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WSDOT measures and reports on:

Highway Project Delivery

**Citizens – and our
public officials – ask
WSDOT:**

***“Are you competently
spending our money
delivering these
highway projects?”***



**Washington State
Department of Transportation**

Parameters of Success:

Delivery of Expected Transportation Benefits

Project Schedule

Project Cost

Project Construction Quality

Success of Traffic Management

Appropriate Environmental Benefits and Mitigation

Environmental Compliance in Construction

Lifecycle Cost

Integration with Other Transportation Programs and Projects

Do highway projects make a difference?

Safer Roads

“Safety Enhancement” Projects

Before and after analysis of 21 sample safety improvement projects across the state

- Projects range from adding turn lanes and signals to installing median barriers and rumble strips
- The 24 months “after” analysis of the same 21 projects indicated an overall, average reduction of 47%
- A final, third year “after analysis” is planned for December 2005.

**Combined Average for 21 Safety Projects
Collisions per Year (24 months “after” data)**

| | Property Damage Only Accidents | Injury/Fatal Accidents |
|-------------------|--------------------------------------|---------------------------|
| Before Totals | 8.6 | 6.6 |
| After Totals | 5.2 | 3.5 |
| Percent Reduction | 40% | 47% |

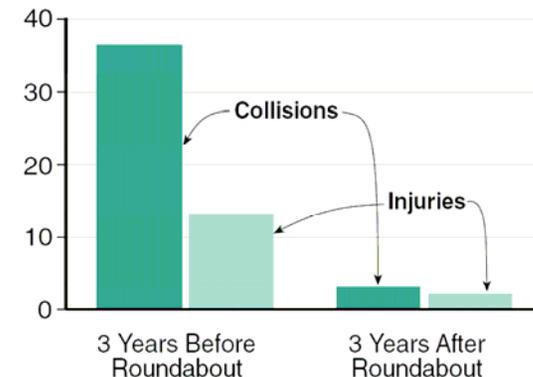
Source: *Gray Notebook*, December 31, 2004

A typical roundabout



Port Orchard -
Bethel Ave. and
Mile Hill Drive
Intersection

**Number of Collisions and Injuries
Before and After Roundabout: Comparison**



Source: *WSDOT Engineering and Regional Operations Division*.

Expected Safety Benefits from Newly-Funded Projects*

Selected Examples

2005 Median Cross-Over Protection Projects - Statewide

Install cable median barrier and other protections to lessen risk and severity of median crossing incidents. Statewide program of projects.

Expected reduction in injury accidents: From 11 to 5 per year.

I-5 Interchange Improvements at SR 161 and SR 18 (Federal Way)

Improvements include freeway to freeway ramps to reduce the “weaves” on and off I-5 at one of the highest accident locations in the state.

Expected reduction in injury accidents: From 34 to 21 per year.

I-5 HOV Improvements between 38th St. and Port of Tacoma Road

HOV lanes will improve traffic flow and reduce lane-change and other vehicle conflicts.

Expected reduction in injury accidents: From 80 to 55 per year.

I-5 Widening from Mellen Street to Grand Mound (Thurston County)

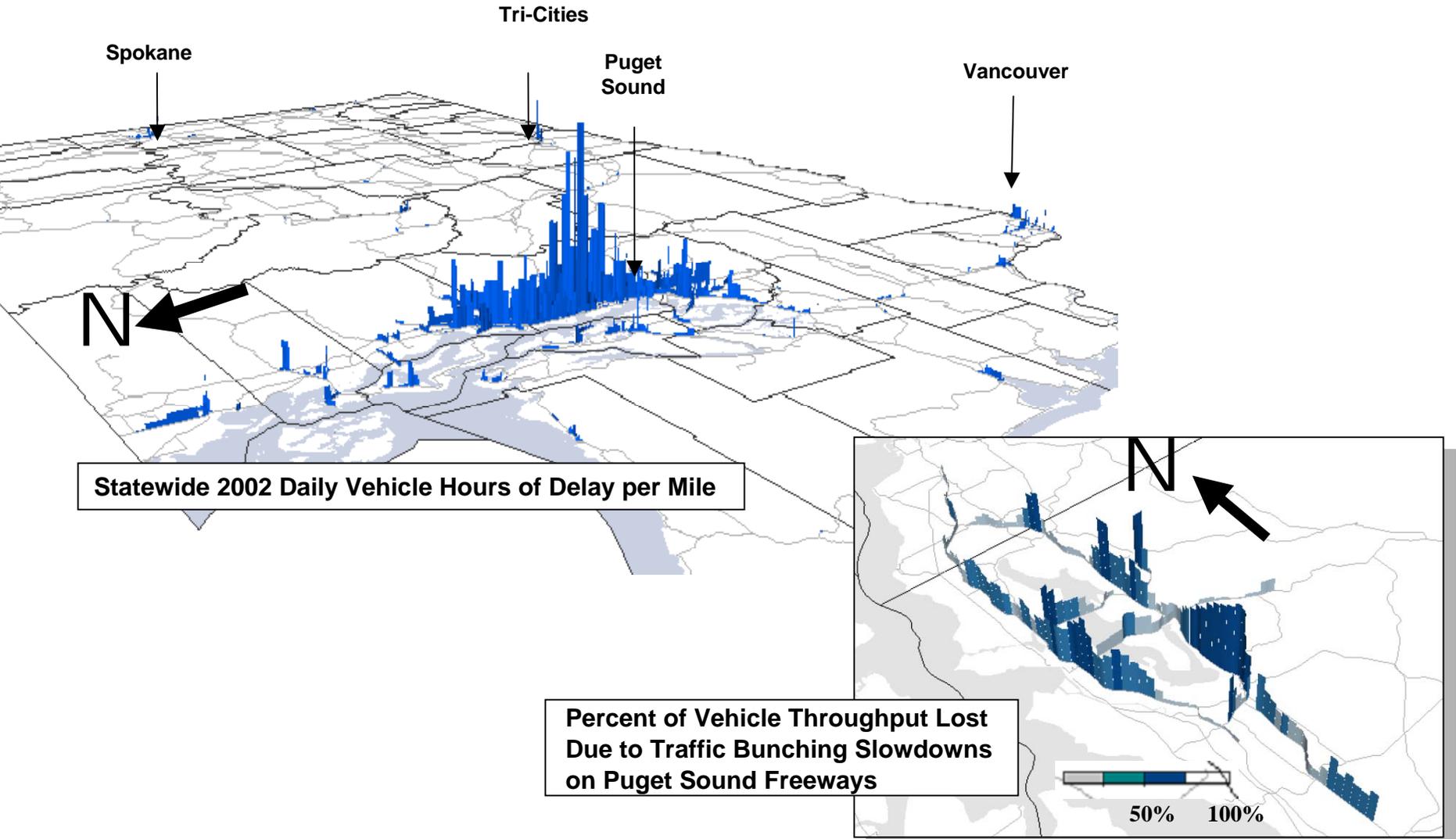
7 mile addition of new lanes will improve traffic flow

Expected reduction in injury accidents: From 23 to 12 per year.

* Using conservative estimating methods

Do highway projects make a difference?

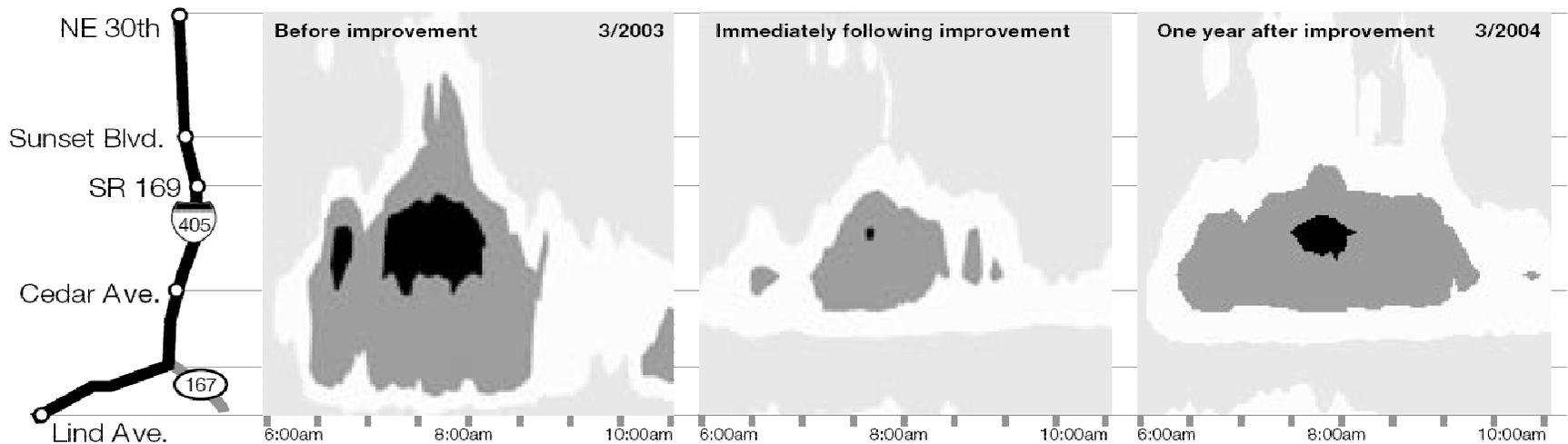
The delay problem



Reducing Bottlenecks and Chokepoints

I-405/SR 167 Ramp Separation Project Congestion Benefits: Before and After Analysis

Average Weekday Congestion I-405 Southbound



Based on this performance measure analysis, citizens would recover the cost of this project (\$10M) in the value of avoided travel delay in just over two years.

WSDOT has been able to develop this kind of “before” and “after” congestion reduction benefits demonstration for only a very small number of projects.

Source: Gray Notebook September, 2004

More on Bottlenecks and Chokepoints

Comparison of Conditions HOV Lane Application

The graphs at right reveal at a glance, whether delay conditions in 2003 were worse than 2002 (black line above gray) by comparing the percent of days when freeway speeds dropped below 35 mph.

The I-5 commutes between Everett and Seattle (above 2 graphs) did not see new projects. Delay conditions in 2003 had worsened (S/B in the morning) or stayed the same (N/B in the afternoon) in comparison to 2002.

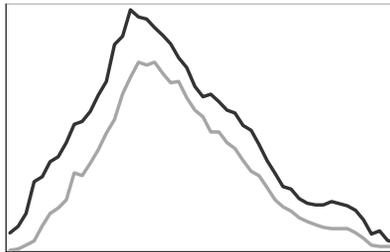
On the other hand, the commutes on S/B I-5 between Seattle and SeaTac and on S/B SR 167 between Renton and Auburn benefited from projects that added HOV lanes. Speed conditions clearly improved in 2003 *after* the highway projects were opened to traffic as compared to the level in 2002 (*before projects*).

Speeds Less Than 35 mph, Percent of Days

Commutes With and Without HOV Highway Improvement Projects
2002 - 2003

No Projects: Speed performance the same or worse

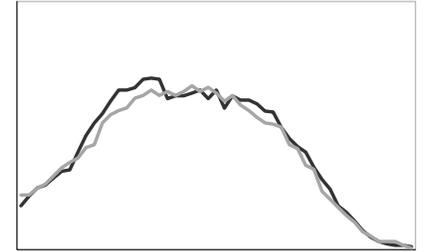
Everett to Seattle I-5



6 AM

10 AM

Seattle to Everett I-5

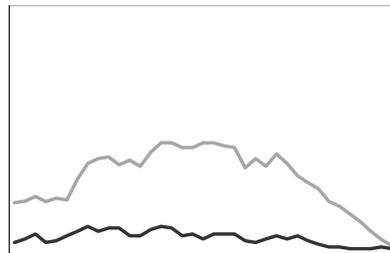


3 PM

7 PM

HOV Projects opened: Speed performance improved

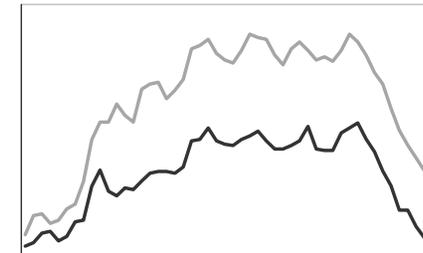
Seattle to SeaTac I-5



3 PM

6 PM

Renton to Auburn SR 167

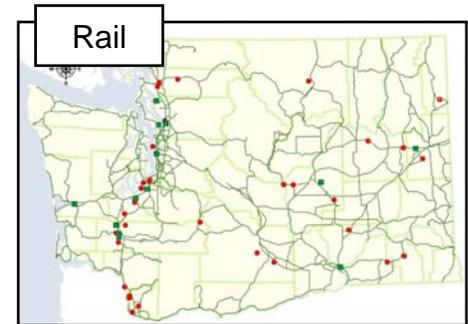
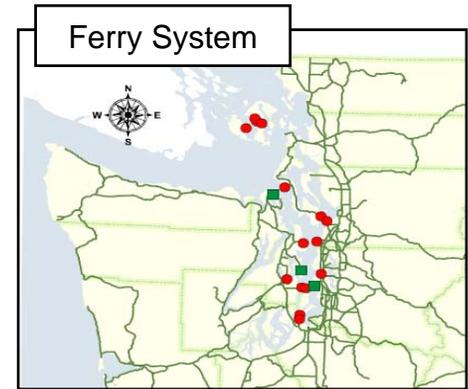
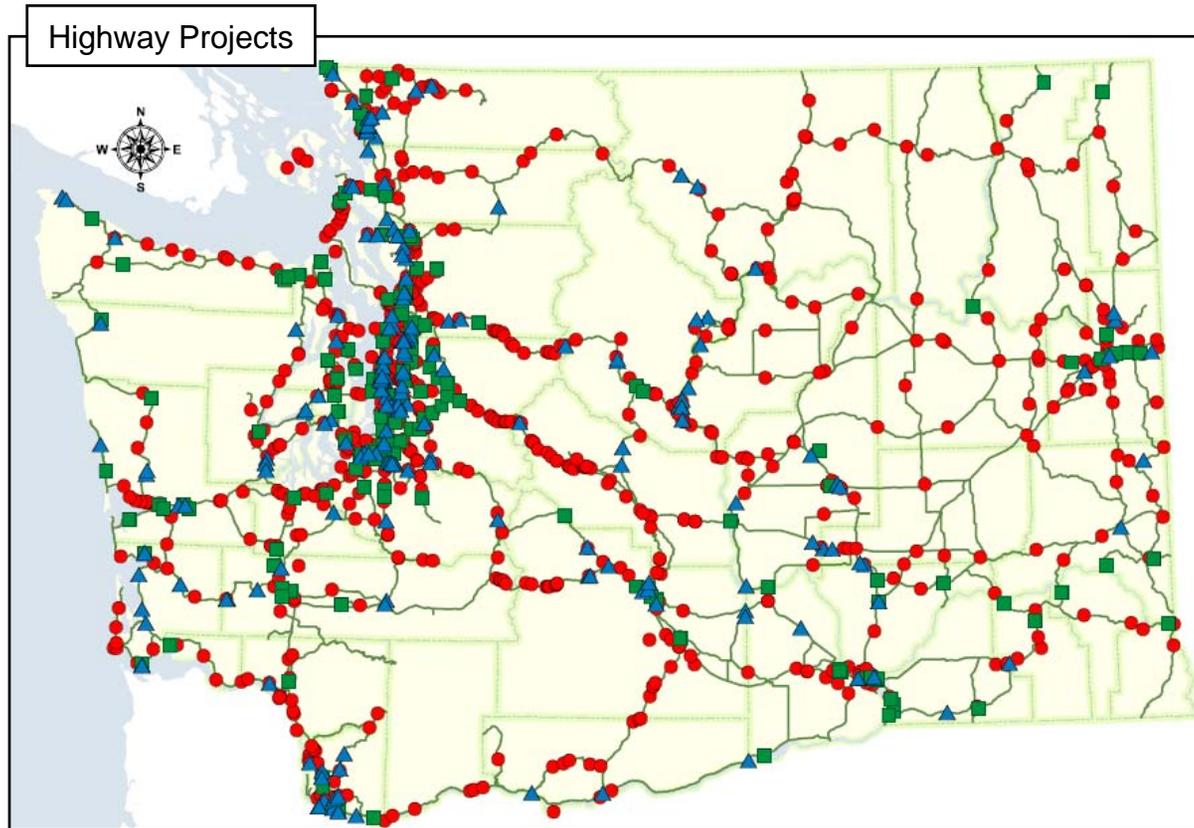


2 PM

6 PM

— 2002 — 2003

How many highway projects are there?



Project Identification Numbers (PIN) tallied for Legislative Project Book

| | Preliminary Engineering | Right of Way | Construction |
|-------------------------------|-------------------------|--------------|--------------|
| ● PreExisting Funds (2 years) | 688 | 99 | 703 |
| ▲ Nickel Funds (8 years) | 119 | 57 | 145 |
| ■ 2005 Partnership (16 years) | 221 | 104 | 245 |

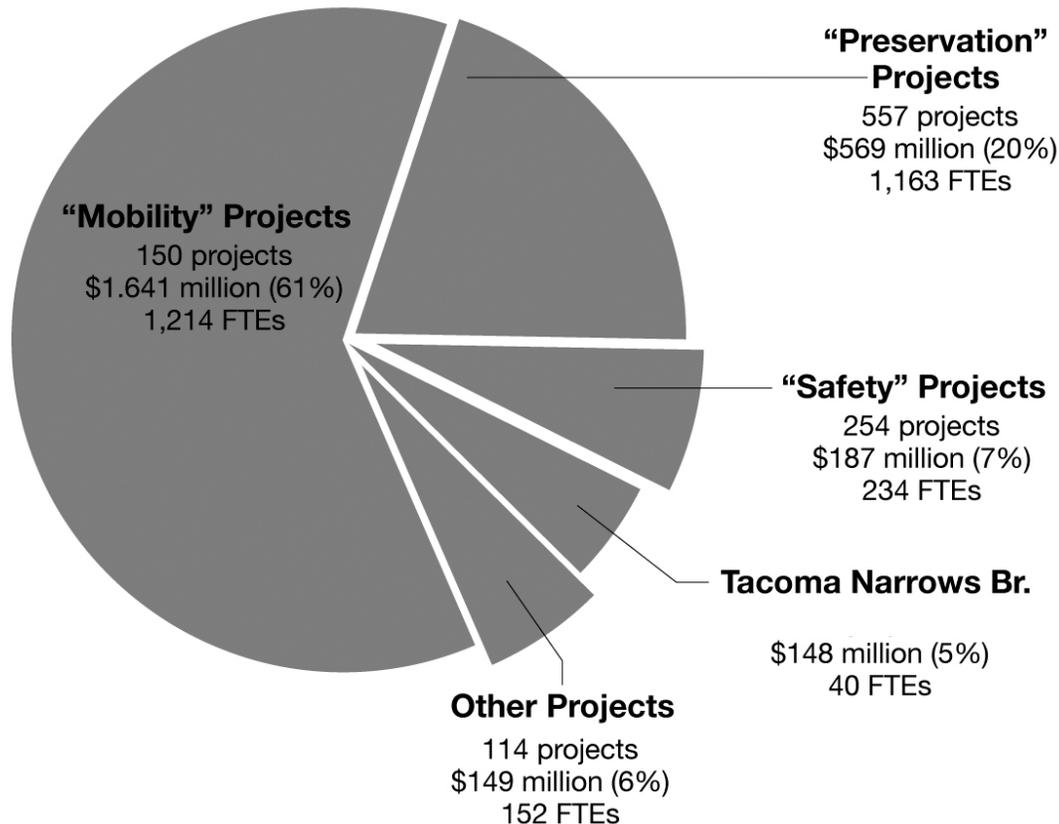
05-07 Expenditures

| | | | |
|---|----------------|----------------|------------------|
| Private Consultants, Property Owners, and Private Contractors | \$411 M 45% | \$311 M 85% | \$1,895 M 90% |
| State Workforce | \$503 M 55% | \$ 56 M 15% | \$ 211 M 10% |
| Total | \$914 M | \$366 M | \$2,106 M |

Highway construction program spending overview

WSDOT Highway Capital Projects for 2005-07*

1,076 Active Highway Capital Projects = \$2.7 Billion *



We would like to go to categorization systems that allow these project benefits to be highlighted.

- Improve Safety
- "Fix it first"
- Fix Bottlenecks and Chokepoints
- Support Economic Development and Freight Movements

* Does not include other-source funding, such as Sound Transit

14.5 Miles of I-5: Seven Separate Major Construction Projects, Nine Construction Seasons

Interim HOV Project (1992-1993)
Installed on portions of the corridor

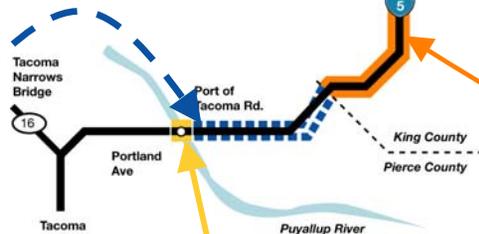
I-405 to 188th St. (1995) SB HOV lanes and trucking lanes. Constructed up the Southcenter Hill. Improvements were also made to on-ramps from I-405 and SR 510 to ease the flow of traffic entering I-5.

SR 516 to 320th St. (2002) Constructed the SB HOV lane from SR 516 to S 320th Street.

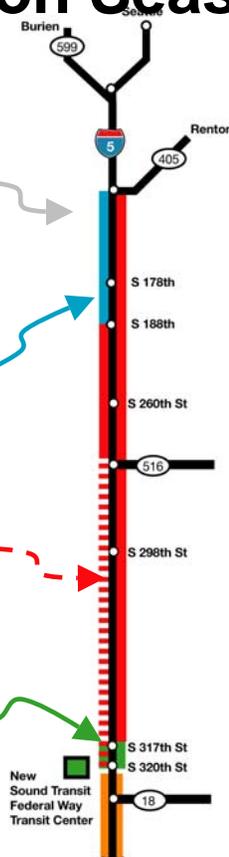
I-5 Federal Way - S. 317th Street (current)
WSDOT constructing overpass and direct access ramps to connect the HOV lanes to the new Transit Center, plus mainline improvements. Contractor is Icon Materials for \$22.4 million, largely funded by Sound Transit. Began June 2004 and is scheduled to be completed October 2005.

Planned HOV Extension: I-5 Port of Tacoma Road to Pierce County

- Widen I-5 and extend the HOV lane from Port of Tacoma Road to the King County Line.
- Funded in 2003 Nickel Project for \$33.6M
- Scheduled by Legislature to begin in 2009



Puyallup Bridge Resurfacing Project (2003)



Why Should We Expect the Public to Be Happy? Every year since 1992 has seen construction activity on this corridor, where average daily traffic is about 180,000 vehicles per day.

I-5 Pierce County Line to 320th St. May 2005 - December 2006



I-5 HOV as of May 2005: segment before construction began



I-5 HOV as of June 2005: median cleared in preparation for construction.



I-5 HOV as of late 2006:
(artist's rendering)

Construct new HOV lanes north and south from 320th Street to vicinity of SR 18. Funded in Nickel Package (2003) for 2005 start. Contract awarded in May 2005 for \$35.8 Million

Accounting to the Public and the Legislature:

The Web:

Quarterly Project Reports on WSDOT's website

SR 16 HOV Improvements - Olympic Drive to Union Avenue

Washington State Department of Transportation
Quarterly Project Report Update for Quarter Ending March 2005

Project Title & Location
1) 6th Avenue/Pearl Street to Jackson Ave., Tacoma
2) SR 16 HOV - Union Ave. to Jackson Ave., Tacoma
3) 36th Street to Olympic Drive, Gig Harbor

Project Description
This project constructs HOV Lanes on SR 16 from Olympic Drive in Gig Harbor to Union Avenue in Tacoma. There are currently four travel lanes. There will be six lanes throughout the corridor when complete, with additional lanes provided between Union Avenue and 6th Avenue interchanges.

Contractor/Consultant
Stage One: Tri-State Construction, Inc. Stage Two: Woodworth and Company - Stage Three: Tri-State Construction, Inc.

Recent Progress
Construction is substantially complete - only minor incidental work remains - on the first phase of this project, 6th Avenue/Pearl Street to Jackson Avenue. The second phase, Union to Jackson Avenue, was awarded Feb. 7, 2005, to Tri-State Construction, Inc. for a low bid of \$43.7 million. Construction activities began March 11. Work continues on relocating utilities in the corridor in preparation for the contract work. The final phase of the project, 36th Street to Olympic Drive, has been accelerated seven months; bids for the work were opened in December 2004. Construction is expected to begin in early April.

Design Construction Impacts
Maintaining compatible work zones has been the result of ongoing coordination between SR 16 HOV construction and the adjacent Tacoma Narrows Bridge project.

Environmental Impacts / Compliance
For phase two of this project, 32 acres at Leach Creek mitigation site is in WSDOT possession. An alternate mitigation plan has been submitted which includes stormwater treatment at Leach Creek and funding of improvements at China Lake.

For the entire project Temporary Water Pollution Control Plans, Erosion Control Plans, Spill Prevention, Control and Countermeasures Plans, Dust Plans, and Health and Safety Plans have been developed and are being implemented. Stormwater Management Plans are also being developed.

Impacts to Traffic
Intermittent shoulder closures can be expected. On March 28, a lane will be closed for the purpose of installing a ramp to the bridge.

Milestone Outlook

| Date | Milestone | Description |
|--------------|------------------------|---|
| July 2004 | Design Documentation | Design Documentation is complete for all three phases of the project. |
| October 2004 | Environmental Permits | Environmental permits for phase one and phase three are complete. Environmental permits on phase two were appealed and the project is delayed. All three contracts have been awarded. |
| October 2004 | Contract Advertisement | |
| April 2004 | Ground Breaking | Construction is nearly complete for stage one; stage two construction has started. The third and final stage is expected to begin construction in April 2005. |
| Spring 2007 | Open to Traffic | The goal is to complete all significant construction activities on this project spring 2007, coordinating with the scheduled opening of the new Tacoma Narrows Bridge. |

Project Cost Summary:

| | Dollars in millions | Percent of Total |
|--------------------------------|---------------------|------------------|
| Preliminary Engineering | \$ 9.4 | 9.2% |
| Right-of-Way | \$ 7.2 | 7.1% |
| Construction | \$ 85.4 | 83.7% |
| Funded Project Costs | \$102.0 | 100.0% |

Nickel funds included in above costs \$ 90.5 88.7%

Planned vs. Actual Expenditures (Total Project Cost)

The Story:

Gray Notebook Beige Page narrative excerpt

SR 16, HOV Improvements - Union Avenue to Jackson Avenue

As reported in the June 2004 *Gray Notebook*, this project, which completes the HOV system on a critical section of SR 16 between I-5 and the Tacoma Narrows Bridge, is one of the most important and most time-sensitive of the early Nickel account projects. This is due to the need for the completion of this project to coincide with the opening of the Tacoma Narrows Bridge.

The project was advertised in March 2004, with a scheduled bid opening in May 2004. However, the opening of the bid was delayed because of administrative procedures - one at the Department of Ecology and another at the Department of Ecology action was taken in response to two of the project's key issues is rooted in a landowner's portion of their project wetlands enhancement been agreed to by WSDOT officials, as compensation for the right of way. The Department of Ecology has reached an agreement with the landowner who initiated these changes.

...orney General's Office. WSDOT is in the process of revising the wetland mitigation plan for the City of Tacoma and the Army Corps of Engineers. These changes resulted in developing a new 'out-of-kind' mitigation plan acceptable to the Washington State Department of Ecology. WSDOT's goal is to have all revised plans submitted to all agencies for approval by the end of November 2004, with a hope of opening bids prior to spring 2005.

Current Project Highlights and Accomplishments

SR 16 HOV Improvements - Union Avenue to Jackson Avenue

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-Substance will not be discussed-

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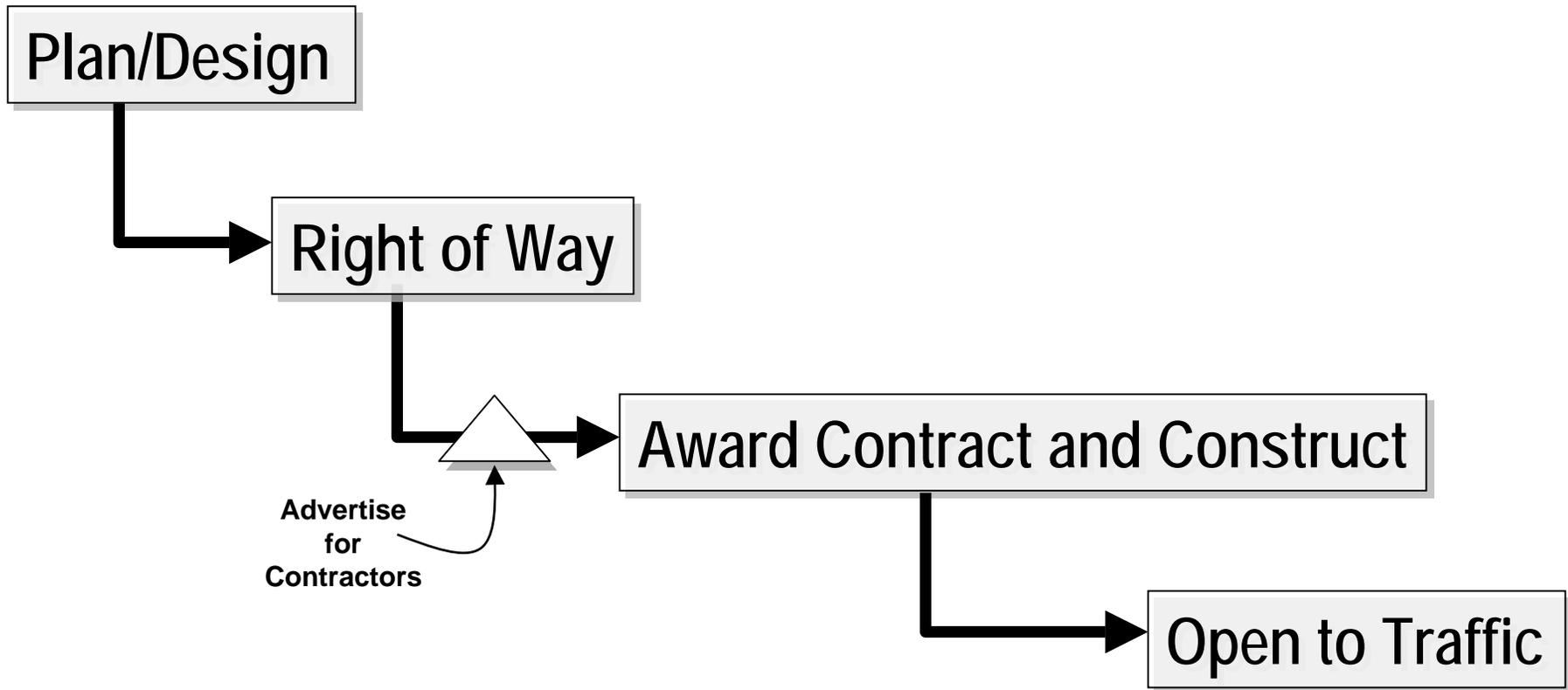
-Substance will not be discussed-

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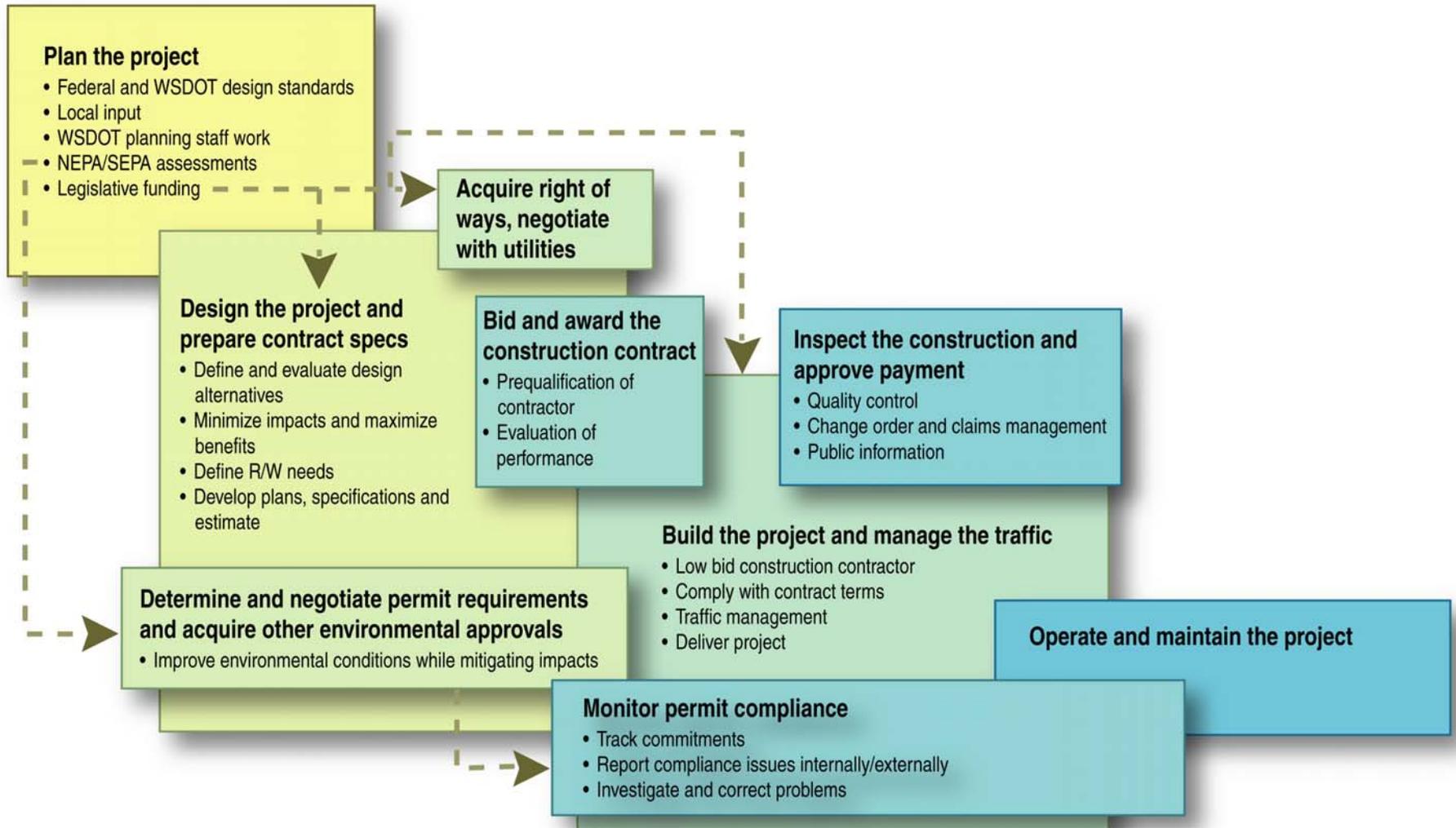
As reported last quarter, since the opening of bids was being delayed until late in 2004, WSDOT is requesting to delay \$28.8 million for the 2003-2005 biennium, moving \$16.2 million to the 2005-2007 biennium and \$12.6 million the 2007-2009 biennium. Working with engineering consultants, WSDOT has sequenced the construction of two bridges in the project to allow for acceleration of other construction activities during the 2005 construction season and delaying some construction activities until 2006. These changes were approved by the Washington State Transportation Commission last quarter.

These refinements take into account the loss of the 2004 construction season and the proposed delay of the open to traffic date by nine months, to November 2006. However, even with these delays, the plan continues to be that the project will be delivered as originally intended, in time for the opening of the new Tacoma Narrows Bridge in 2007.

The scheme of project delivery seems simple



The reality reveals complexity and “one of a kind” qualities



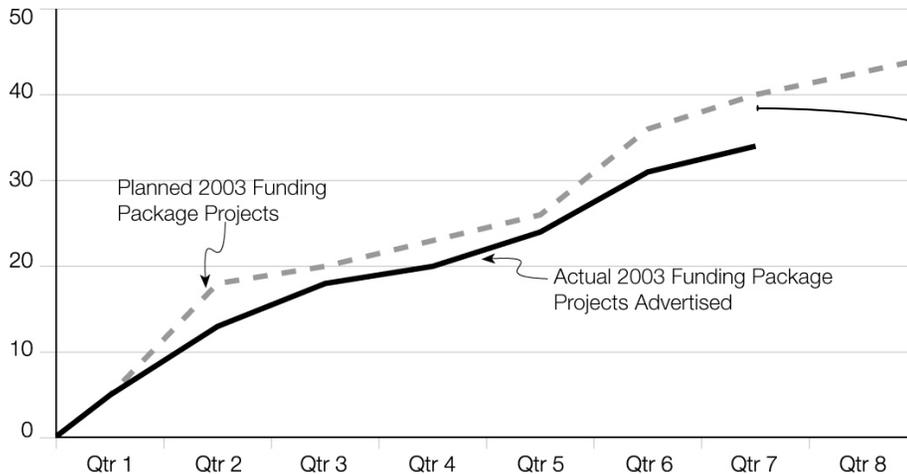
Do we deliver the projects when we say we will?

Highway Project Bid Advertisements (Nickel Funding)

Highway Construction Program Advertising 2003 Transportation Funding Package (Nickel Funds)

Planned vs. Actual Number of Projects Advertised
2003 - 2005 Biennium, Quarter 7 ending March 31, 2005

Project Count



Gray Notebook narrative detail accounts for the gap.

For example:

SR 3/SR 303 Interchange (Waaga Way) – New Ramp

Project redesign and remaining work on the environmental permits has delayed the advertisement of this project from December 2004 to May 2005.

SR 7/SR 507 to SR 512 – Safety

Local and state elected officials requested that WSDOT delay the project to allow time to pursue additional funding for landscaping and other desirable adjuncts to the project requested by the local community. The ad date is now May 2005.

SR 167, 15th St. SW to 15th St. NW – HOV

Because funding uncertainties had caused the design of this project to sit “on the shelf” for many years, additional time was needed for redesign of stormwater treatment, wetland mitigation and floodplain investigations to meet today’s applicable environmental requirements. This project now has a planned advertisement date of October 2005.

SR 9/SR 522 to 228th St. SE – Widening

SR 9, 228th St. SE to 212th St. SE (SR 524)

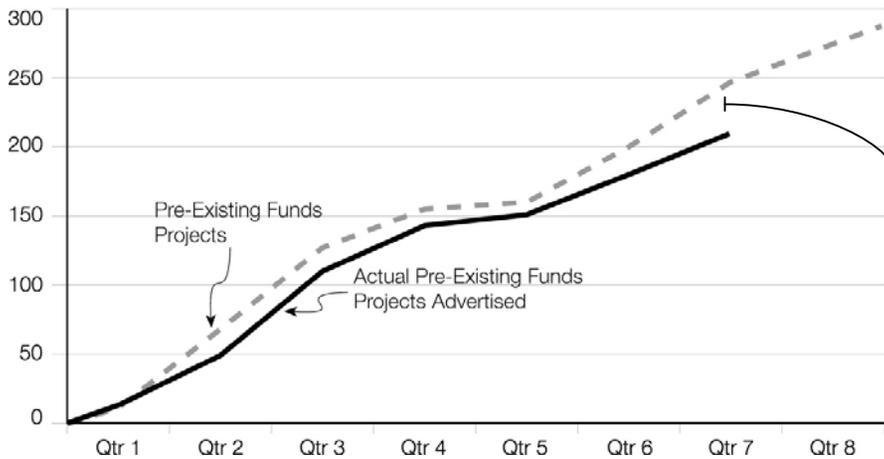
(Projects combined for efficiency)

Delays in completing the design, receiving environmental permits and obtaining right of way have resulted in a three month project advertisement slip from February to May 2005.

Highway Project Bid Advertisements (Pre-Existing Funding)

Highway Construction Program Advertisements Pre-Existing Funds Projects

Planned vs. Actual Number of Projects Advertised
2003 - 2005 Biennium, Quarter 7 ending March 31, 2005
Project Count



Gray Notebook narrative detail accounts for the gap. For example:

SR 164/SE 436th Street to High Point Street - Paving

This advertisement is being delayed four months from January 2005 to May 2005. Additional time is needed to obtain King County approval for acquiring a wetland mitigation parcel. The parcel is required in order to receive an environmental permit from the U.S. Army Corps of Engineers. This delay should not affect the construction schedule for this project.

SR 524/I-5 to Floral Hills Cemetery Vicinity - Paving

This advertisement is being delayed two months from February 2005 to April 2005. Additional time is needed to analyze bridge rail options and complete necessary local agency agreements. However, the construction schedule will be completed in 2006 which is one year earlier than originally planned because only one construction season is needed to complete this project.

SR 524/Floral Hills Cemetery to Richmond Road Vicinity - Paving

The advertisement is being delayed three months from January 2005 to April 2005. The delay is due to issues with companion project SR 524/I-5 to Floral Hills Cemetery Vicinity - Paving and local agency agreement coordination delays. This delay should not affect the construction schedule for this project.

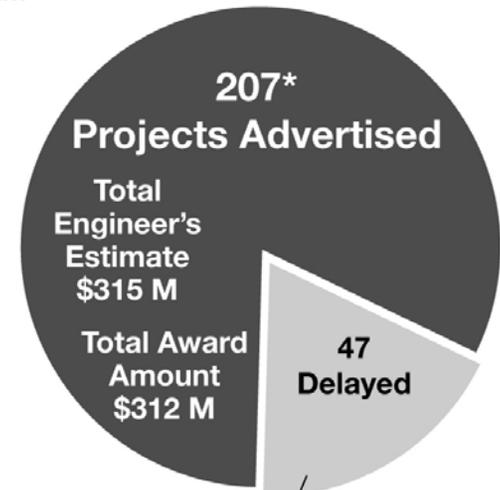
Pre-Existing Funds Projects: A snapshot of quarterly progress and total progress to date

End of Last Quarter
December 31, 2004



| | Projects Through Last Quarter | This Quarter's Progress | Biennium to Date Total |
|--------------------------------|-------------------------------|-------------------------|------------------------|
| Projects Advertised | | | |
| As Scheduled | 124 | 21 | 145 |
| Project Ads Early | 14 | 1 | 15 |
| Project Ads Late | 38 | 5 | 43 |
| Emergency Projects | 4 | 0 | 4 |
| Total Advertised | 180 | 27 | 207 |
| Projects Delayed | | | |
| Still within the biennium | 17 | 5 | 22 |
| Out of the biennium (deferred) | 8 | 17 | 25 |
| Total Delayed | 25 | 22 | 47 |
| Projects Deleted | | | |
| Projects Deleted | 3 | 1 | 4 |
| Total Deleted | 3 | 1 | 4 |

End of This Quarter
March 31, 2005



These projects have been delayed due to challenges with:

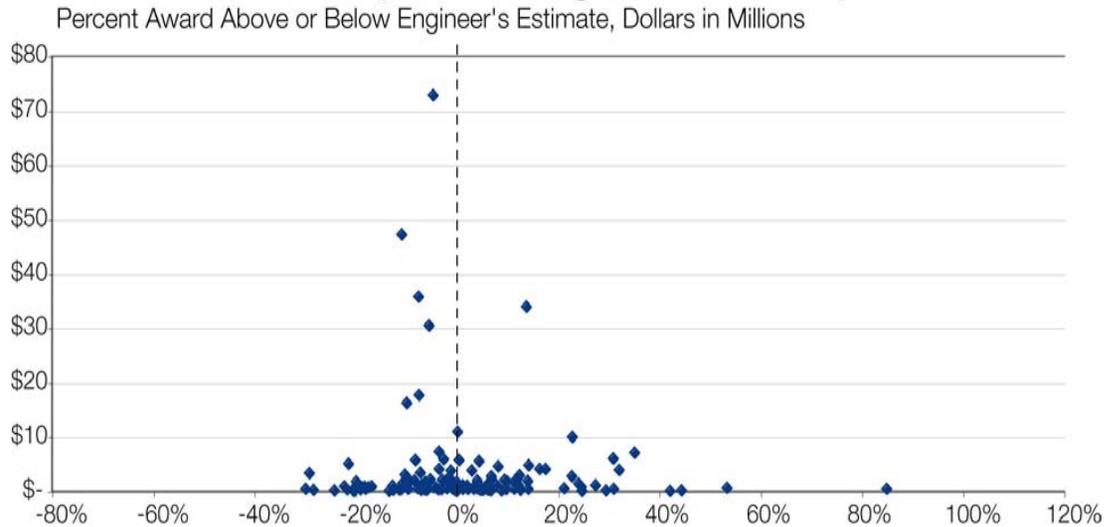
- Environmental Permitting
- Right of Way Acquisition
- Changes in Design
- Consolidating Projects for Efficiency

*Total includes I-405/NE 44th St. Vicinity project that was originally planned for advertisement in quarter 7 but was completed in quarter 1.

Do the projects cost what we expect?

Comparing bid award amount to estimate

Individual Contracts (Award to Engineer's Estimate) Gray Notebook Report for July 1, 2004 to June 30, 2005

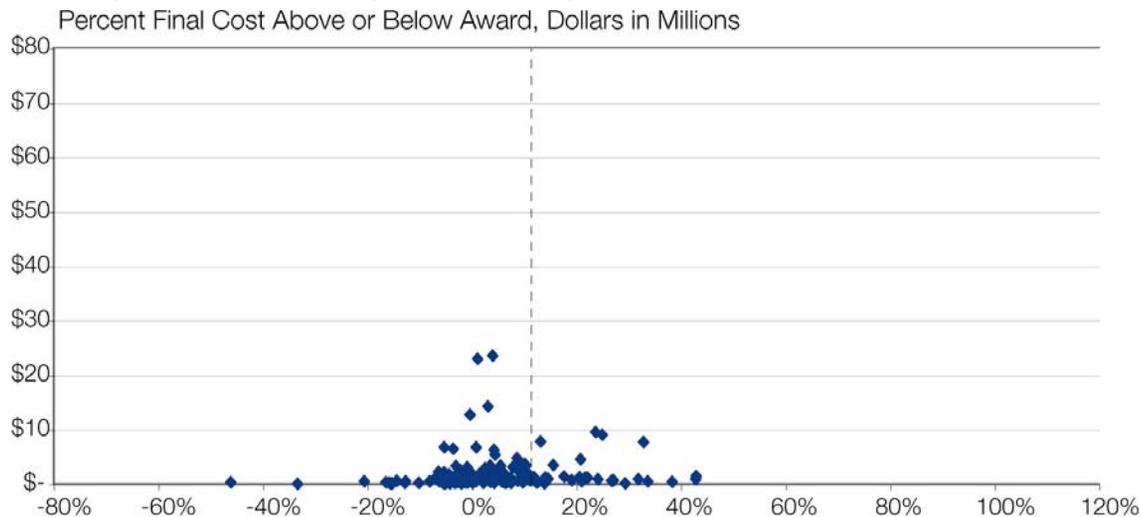


| Awarded Contracts: Year-to-Year Comparison | FY2002 | FY2003* | FY2004 | FY2005 |
|---|---------------|---------------|---------------|---------------|
| Number of construction contracts awarded during the fiscal year | 177 | 176 | 129 | 133 |
| Total of the engineer's estimates for highway construction contracts during the fiscal year | \$277,091,361 | \$355,420,644 | \$398,923,582 | \$469,945,722 |
| Total award amount for highway construction contracts during the fiscal year | \$250,561,516 | \$314,534,831 | \$389,592,349 | \$460,607,742 |
| Percent that the total award amount fell below the engineer's estimate | 9.6% | 11.5% | 2.3% | 2.0% |

*Does not include Tacoma Narrows Bridge or the Hood Canal Bridge Contract.

Comparing Final Contract Costs to Contract Award Value

Individual Contracts (Final to Award) Gray Notebook Report for July 1, 2004 to June 30, 2005



| Final Cost: Year-to-Year Comparison | FY2002 | FY2003 | FY2004 | FY2005 |
|--|---------------|---------------|---------------|---------------|
| Number of highway contracts completed during the fiscal year | 122 | 175 | 147 | 155 |
| Total award amount for highway construction contracts completed during the fiscal year | \$196,000,000 | \$351,525,709 | \$274,495,656 | \$280,396,785 |
| Total final cost for highway construction contracts completed during the fiscal year | \$213,953,965 | \$375,244,919 | \$294,482,387 | \$294,988,223 |
| Percent that the total final cost exceeded the total award amount | 9.2% | 6.7% | 7.3% | 5.2% |

Recap of twelve Nickel Projects completed as of March 31, 2005

| Project Identification | On Time Advertised | On Time Completed | Within Scope | On Budget (Final Construction Cost Dollars in Thousands) | | |
|---|--------------------|-------------------|--------------|---|------------------|----------------------|
| | | | | Planned | Actual | |
| 1) SR 9/SR 528 Intersection – Signal | ✓ | ✓ | ✓ | \$ 710 | \$ 565 | 20% Under |
| 2) I-90, Cle Elum River Bridge | ✓ | ✓ | ✓ | 1,272 | 784 | 38% Under |
| 3) I-90, Geiger Road to U.S. 2 Median Barrier | Early | Early | ✓ | 781 | 781 | ✓ |
| 4) I-90, Highline Canal to Elk Heights – Truck Climbing Lanes | Early | Early | ✓ | 4,200 | 4,483 | 2% Over ¹ |
| 5) I-90, Ryegrass Summit to Vantage – Truck Climbing Lanes | Early | Early | ✓ | 8,389 | 8,389 | ✓ |
| 6) I-90, Sullivan – State Line Median Barrier | Early | Early | ✓ | 1,040 | 973 | 6% Under |
| 7) SR 97A, Entiat Park Entrance– Turn Lanes | ✓ | Early | ✓ | 196 | 136 | 31% Under |
| 8) SR 124, East Jct SR 12 – Reconstruction | ✓ | ✓ | ✓ | 295 | 295 | ✓ |
| 9) I-182/U.S. 395 Interchange – Roadside Safety | ✓ | Early | ✓ | 76 | 59 | 22% Under |
| 10) SR 203, NE 124th/Novelty Road Vicinity | ✓ | Early | ✓ | 1,487 | 1,487 | ✓ |
| 11) U.S. 395, Kennewick Variable Message Sign | ✓ | Late | ✓ | 332 | 308 | 7% Under |
| 12) SR 500, NE 112th Ave. – Interchange | Early | Early | ✓ | 21,300 | 21,300 | ✓ |
| Cumulative Cost to Date | | | | \$ 40,078 | \$ 39,560 | |

Additional table is being prepared on Schedule to Advertisement and Award Contract to Engineers Estimate on 29 Nickel projects currently in construction but not yet completed.

Construction Traffic Management

WSDOT does not yet have measures for construction traffic management.

Initiatives to minimize and mitigate construction traffic impacts:

Public Information

- Exhaustive media outreach; regular media and traffic reports
- HARs, 511, Website, Variable Message Signs

Maintain number of lanes

Use nighttime and weekend construction (at cost premium!)

Total short-term closures to eliminate long-term inconvenience: “Get in, get out, stay out.”

A + B Bidding and Contractor incentives

Focused Incident Response program in work zones

Improved physical protection (barriers) for workers

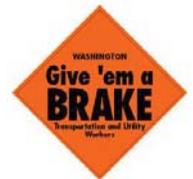
Targeted traffic violation enforcement in work zones to minimize accidents and backups

“Give ‘em a Brake” campaign

Work Zone Safety Statistics

| | |
|---|-------|
| Total miles of state highways: | 7,048 |
| Work zone deaths from 1999 – 2003: | 41 |
| Work zone injuries from 1999 – 2003: | 3,709 |
| Number of work zone accidents involving alcohol from 1996-2000: | 772 |
| Number of work zone accidents involving property damage from 1999-2003: | 5521 |
| Number of work zone collisions WSDOT’s IR program responded to in 2004: | 745 |

Note: Trend information now being developed



Achieving project cost efficiency gains

Efficiency Gains for Hot Mix Asphalt Pavements

Hot mix asphalt surface life has improved by 14 percent (statewide) over the last six years, while over the same time period the vehicle miles traveled on asphalt paved roadways has increased by approximately 10 percent.

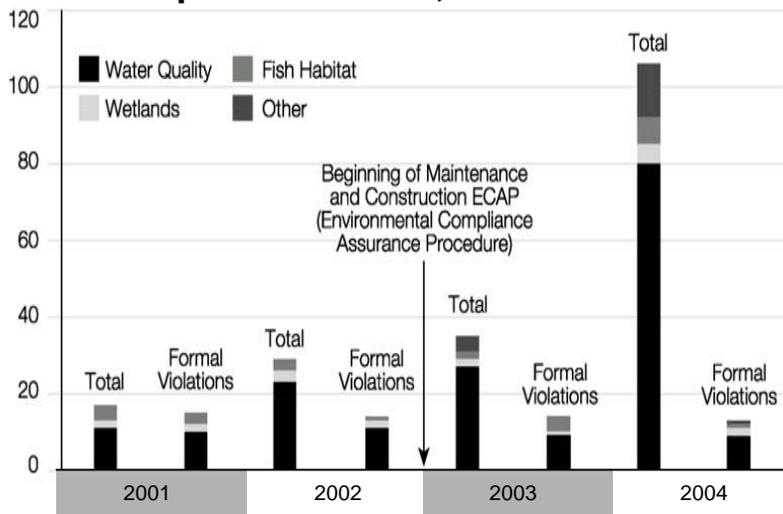
Factors include:

- Paving specification for use of performance grade binders selected for expected climate and traffic conditions
- Use of Superpave mix designs keyed to temperature and traffic expectations
- Improved asphalt pavement repair and asphalt placement techniques
- Better attention to construction details and inspection
Increased experience with LLCC rehabilitation programming

Gray Notebook, December 31, 2003, p. 40

Meeting Environmental Construction permit requirements

Water Quality Compliance Measures Non Compliance Events, 2001-2004



Source: WSDOT Environmental Services Office.

Erosion and Sediment Assessment Result Trends

Achieved on what percentages of projects?

| | Assessment Measure | 2002 | 2003 | 2004 | Status |
|------------------|---|------|------|------|-------------|
| Excellent | Delineate clearing limits | 100% | 100% | 100% | stable |
| | Sediment control BMPs installed on time | 90% | 90% | 100% | improved |
| | Control other pollutants from impacting water quality | | | 100% | new measure |
| | Control flow rates | 87% | 84% | 100% | improved |
| | Removal of water | 100% | 71% | 100% | improved |
| Good | Access routes prevent tracking of mud onto streets | 98% | 69% | 91% | improved |
| | Protect cut & fill slopes | 67% | 50% | 89% | improved |
| | Storm drain inlet protection | 74% | 82% | 83% | stable |
| Fair | Manage project erosion/sediment control BMPs proactively | 56% | 75% | 80% | improved |
| | Channels for temporary stormwater conveyance are stabilized | 90% | 64% | 73% | improved |
| Poor | Erosion control BMPs installed on time | | | 67% | new measure |
| | Amount of disturbed soil covered with erosion control BMPs | 65% | 45% | 65% | improved |
| | Site preparedness to resist erosion | 86% | 80% | 48% | decreased* |
| | Maintain BMPs | 70% | 70% | 50% | decreased |

* In previous years, only the potential to discharge sediment to receiving water bodies was considered during assessments, which suggested a high level of performance. In 2004, the scope of site vulnerability was broadened to include site damage, resulting in a perceived decrease in performance.

Design Quality

- WSDOT has not yet developed performance measures for the design quality of its projects
- One aspect of design quality is the performance of WSDOT's Value Engineering Program
- WSDOT does not use “change orders as percent of contract cost” as a design quality performance standard because of the confounding variable presented by WSDOT's risk optimization strategies where WSDOT intentionally retains the risk of most unforeseen differing site conditions
- Design quality evaluation is becoming more complex because of new expectations for non-standard “Context Sensitive Solutions.”

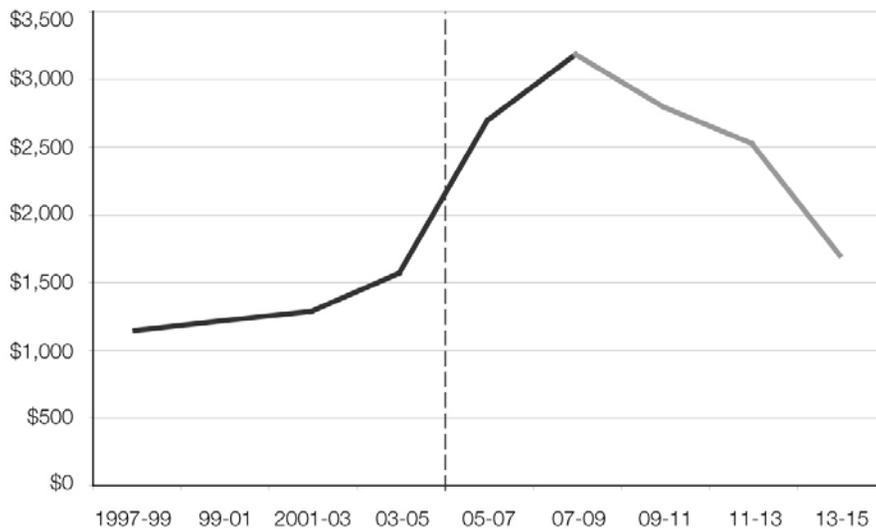
| Value Engineering Performance Trends | | | | |
|--|-------------|-------------|-------------|-------------|
| Value Engineering Performance Measures | 2001 | 2002 | 2003 | 2004 |
| Net project savings in millions | \$57 | \$71 | \$41 | \$81 |
| Recommendations implements | 74% | 80% | 77% | 84% |
| Recommendations that reduced right-of-way or environmental impacts | 41% | 39% | 46% | 61% |
| Recommendations that enhanced operational performance | 46% | 56% | 46% | 55% |
| Recommendations that improved constructability | 37% | 38% | 63% | 74% |
| Recommendations that compressed delivery schedule | 35% | 24% | 63% | 53% |
| Recommendations that developed partners or consensus | 51% | 58% | 29% | 45% |

Graph on increased size of construction program and budget for WSDOT construction program workforce

Trend for Highway Capital Expenditures

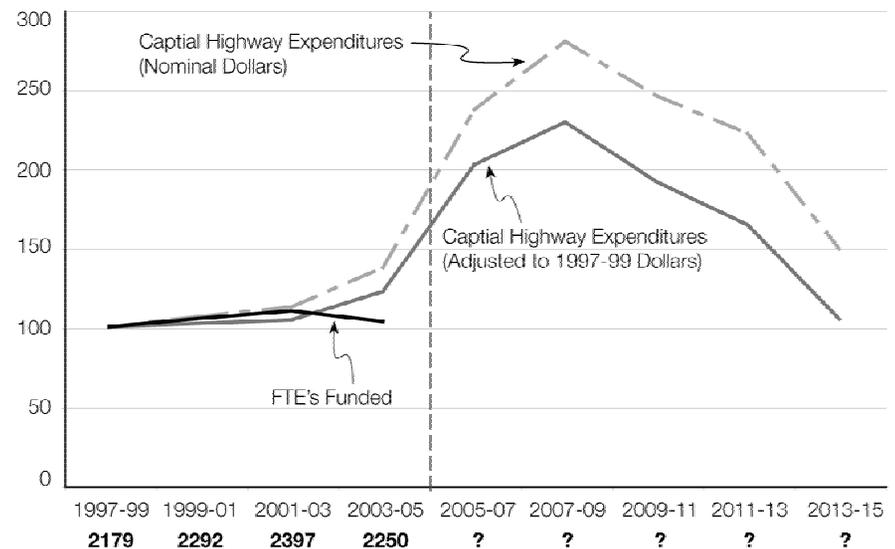
Actual and Projected 1997-2015

Dollars in Millions (Nominal Dollars)

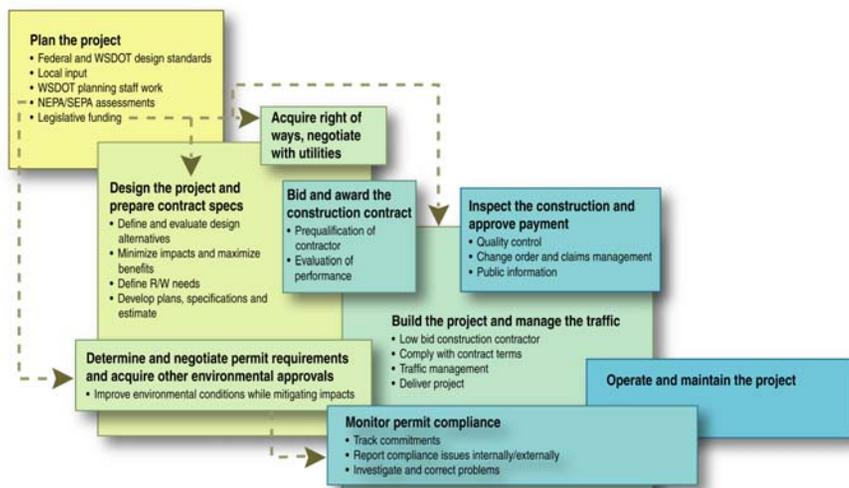


Capital Highway Expenditures and FTE's 1997-2015

Change Relative to 1997 equals base 100



Issues for WSDOT's Optimum Project Delivery Effectiveness



Internal Needs

- Modern project delivery management information systems
- Recruitment, retention and skill-building for project delivery, management and engineering professionals
- Predictability and stability of capital funding
- Greater flexibility in procurement requirements and procedures

External Issues

- Contractor capacity
 - Scale of resources
 - Bonding capacity
 - Competitiveness of bidding environment
- Engineering consultant capacity
 - Availability and suitability of personnel
 - High cost; issues of coordination
- Exposure to inflation in material and labor costs
- Delay, complexity and cost escalation for right-of-way acquisition and utilities coordination
- Process and cost burdens of environmental assessment and permitting, especially for Federal ESA
- Difficulty of achieving public consensus on *almost anything* involving major issues of transportation investment