



OTIG

Oregon Transportation
Improvement Group

Sunrise Project

South I-205 Corridor
Improvement Project



January 24, 2007

Sunrise and I-205 Project

Summary Conclusions

Sunrise Scoping Study Key Results

South I-205 Scoping Study Key Results

South I-205 Next Steps and Considerations

Sunrise and I-205 Project: OTIG Report

The purpose of Milestone Zero - the Scoping Study - is to

- Establish the preliminary feasibility of the Projects as Public Private Partnerships
- Identify major issues that must be addressed
- Provide a basis for agreement between ODOT and OTIG on key development parameters for the Project
- Determine whether OTIG and ODOT should move to Milestone One

Milestone Zero is the first step in the series of the following milestones

- Milestone One: Commercial and Financial Viability Assessment – establishment of the commercial and financial viability of the Project in greater detail
- Milestone Two: Implementation Development – development of the Implementation Agreement and the procurement approach for the Design-Build and financing elements of the Project
- Milestone Three: Closing – negotiation and finalization of the Implementation Agreement, Design-Build and Operations procurement process, and Financial Plan elements leading to commercial and Financial Close

OTIG & ODOT have the ability to take an off-ramp at completion of any of the milestones, at which point all work product produced by OTIG becomes the property of ODOT

Sunrise and I-205 Project: Summary Conclusions

Summary Conclusions - Sunrise

Both Sunrise Project and Sunrise Corridor are:

1. Needed due to continued strong growth in travel demand and significant congestion
2. Not self-supporting through tolls but could be viable as a “shadow tolling” PPP should alternative supplemental sources of funding be identified
 - OTIG’s understanding is that external funds are unavailable to support the project
 - The project could be coupled with other potential toll projects in the greater Portland metropolitan region that could potentially generate excess revenue

- ODOT and OTIG have jointly elected to take the off-ramp at Milestone 0

Sunrise and I-205 Project: Summary Conclusions

Summary Conclusions – I-205

1. Improvements to the I-205 Corridor are needed now
 - Current congestion and strong traffic growth forecast
2. Growing public support for the use of tolling
 - Emerging belief that there is a lack of conventional funding and growing acceptance of limited use of tolling
3. The Project can be delivered as a PPP
 - Construction could commence as early as April 2009
4. The Project could be self-supporting
 - Surplus funding could be used for long-needed capital projects and/or transit goals
5. Use of electronic tolling is key to ensuring public support
 - Interoperability, customer service centers and violations enforcement must be addressed

Sunrise and I-205 Project: Public Acceptance

Note on Public Acceptance

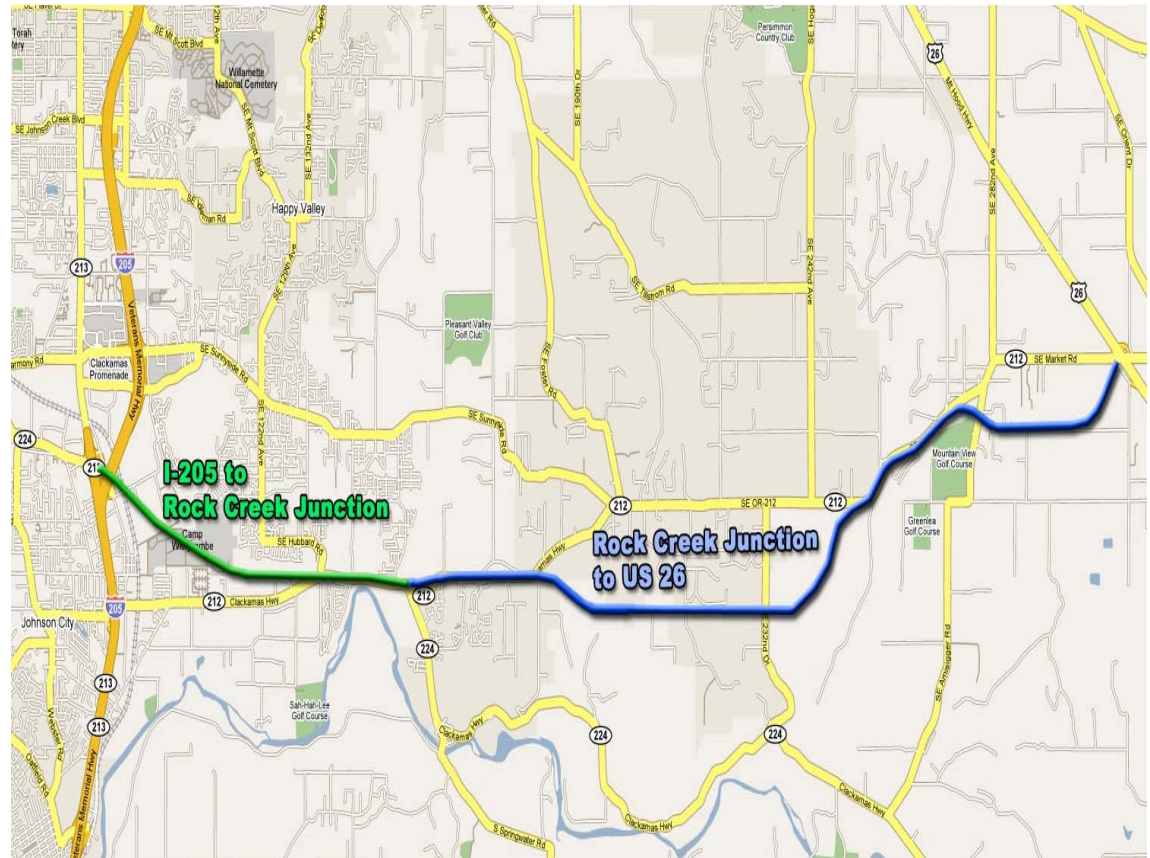
- The stakeholders and highway users in both project areas are relatively familiar with the need for transportation improvements in the area and are generally supportive of using tolling on a case-by-case basis
- Most people believe a PPP approach is worth considering as there is a general perception that private sector can do it faster and for lower cost
- There is a definite need for further education of the residential and business communities and local governments about the partnerships, tolls, and what the project would mean for individual users as well as the general community
- Use of modern, non-stop electronic toll collection is essential to gaining public support

Sunrise Project



Sunrise Project: The Issue

- OR 212/224 is one of the main routes in the Portland area experiencing unacceptable levels of congestion and delay
- Employment to nearly double by 2015 - forecast to experience continued strong traffic growth and further congestion
- OR 212/223 near I-205 ranked in the top 10% of state routes for vehicle accident rates
- Critical freight hub for local and regional industry
- Lack of sufficient funding at present and in foreseeable future



Sunrise Project: Alternatives

- OTIG examined 6 alternatives differing in the type of tolling utilized, length (Sunrise Project vs. both Sunrise Project and Parkway), and the inclusion of the interchange at 122nd Ave
- Each of the options studied includes 2 lanes in each direction with an additional auxiliary lane
- Sunrise Project would address congestion in one of Oregon's busiest truck centers
- Sunrise Corridor would route regional through-traffic around Damascus Town Center and meet long-term population growth

Option	122 Ave Interchange	Type of Tolling
Option 1a Sunrise Project	Yes	Distance – all vehicles on Sunrise Project
Option 1b Sunrise Project	No	Distance – all vehicles on Sunrise Project
Option 1c Sunrise Project	Yes	Corridor – all vehicles on Sunrise Project and OR212/224
Option 2a Sunrise Corridor	Yes	Distance – all vehicles on Sunrise Corridor
Option 2b Sunrise Corridor	No	Distance – all vehicles on Sunrise Corridor
Option 2c Sunrise Corridor	Yes	Corridor – all vehicles on Sunrise Corridor and OR212/224



Sunrise Project: Scoping Study Key Results

▪ **Public Outreach**

- Sunrise area leaders are highly informed about the need for transportation improvements in the area and seem generally supportive of and interested in the project as a solution
- Perceptions of PPPs and use of tolls to finance the project are still being formed, yet most people contacted think that this approach is a step in the right direction
- There is a definite need for further education of the residential and business communities about the tolling and what its benefits for individual users as well as the general community

▪ **Environmental Assessment**

- Sunrise Project
 - Supplemental Draft EIS initiated (expected completion early 2008)
 - The acquisition of Right-of-Way and preliminary engineering initiated, expected completion late 2008
 - Streamlining opportunities may be considered to complete the construction and open the road to traffic on the earliest feasible date
- Sunrise Parkway
 - Will require the preparation of a NEPA EIS because it is proposing a new transportation corridor in a rural setting

Sunrise Project: Scoping Study Key Results

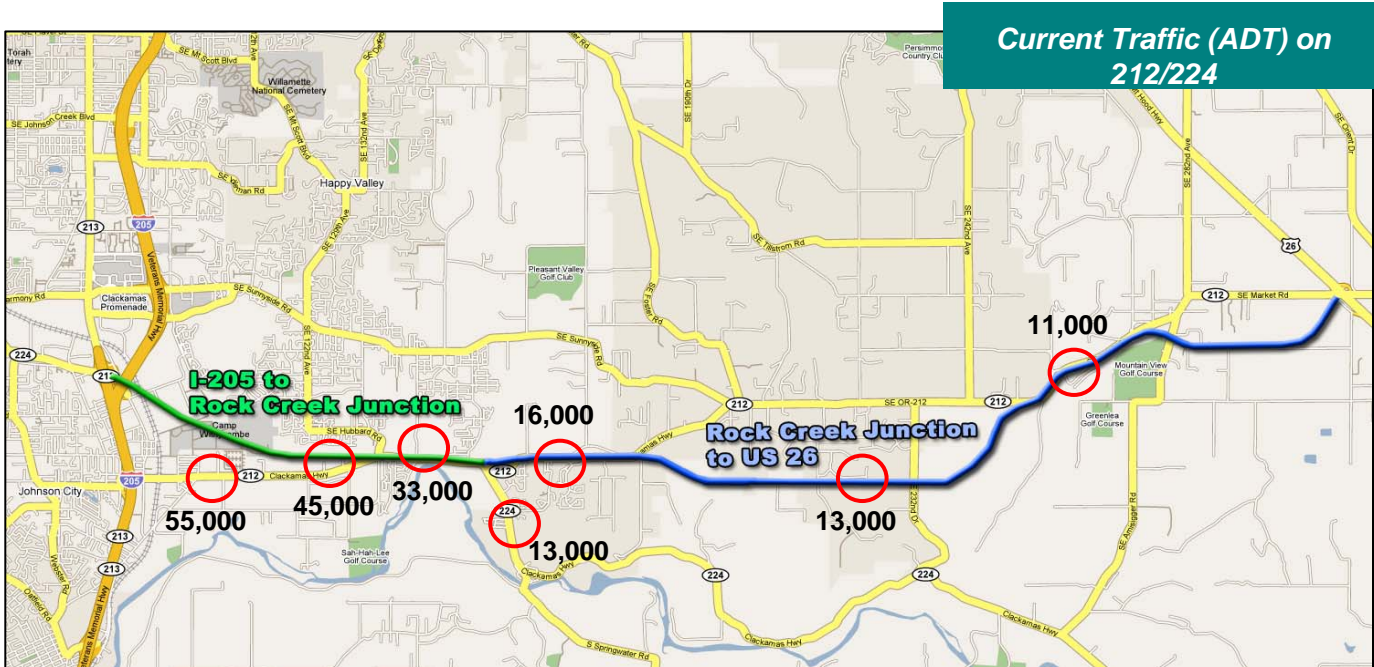
- **Schedule**

- Schedule developed separately by ODOT and OTIG
- OTIG suggested schedule
 - assumes a more aggressive pursuit of approvals to proceed with Right-of-Way procurements and to perform as many of the NEPA process activities concurrently and in parallel with the transportation plan development and corridor refinement studies
 - results in a construction start date 20 months earlier than the ODOT schedule for Sunrise Project and 28 months earlier for Sunrise Corridor

Schedule		NEPA Processing Completion	ROW Procurement Completion	Design-Build Documents Completion	Construction Start
Sunrise Project	ODOT	Dec 2008	Jan 2010	Sep 2009	Feb 2010
	OTIG	Jun 2008	Dec 2008	Feb 2008	Jun 2008
Sunrise Parkway	ODOT	Jan 2011	Nov 2011	Aug 2011	Jan 2012
	OTIG	Oct 2009	Apr 2010	Jun 2009	Oct 2009

Sunrise Project: Scoping Study Key Results

Traffic Volumes



Sunrise Project: Scoping Study Key Results

- Traffic and Revenue
 - Traffic figures are strong near I-205, however drop off dramatically by Rock Creek Junction
 - Sunrise Project would have to compete with the free alternative and would not generate sufficient volumes unless corridor tolling were utilized
 - Corridor tolling would be difficult to implement due to multiple access and egress points
 - The region is growing with preliminary traffic forecasts showing increase in traffic demand in the future (forecast population increase in Damascus to 68,000), however current levels are not sufficient to support a toll project
- Construction Costs
 - The capital costs of the options range from \$393 to \$923 million, depending on whether the option considers Sunrise Project only, or the entire Sunrise Corridor
 - 20% and 40% contingencies were included in Sunrise Project and Sunrise Parkway respectively
 - Sunrise Interchange with I-205 estimated at \$100 million
 - 122nd Ave Interchange cost was estimated at \$20 million

Sunrise Project: Scoping Study Key Results

- **Financial Feasibility**

- Preliminary analysis suggests that none of alternatives identified are self-funding through tolls alone due to (1) high construction costs and (2) low estimated traffic volumes
- Both Sunrise Project and Corridor may be viable should alternative supplemental sources of funding be identified, or the projects be coupled with other potential toll projects in the greater Portland metropolitan region that could generate excess revenue

A comparable case study: The Dulles Greenway

- A roadway with similar characteristics to those of Sunrise Corridor
- The Greenway was built prematurely, with traffic projections not materializing until the later years

As population growth in the region continues, Sunrise will become more economically viable; however, current analysis suggests that funding gaps are likely insurmountable unless external funding is received

ODOT and OTIG have jointly elected to take the off-ramp at Milestone 0



I-205 Project

I-205 Project: The Issue

- I-205 is a 25.5 mile long major north-south freight and commuter route experiencing significant traffic issues
- The transition from 6 lanes to 4 lanes at the Willamette River crossing contributes to significant congestion along the corridor
- I-205 is forecast to experience continued strong traffic growth in travel demand and further congestion
- Project lacks sufficient funding at present and in foreseeable future
- Oregon Transportation Improvement Group (OTIG) engaged in the process to deliver, through South I-205 Corridor Improvement Project, potential improvements to both southern and northern sections
- ODOT and OTIG have identified several additional alternatives including adding two new lanes in each direction in the southern section and one new lane in each direction in the northern section



I-205 Project: Alternatives

In Milestone Zero, OTIG examined 13 alternatives differing in the type of tolling utilized and the number of new lanes proposed in each section of the highway

Managed Lane Tolling

- 1-2 lanes are tolled; the rest are general purpose
- Most complex of the alternatives

Corridor Tolling

- All traffic using the highway pays a toll
- Most commercially straightforward solution

Bridge Tolling

- All traffic crossing the Abernethy Bridge pays a toll
- Oregonians have had a positive experience with bridge tolling

Shadow Tolling

- Involves payments by the government to a private concessionaire
- Based on traffic volumes and service levels

Scenario	Southern Section (I-5 to Hwy 213)			Northern Section (Hwy 213 to I-84 East)		
	New Lanes	Managed Lanes	Total Lanes	New Lanes	Managed Lanes	Total Lanes
Option 1a One Managed Lane in the South	1	1	3			
Option 1b One Managed Lane Throughout	1	1	3	1	1	4
Option 1c Two Managed Lanes in the South	2	2	4			
Option 1d Two Managed Lanes Throughout	2	2	4	1	2	4
Option 1e Two Managed Lanes in the North One Managed Lane in the South	1	1	3	1	2	4
Option 2a Corridor Tolling in the South	1	n/a	3			
Option 2b Corridor Tolling Throughout	1	n/a	3	1	n/a	4
Option 2c Bridge Tolling with new lane in North and South	1	n/a	3	1	n/a	4
Option 2d Bridge Tolling with new lane in South only	1	n/a	3			
Option 3a Shadow Tolling in the South	1	n/a	3			
Option 3b Shadow Tolling Throughout	1	n/a	3	1	n/a	4
Option 3c Shadow Tolling of the Abernethy Bridge with new lane in North and South	1	n/a	3	1	n/a	4
Option 3d Shadow Tolling of the Abernethy Bridge with new lane in South only	1	n/a	3			

I-205 Project: Scoping Study Key Results: Schedule

Key Results

- ODOT follows a typical sequential approach considered to be conservative
- Streamlining opportunities to complete the construction and open the road to traffic on the earliest feasible date are being considered
- OTIG suggested schedule assumes an overlap of activities to optimize resources and coordination, and reduce the overall process duration and construction disruptions
 - OTIG schedule could start construction on South I-205 10 months sooner and over 3 years sooner if a project undertaken to address both the North and South I-205

Schedule	NEPA Processing Completion	ROW Procurement Completion	Design-Build Documents Completion	Construction Start
ODOT South	Dec 2008	Jan 2010	Sep 2009	Feb 2010
OTIG South	Apr 2009	Dec 2009	Dec 2008	Apr 2009
ODOT South & North	Jun 2012	Dec 2013	Aug 2013	Jan 2014
OTIG South & North	Oct 2009	Oct 2010	Jun 2009	Oct 2009

I-205 Project: Scoping Study Key Results: Traffic and Revenue

OTIG used Metro model outputs, 2005 ODOT Reconnaissance Study and transportation volume tables to develop a preliminary traffic and revenue forecast

- **Key Results**
 - **Managed Lanes**
 - Variable pricing maximizes revenues and is generally seen as more fair
 - Managed lane time savings affected by weaving at intersections; likely to require lane barriers and exclusive on and off ramps
 - Managed lane options generate the lowest revenue as lanes are only used during peak congestion; however further study required to determine revenue-maximizing toll
 - **Corridor and Bridge Tolling**
 - Variable pricing of \$2.50 during peak and \$1.50 during off-peak utilized as part of the study; can incorporate traffic demand management including free usage during off-peak hours
 - Bridge tolling is most likely to be publicly acceptable as historical precedent
 - Results in much higher revenues than managed lane options with excess funds able to support additional improvement projects in the corridor
 - **Shadow Tolling**
 - Studied only as a bookend as funding of availability payments under this option is lacking

I-205 Project: Scoping Study Key Results: Costs

OTIG developed preliminary construction, lifecycle and tolling operations cost estimates for each of the thirteen alternatives

▪ Key Results

- The estimated costs are based on square footage, and/or linear foot costs, and/or unit prices from experience and by using recent ODOT bid tabulations as appropriate
- The information is typically historical based on the bid prices over a preceding 12 month period
- Most of the additional width can be accommodated within the existing ROW; ROW costs are estimated at \$20 million for the southern section and \$60 million for the northern section
- Operations and maintenance costs assume OTIG maintains the existing and new lanes
- Managed lane construction costs dramatically increase when contemplating segregated lanes and exclusive on and off ramps

Construction Cost	General Purpose	Managed Lane
Additional Lane in South	\$207 million	\$364 million
Additional Lane in North	\$209 million	\$484 million
Additional Lane in North & South	\$416 million	\$848 million

I-205 Project: Scoping Study Key Results: Financial Feasibility

OTIG prepared a detailed financial model to analyze the financial feasibility of each of the options given toll revenues, construction and operating cost estimates and debt structures attainable in the market

▪ Key Results

- Managed Lane options are not likely to be financially feasible
 - Distance toll tested at \$0.30 per mile however revenue maximization point is likely to be higher and should be examined in Milestone 1
 - Absolute toll revenue collected is relatively low and unable to cover operating costs in several options
 - Managed Lane enforcement will likely require segregated lanes and exclusive off and on ramps to enforce payment and maximize time savings. This dramatically increases the cost of the project and reduces financial feasibility
- Corridor and Bridge Tolling alternatives generate the highest tolling revenues and are financially feasible options
 - Funding surplus of up to \$490 million in the South assuming tolling of the Abernethy Bridge with \$2.50 peak and \$1.50 off peak toll
 - Surplus could be applied to additional lanes in the North, interchange improvements along the corridor, regional transit goals
- Shadow Tolling alternatives are unlikely to be carried forward due to the lack of an exogenous funding source

I-205 Project: Scoping Study Key Results: Electronic Tolling

Electronic tolling is the preferred method of toll collection by the public and OTIG

▪ **Key Results**

- OTIG recommends electronic toll collection as the preferred toll collection method
- Key policy areas to address:
 - Interoperability within Oregon and the Pacific Northwest is a priority
 - Customer service centers should be centralized to obtain economies of scale
 - Use of video tolling is essential to a fully electronic tolling system however raises privacy issues
- Macquarie has successfully introduced electronic tolling to several projects and can contribute this expertise and know-how to I-205



A high-speed, non-stop electronic toll portal on SR 417 near Orlando, Florida.



Electronic toll portal on Route 895 James River Bridge in Virginia ensures travelers a fast, non-stop trip.



Washington State's new Good To Go! electronic toll collection system for the Tacoma Narrows Bridge will combine non-stop electronic toll collection with a more traditional cash alternative for visitors and other travelers.

I-205 Project: Key Conclusions

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I-205 Project: Next Steps

Action items:

1. Include the Project in the Regional Transportation Plan update
 - OTIG is proposing detailed technical work to refine the project description and address regional planning goals such as freight mobility and congestion management
2. Implement an extensive public outreach program
 - OTIG is proposing to meet with local leaders, elected officials, stakeholders and the general public to assess opinion and build support through interviews, targeted mailings, on-line and mail-back surveys and focus groups
3. Carry the Project forward to Milestone 1
 - OTIG would undertake a preliminary investment grade traffic study followed by selection of a preferred option