates necessary for a viable financial model for each of the examined tolling alternatives. The Technical Appendix makes clear that these toll rates are largely driven by the model’s assumption that \$124 million of equity will be invested and the targeted return is 13.5 percent. Bear Stearns does not believe that the financial viability of the Project requires this level of equity investment and believes that the Project could be successfully financed with lower revenue projections. A more useful options analysis for public officials charged with advancing the Newberg-Dundee Bypass would have offered alternative funding models in the Milestone 1 Report with the traffic and revenue analysis of resulting tolling scenarios to achieve financial viability. The OTIG report does not make clear that the toll rates presented are at levels necessary to achieve returns on a given level (i.e., \$124 million) of equity funding, and imply that lower toll rates cannot achieve financial viability.

Based on the Technical Appendix, Bear Stearns was able to review the traffic and revenue forecasts for 13 different tolling scenarios developed by OTIG. Given the considerable effort that went into evaluating toll rates in the development of the Milestone 1 Report, based on Bear Stearns’ experience the traffic and revenue work presented is more limited than would be typical given OTIG’s mandate to review all potential funding approaches.

V. Project Definition

OTIG has indicated in discussions following the delivery of the Milestone 1 Report that the Project Definition was established by ODOT. In addition, OTIG has stated that the need for construction timeliness for the proposed method of finance requires the use of Design-Build, consistent with standard industry practice for project financing. Bear Stearns agrees that a fixed-price, Design-Build approach is consistent with non-recourse project financing.

Bear Stearns believes the capital cost estimate is at a very early stage of development. . At this early development stage, the cost of the Project is often presented as a range of potential project cost. OTIG has provided such a range, and has reflected the high end of the range in their financial model. This establishes a degree of conservatism to the financial projections, which is appropriate at this stage. We also note that OTIG assumes the State or other government sponsor will pay for the costs of the electronic tolling infrastructure. We believe this is in addition to the \$100 million ODOT contribution set out in section 3.6.1.1 as right of way costs. While a number of potentially material changes to scope are mentioned in the Report as strategies to reduce Project cost, the advanced stage of the NEPA review process precluded suggesting any changes to scope. It would benefit the OTIG proposal if an analysis of the potential savings accruing to a fixed-price, Design-Build contract as an alternative to traditional state contracting procedures had been included in the cost analysis. The private sector has proven expertise in delivering Design Build contracts; specifically lowering the cost and time to produce highway projects, while maintaining or improving project quality.

OTIG identifies a number of areas where capital costs may be reduced as the Project budget is refined. The minimum construction cost set out in the Report is based on the potential to realize some reductions from the initial estimates provided to OTIG from ODOT as opposed to considerations of reductions in scope. OTIG does set out the possibility of phasing the project by deferring the construction of the intermediate interchanges. This seems a reasonable approach to potentially lowering the capital costs for the Project and might be further explored in development and refinement of the financial model.

Bear Stearns understands that OTIG's attempts to reduce scope in order to increase financial viability were not successful due, in large part, to the requirements for the Project set out in the Tier 2 Statement of Purpose and Need. While recognizing the delay considerations resulting from a new purpose and need statement, Bear Stearns is of the view that this option be given consideration at this time. In addition to the substantial reduction in initial capital costs that could be achieved by phasing the Project, there are traffic standards set within the existing Statement that will be difficult, if not impossible, to meet. A significant portion of the current capital cost estimate for the Project derives from roadway improvements south of Dundee. Phasing the Project to initially provide for a bypass around the communities of Newberg and Dundee and providing a limited access

alternative to 99W as a second phase might permit the Project to proceed without tolling the existing roadway. Providing relief to current traffic conditions within the municipal boundaries of the two towns would appear to be of significant benefit that might permit the Project to move forward without imposing a toll on existing 99W.

VI. Financial Feasibility and Financial Model

Concession Model

Bear Stearns has built a financial model that attempts to recreate the OTIG concession financial model, and was able to validate that the “Target Revenue” set out in the report is consistent with a revenue pro-forma that achieves IRRs in the range of 12.5 percent to 15.0 percent for the assumptions set out in Appendix E. Our model replicated the revenues, operating expenses, and capital expenditures provided by OTIG. Furthermore, we simulated the project completion dates, economic assumptions, financing¹ costs and depreciation assumptions we understand were used by OTIG. While OTIG provided Bear Stearns with the financial outputs for six different revenue scenarios, they did not provide their complete financial model. As a result, Bear Stearns’ IRR calculations could not be precisely matched to the OTIG scenarios.

Bear Stearns has tracked OTIG’s assumption that funding for the project; in an amount estimated at \$150 million (including the cost of right of way acquisition), will be in the form of a grant. Other states, such as Virginia and Colorado, have participated in public-private development with funding in the form of subordinated debt. Under a Corridor Tolling approach, ODOT should consider seeking a repayment of State Project funding.

In the tables² below, we have illustrated a cost of capital comparison where 95 percent of the equity is replaced with 9 percent subordinated loan. This has the effect of reducing the cost of capital by over 100 basis points. An alternative option to a subordinated loan would be to refinance or retire a percentage of the equity by increasing debt after construction is completed. In certain project scenarios, project risk perceived pre-construction may preclude sourcing subordinated debt. If equity were required for the project at construction, realization of the revenues assumed by the Corridor Tolling OTIG equity model would permit additional debt financing in the first five years of operations,.

¹ This includes utilization of the same coverage ratios, interest rates, and debt tenor.

² The proportions of total capital were taken from OTIG’s financial outputs and from the Bear Stearns’ public comparator model. The interest rates for OTIG’s Current Interest Bonds I and II were also taken from OTIG’s financial outputs. The cost of equity of 13.5 percent was determined from OTIG’s lower end of their required return range. The municipal, tax exempt interest rates were assumed to be 30 basis points below the private activity bonds, an assumption made based upon the AMT/non-AMT spread that Bear Stearns has observed from transactions. Lastly, the TIFIA interest rate was based upon the 30 year Treasury rated dated December 12th, 2006.

Cost of Capital Comparison: OTIG Base Model versus OTIG Base Model with Subordinated Debt:

OTIG Base Model			
Source of Capital	Proportion of Total Capital	Cost of Capital	Weighted Cost of Capital
ODOT Contribution	10.00%	0.00%	0.00%
CIBS I	29.00%	4.28%	1.25%
CIBS II	36.00%	5.26%	1.88%
Equity	25.00%	13.50%	3.38%
	100.00%		
WACC			6.51%
Cost of Equity			13.50%

OTIG Base Model w/ Subordinate Debt			
Source of Capital	Proportion of Total Capital	Cost of Capital	Weighted Cost of Capital
ODOT Contribution	10%	0.00%	0.00%
CIBS I	29.00%	4.28%	2.58%
CIBS II	36.00%	5.26%	1.14%
Equity	1.25%	13.50%	
Subordinate Debt	23.75%	9.00%	
	100.00%		
WACC			5.44%
Cost of Equity			13.50%

As an alternative to equity financing, we analyzed two scenarios: first, equity funding is replaced by a TIFIA subordinated loan, and second, the public comparator model in which tax exempt municipal debt and TIFIA make up the capital structure. The first scenario reduces the base case cost of capital from 6.48 percent to 4.27 percent. The last option, the public comparator scenario, further reduces the cost of capital to 3.72 percent. This demonstrates that most of the financial strain imposed by the OTIG financial model is not a result of using a concession approach, but rather because OTIG assumes a large amount of equity which remains invested for the full term. The table below illustrates the two scenarios:

Cost of Capital Comparison: OTIG Base Model Replaced with TIFIA Versus Public Comparator:

TIFIA Replacement			
Source of Capital	Proportion of Total Capital	Cost of Capital	Weighted Cost of Capital
ODOT Contribution	10.00%	0.00%	0.00%
CIBS I	29.00%	4.28%	1.24%
CIBS II	36.00%	5.26%	1.89%
TIFIA	25.00%	4.55%	1.14%
	100.00%		
WACC			4.27%

Public Comparator			
Source of Capital	Proportion of Total Capital	Cost of Capital	Weighted Cost of Capital
ODOT Contribution	10.00%	0.00%	0.00%
Tax Exempt	65.00%	3.98%	2.58%
TIFIA	25.00%	4.55%	1.14%
	100.00%		
WACC			3.72%

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To place in context what the use of TIFIA subordinated loan proceeds means as an alternative to equity in the in the concession model under the Corridor Tolling, Residents Excluded scenario, the required revenues in 2047 decline from \$125.8 million under the OTIG model to \$107.5 million with a TIFIA loan.

While the concession model can, in practice, be very flexible in matching any given toll road project to the appropriate capital funding arrangement, OTIG's presentation has not reflected this flexibility. Whether this is a result of the early stage development of the Project or OTIG's business requirements that the assumed level of equity is invested in the Project for the full concession term is not clear. The result, however, is that the concession model does not compare favorably with the public sector comparator as discussed below.

The scope alternative for the Newberg-Dundee Bypass Project referred to as Bypass Tolling is potentially a good candidate for a concession project, as OTIG could undertake a new toll road project that would be in competition with existing capacity. The benefits of private sector development potentially include providing capital funding for a project that might have not otherwise been funded and putting an equity investment behind the belief that OTIG could market the benefits of utilizing the Bypass as an alternative to 99W. The option referred to as 99W Tolling or Corridor Tolling has elements of a transportation solution with no alternatives for travel between I-5 and OR 18. The benefits of the concession model for this proposed scope are not apparent.

OTIG has undertaken their financial analysis of the concession approach utilizing the revenue scenario where local residents and other users of 99W were allowed to use the existing roadway on a toll-free basis. Subsequent discussions with State officials, however, have determined that there is not sufficient comfort that such an arrangement would be allowable under the limitations imposed by the Interstate Commerce Clause of the U.S. Constitution. As such, it is difficult to evaluate the potential risk assumed by OTIG as a concession company. The proposed range of allowable equity returns under the original OTIG proposal are consistent with the risk of a start-up toll facility however in Bear Stearns' experience they are not consistent with the tolling of an existing roadway. In addition, since OTIG has tied their required equity IRR to 30 year Treasury bond, the increase in this index of 80 basis points in the last six months implies that OTIG's "Target Revenues" will have increased by approximately 5 percent.

OTIG's financial model further assumes that the equity investment remains in place for the full fifty year term of the concession. In practice, this would not typically be the case if the Project were to realize toll revenues assumed by the financial model. These robust revenues would allow OTIG to replace the equity capital with debt capital soon after the Project opened to revenue operations. In such a circumstance, either lower toll rates would be imposed on users of the Bypass and 99W, as revenues needed to achieve the target IRR would be much lower, or OTIG's financial return would increase dramatically.

As directed by OIPP, OTIG's Milestone 1 work was limited to examining the Project only under a concession model. The assumptions made for the concession approach

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resulted in a presentation that suggests that the Project could only be developed if the “Target Revenues” required by the financial model are achieved. In fact, the Project could be successfully developed with a lower revenue profile than that presented by OTIG if a different funding approach were utilized. Under the Corridor Tolling scenarios, replacing the assumed equity investment with a TIFIA loan reduces the required revenues during the fifty year concession period by 29 percent. Successful concession project development often implies examining a number of development approaches and funding formulas. OTIG’s focus on looking at the project as a concession with a significant equity funding component drives much of their conclusions as to what revenues are required to build the Newberg-Dundee Bypass.

Public Sector Comparator

Bear Stearns has developed a financial model that establishes a base case for capital funding of the Project entirely from the proceeds of debt issuance. The financial structure consists of 65 percent tax-exempt municipal debt, 25% TIFIA subordinated debt, and 10 percent State contribution (\$285 million tax-exempt, senior toll revenue bond issue, \$112 million subordinated loan from USDOT under the TIFIA loan program, and \$50 million in State contribution). Significantly, the revenues required to support the Public Sector Comparator of capital funding are approximately 32 percent lower than the Target Revenues for the OTIG plan. In addition, over the 50 year concession period, approximately \$1.3 billion of future operating income would accrue to the State as owner of the Project.

For the Public Sector Comparator, minimum senior debt service coverage of 1.5 times from net cash flow was assumed. While this is somewhat aggressive for a start-up toll road, the monopolistic aspect of the Corridor Tolling proposal supports this assumption as tolling of the existing through road facility reduces traffic generation risk. We believe that the OTIG assumption that a 1.4 coverage ratio is sufficient for an investment grade rating is overly aggressive. The senior revenue bonds are assumed to be further supported by a municipal bond insurance policy. The TIFIA loan is paid on a subordinate basis and is assumed to meet all of the constraints of this loan program. Transaction costs of the public sector comparator capital funding are assumed to be 2 percent of capital funding.

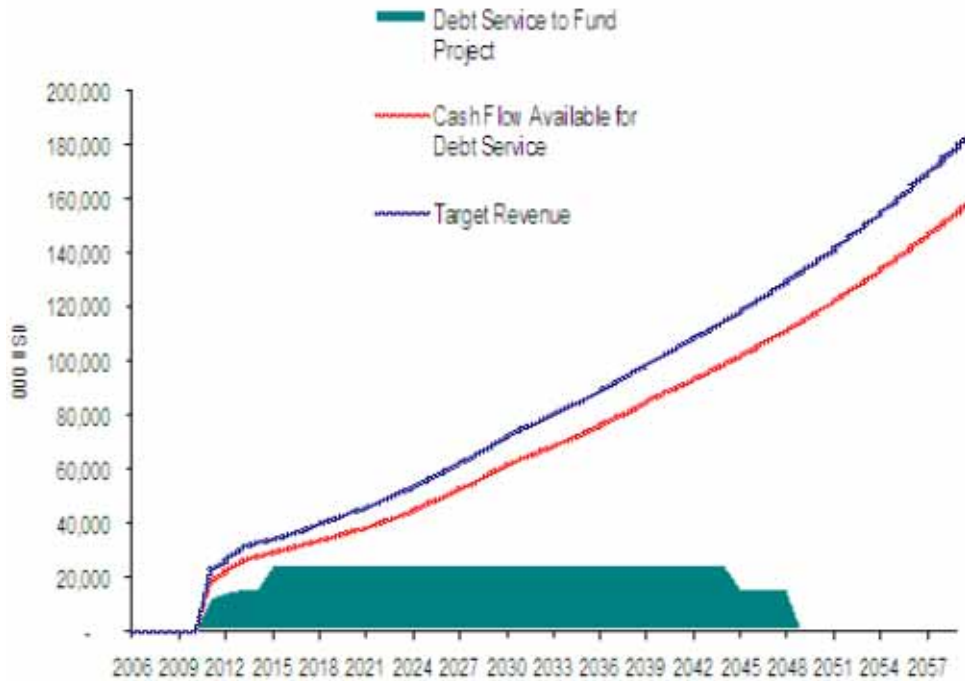
Under this structure, we utilized the traffic and revenue projections provided by OTIG, and incorporated an additional operations and maintenance scenario provided by Parsons Brinkerhoff (in addition simulating the OTIG operations and maintenance scenario). The largest difference in the operating cost assumption is the elimination of casualty insurance required for a private owner. The public sector benefit of sovereign immunity eliminates the need for this expense. For the financing assumptions, the public sector comparator model assumed a lower cost of senior tax-exempt debt. The assumed difference of 30 basis points versus private activity bonds is a result of the imposition of the alternative minimum tax on private activity bond debt. In addition, the public sector comparator replaces equity funding with TIFIA debt. The public sector comparator model assumes debt is constrained to maintain aggregate minimum debt service coverage

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level of 1.25 times, although the TIFIA loan program guidelines allow debt service coverage to be as low as 1.1 times.

Chart I illustrates the debt accretion structure of the public comparator model using the Corridor Tolling scenario “Point Tolling, No Exclusions – Flat” scenario.

Chart I: Corridor Tolling – Public Comparator Debt Accretion



As Chart I illustrates, the gap between “net cash flow available for debt service” and “debt service to fund project” permits additional debt capacity.

The public sector comparator financial model establishes that the Project will have a significantly lower revenue threshold if developed as a publicly-owned project using 100 percent debt capital funding. Bear Stearns has developed an alternative scenario that suggests that modifications of the Project scope to phase the Project, completing only the Bypass from Rex Hill to just south of Dundee, is potentially financially feasible when only the Bypass is tolled. Bear Stearns acknowledges that this would require a restatement of Purpose and Need, a step we advise may well be necessary to move the Project forward.

Bear Stearns recommends that the Project scope be reevaluated to determine if the acute needs of the local road network can be met with a development approach that only tolls new, limited access highway capacity and phases the project requirements to permits

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funding resources to meet funding requirements. Investor demand for toll revenue bonds is very strong, and capital funding from the TIFIA loan program would help to maximize the financial resources available from loans secured only by Project revenues.

VII. Preliminary Conclusions

Bear Stearns finds significant expertise and creativity within the OTIG group, and believes they would be a strong partner to work with the Oregon Department of Transportation to undertake the State's initial toll road projects. OTIG has worked with the Office of Innovative Partnerships and Alternative Funding to develop an alternative that meets the challenging financial requirements of the Newberg-Dundee Bypass and is acceptable to the local communities. OTIG's assessment is that the only way forward for the Project in its current scope on a financially viable basis is to impose a toll on both the Bypass and the existing 99W. The potential to undertake this with an exemption of tolling local residents has now, at this later stage, determined to be unworkable.

OTIG recognizes the political risk to undertaking the Project with the assumption of tolling existing capacity, and has attempted to accommodate local concerns with one alternative which would exempt local residents from the tolling of 99W. Bear Stearns' experience with the idea of exempting certain users from paying by place of residence is that it has not been determined to be clearly permitted under state and federal law in the few places where it has been considered. As a result, we have advised OIPP to seek guidance on this point from the Department of Justice. Preliminarily, Justice has advised OIPP not to proceed to negotiate concession terms under the assumption that a local residence exemption would survive a legal challenge within the State of Oregon.

An additional alternative examined by OTIG would allow vehicles entering the Newberg-Dundee Urban Zones and remaining within these boundaries for at least two hours to be exempt from tolls. Bear Stearns does not believe this alternative to be operationally feasible for the Newberg-Dundee Project.

Absent a strategy to overcome the legal issue relating to local residence exemption from tolls, the concession model becomes difficult to justify for the Newberg-Dundee Bypass Project. The alternative to exempting local residents, i.e., tolling all traffic in the corridor, lacks the traffic generation risk of typical greenfield toll road concession projects. Due to the lack of a viable alternative route through the Newberg-Dundee corridor, it is difficult to envision an adequate transfer of risk under the OTIG proposal from the State, as Project sponsor, to OTIG, as concessionaire, to justify the higher cost of equity capital in the plan of finance. While the transfer of construction and completion risk may be desirable to the State, development of the Project is directly tied to bridging the gap between project cost and financial viability which implies limiting or eliminating, entirely, the inclusion of equity capital in the plan of finance. Further, the State could accomplish this risk transfer under a Design-Build contract without the constraints of the concession approach.

In our experience, the concession approach is a reasonable solution to a public transportation need when there is a significant acceptance of revenue risk by the private partner, as in the example of the Dulles Greenway project, or when the private sector is providing an innovative solution that the public sector would be unlikely to develop, as in the case of the 91 Express Lanes. Tolling the existing capacity in the Newberg-Dundee

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corridor does not fit either of these categories without the ability to exempt certain vehicles using 99W from the tolls. For this Project, the significant opposition that has been evident towards the proposal to toll the existing roadway is likely to be exacerbated by a concession structure, where tolls will cover both the costs of capital funding and the equity returns desired by OTIG.

While the Bypass Only tolling approach would qualify as a real transfer of risk, OTIG's analysis has concluded that it does not provide a viable financial platform for the Project. Bear Stearns agrees that the Bypass Only tolling approach would be inadequate for funding of the full Project scope, however, the Report concludes that this scenario could not make a meaningful contribution to the capital funding, a conclusion that Bear Stearns does not agree with.

The concession structure implies risks to the State sponsor, specifically, that toll revenues generated are retained by the private partner that might have alternatively been used to build additional transportation infrastructure. Because of this, any concession proposal needs to provide a detailed rationale as to why the private sector solution represents a better solution to the transportation need.

As a potential capital funding approach, the concession model would provide a better fit to the Project if either it were viable under the Bypass Only tolling approach or the resident exemption were an option for the concession contract. Without the risks inherent in those alternatives, in Bear Stearns' experience the concession model may not be the ideal development model. The proposed transaction costs and assumed operating costs are both higher under a concession than they would reasonably be under a public sector funding approach.

Bear Stearns has concluded that the Corridor Tolling approach will allow 100 percent debt financing. The cost of funds for OTIG equity of 13.5 percent does not compare favorably to any of the potential sources of debt capital, with the TIFIA subordinate loan at a rate of 4.6 percent (as of 12/6/2006) the most obvious point of comparison. As noted above, the Target Revenues established by OTIG are considerably higher than the revenues necessary to fund the Project. OTIG has stated that revenue scenarios that fail to meet this threshold will require State financial contribution, but the financial model does not reflect adequate free cash flow to allow revenue sharing by the State under the concession proposal. Finally, the concession financial model might have applicability for this Project if OTIG considered the option of serving strictly as a fee developer without the option to invest equity in the Project. This would permit the State to anticipate a return on any capital funding provided to the Project.

Summary: The current analysis of Project alternatives leaves the concession proposal dependent on the requirement for tolling the existing 99W roadway, an option that may not be acceptable. If 99W were to be tolled, Bear Stearns concludes that funding of the Newberg-Dundee Bypass would not require or likely benefit from a private owner. Recognizing that the use of the concession approach requires some determination that private ownership achieves an objective not reachable with public ownership, the best

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alternative for implementation of the Bypass project is likely to be found in a public-private approach that does not require private ownership. Bear Stearns further anticipates that that a way forward may involve reinitiating the environmental review process to permit a more limited scope to be initially undertaken, and then utilizes innovative public financing tools to seek to bridge the gap between financial resources and project requirements without requiring private equity investment.