



**Washington State  
Department of Transportation**

# Measures, Markers and Mileposts

## ***Gray Notebook Lite***

for the quarter ending September 30, 2004

WSDOT's quarterly report to the  
Washington State Transportation Comm  
on transportation programs and depart

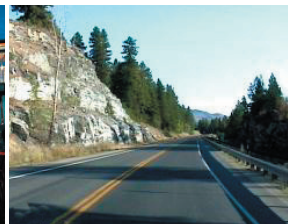
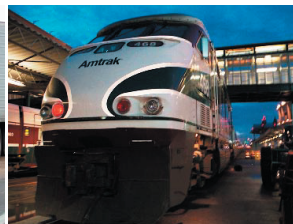
**Douglas B. MacDonald**  
Secretary of Transportation



**Washington State  
Department of Transportation**

This *Gray Notebook Lite* is the third edition of relevant highlights and performance topics selected from the *Gray Notebook*. This quarter's edition of *Lite* includes excerpts from the annual congestion measurement and bridge condition updates as well as the "Nickel Projects" delivery summary and the top highway High Accident Locations and Corridors. The full *Gray Notebook* can be found at [www.wsdot.wa.gov/accountability/](http://www.wsdot.wa.gov/accountability/). Please let us continue to hear your thoughts about what you would like to see in *Gray Notebook Lite*. Send me an e-mail at [macdond@wsdot.wa.gov](mailto:macdond@wsdot.wa.gov).

*Doug MacDonald*



## Annual Bridge Condition Update

WSDOT reports the condition of its bridges to the Office of Financial Management using the Governmental Accounting Standards Board (GASB) standards each year. WSDOT's policy is to maintain 95% of its bridges at a structural condition of at least fair. The assessment in 2004 found that state-owned bridges met this standard: just 3% of bridges showed a condition rating of "poor." No bridge that is currently rated as "poor" is unsafe for public travel. Bridges determined to be unsafe are closed to traffic.

| Category | Description                                                                                                           | 2001 | 2002 | 2003 | 2004 |
|----------|-----------------------------------------------------------------------------------------------------------------------|------|------|------|------|
| Good     | A range from no problems to some minor deterioration of structural elements                                           | 85%  | 87%  | 86%  | 87%  |
| Fair     | All primary structural elements are sound but may have deficiencies such as minor section loss, deterioration, etc.   | 11%  | 10%  | 11%  | 10%  |
| Poor     | Advanced deficiencies such as section loss, deterioration, etc., that seriously affect primary structural components. | 4%   | 3%   | 3%   | 3%   |

### Bridge Rehabilitations and Replacements

The following bridge replacements/rehabilitations are currently under construction:

#### SR 104 – Hood Canal Bridge

WSDOT is replacing the aging east-half floating portion and widening the west-half superstructure of the Hood Canal Bridge. More information is available at: [www.wsdot.wa.gov/projects/sr104hoodcanalbridgeeast/](http://www.wsdot.wa.gov/projects/sr104hoodcanalbridgeeast/)

#### SR 240 – Yakima River Bridge at Richland

This project will replace the existing bridge over the Yakima River. More information is available at: [www.wsdot.wa.gov/regions/southcentral/Construction/update.htm#6522](http://www.wsdot.wa.gov/regions/southcentral/Construction/update.htm#6522)



SR 104 - Hood Canal Bridge



SR 240 - Yakima Bridge

## Highway Safety: Top Ten High Accident Locations and Corridors

WSDOT regularly reviews the accident history of all state highways to look for locations with high accident problems. Two approaches used in these reviews are identifying High Accident Locations (HALs) and High Accident Corridors (HACs). The top ten HAC and HAL locations and descriptions are found in the tables on pages 43 and 44 in the *Gray Notebook*, together with information on the current project status. An excerpt representing the top two for each category follows.

### Top Two HACs 2005 - 2007

- *I-5 Tukwila-Vicinity South Center Blvd. to Duwamish River Bridge*- project being evaluated for scope of work, currently unfunded.
- *SR 7 Parkland Vicinity 112th* - project in design phase to construct sidewalks, retaining walls, illumination, and consolidate access points (Nickel Project).

### Top Two HALs 2005 - 2007

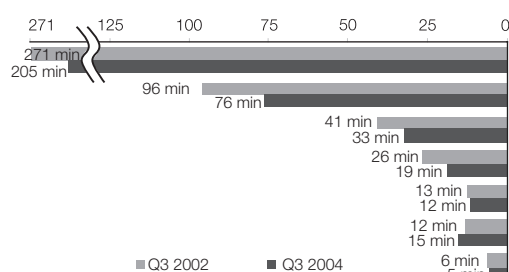
- *SR 9 Clearview Vicinity - 164th St, Shopping Center Vicinity*- project under construction: installing traffic signal, illumination, extending right turn pockets, adding southbound lane near SR 96 and adding sidewalks (Nickel Project).
- *SR 522 Bothell -Vicinity 73rd Avenue* - project under construction: installing transit queue jumps, sidewalks and medians, improving crosswalks (Nickel Project).

## Incident Response Comparisons for 2002 and 2004

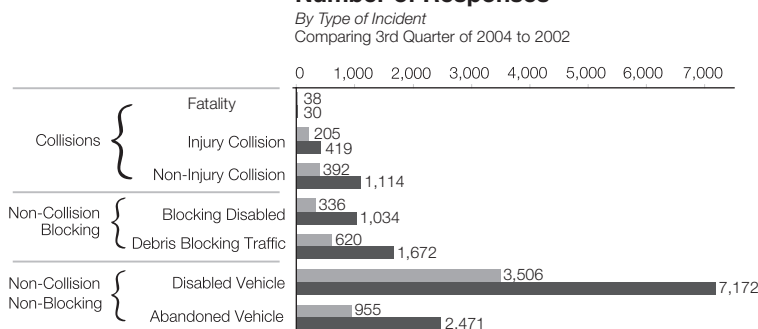
The chart below compares incident response types with average clearance times for July - September 2002 and July - September 2004. Since 2002, the number of responses has increased in all categories except fatal collisions (38 in quarter 3, 2002 and 30 in quarter 3, 2004). The least common types of incidents are the most time consuming to clear. Clearance

times for all types of incidents statewide have remained steady or decreased (the slight increase in the non-blocking disabled vehicle category is not part of an increasing trend over the two years.) During quarter 3, 2004 there were more disabled or abandoned vehicles on the roadside (i.e., not directly blocking travel lanes) than any other type of incidents. The charts categorize data in "primary" incident types only. All incidents are divided into these seven categories. For more detail and the rest of the story please see pages 58-61 of the *Gray Notebook*.

**Average Clearance Time**  
By Type of Incident  
Comparing 3rd Quarter of 2004 to 2002



**Number of Responses**  
By Type of Incident  
Comparing 3rd Quarter of 2004 to 2002



## Measuring Delay and Congestion

### Peak Travel Times

If you travel at the peak time of the weekday commute, how long on average does your trip take? Was the average for 2003 better or worse than for 2002? WSDOT compared the average peak commute travel times for several typical commuting routes in the Central Puget Sound area.

The commuting route showing the greatest improvement was the 9.8 mile afternoon commute from Renton to Auburn where the average peak time fell from 19 minutes in 2002 to 16

minutes in 2003. The route with the worst deterioration was the morning commute from Redmond to Bellevue via SR 520, which rose to 10 minutes in 2003 from 9 minutes in 2002 (an 11 percent increase). The table below is an excerpt of information on 20 commute routes presented in the *Gray Notebook* on page 45.

### Key Commute Routes—Changes in Travel

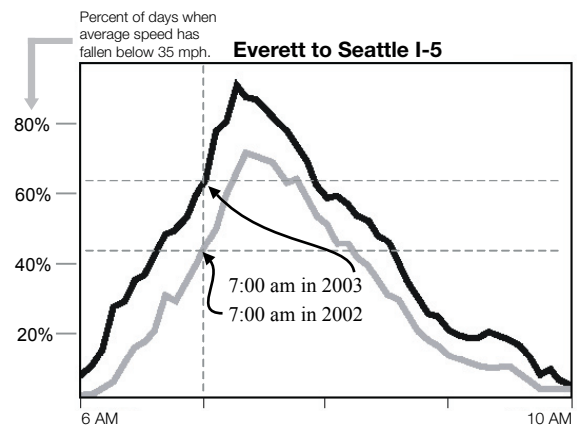
#### Time Performance: 2002 to 2003

| Route        | Route Description   | Peak time | Length in Miles | Peak Travel Time |                |                  |                | 95% Reliable Travel Time |                |                  |                | Number of Days When Travel Times Exceeded Twice the Time Associated with Freeflow |             |
|--------------|---------------------|-----------|-----------------|------------------|----------------|------------------|----------------|--------------------------|----------------|------------------|----------------|-----------------------------------------------------------------------------------|-------------|
|              |                     |           |                 | 2002 (minutes)   | 2003 (minutes) | Change (minutes) | Percent Change | 2002 (minutes)           | 2003 (minutes) | Change (minutes) | Percent Change | 2002 (days)                                                                       | 2003 (days) |
| SR 167       | Renton to Auburn    | 5:20 PM   | 9.8             | 19               | 16             | -3               | -16%           | 37                       | 27             | -10              | -27%           | 92                                                                                | 53          |
| I-5          | Seattle to SeaTac   | 3:40 PM   | 13.0            | 19               | 18             | -1               | -5%            | 28                       | 22             | -6               | -21%           | 30                                                                                | 4           |
|              |                     |           |                 |                  |                |                  |                |                          |                |                  |                |                                                                                   |             |
| I-5/SR 520   | Seattle to Redmond  | 5:30 PM   | 14.7            | 25               | 27             | 2                | 8%             | 34                       | 37             | 3                | 9%             | 63                                                                                | 70          |
| SR 520/I-405 | Redmond to Bellevue | 7:50 AM   | 7.2             | 9                | 10             | 1                | 11%            | 11                       | 12             | 1                | 9%             | 1                                                                                 | 4           |

Routes in this table are ranked by this column from the largest percent improvement to the largest percent deterioration.

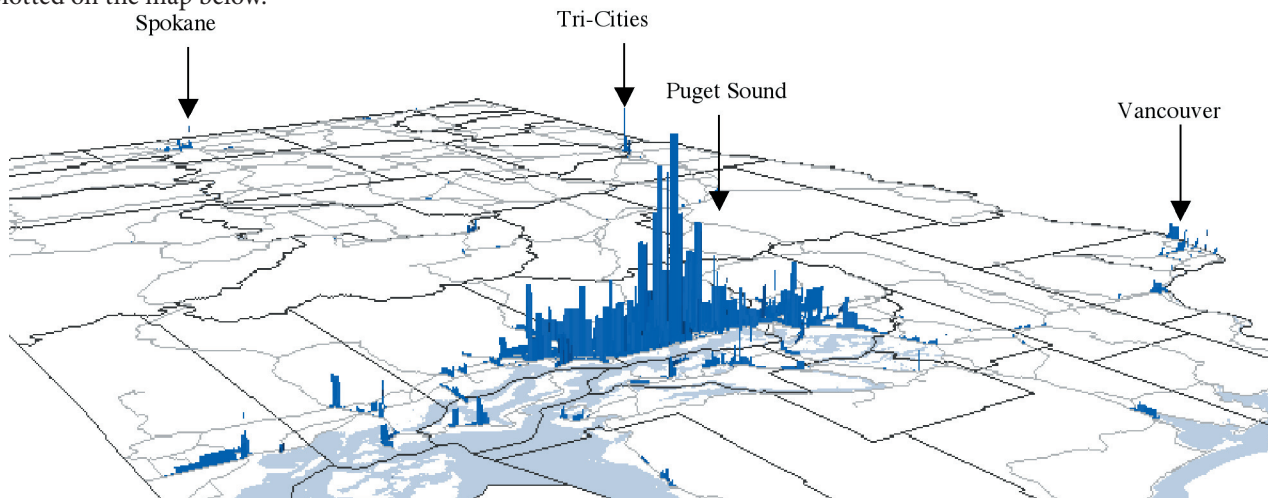
### Percent of Days When “Snapshot” Speeds Were Less Than 35 MPH

In order to further examine travel time data, WSDOT charted 20 commute routes for each five minute interval of the morning and afternoon commute period, showing the *percentage of days in the year when, at that precise time, traffic was moving on average for the whole route at less than 35 mph.* In the example for I-5 shown in the graph, at 7 am in 2002, there was a 45 percent chance that traffic was moving less than 35 mph. In 2003 the situation became worse (black line above the gray); at 7 am the chance that traffic would be moving slower than 35 mph was about 65 percent. For the remaining 19 commutes, see page 48 of the *Gray Notebook*.



### Relative Delay in Washington’s Urban Areas

Travelers on the roadway system experience congestion as delay. Delay is measured based on the difference between travel times and what the travel time would have been if traffic had been going the speed limit. It indicates which roadways are congested and gives a rough comparative indication of the severity of congestion and how long it lasts. The average vehicle hours of delay per day, mile by mile on state highways is plotted on the map below.



### Case Studies Show Before and After Results of System Improvements

For details on WSDOT’s four case studies that analyze system improvements for ramp metering, ramp separation, restriping, and an HOV extension, see pages 51-54 of the *Gray Notebook*.

## Washington State Ferry System

### Customer Complaints

The total number of customer complaints was up 14 percent from the preceding quarter (which had shown the best quarterly performance ever on record).

### Trip Reliability

Trip reliability improved six percent compared to the same quarter last year. WSDOT recorded 1.6 missed sailings per 400 sailings in the first quarter FY 2005.

### On-Time Performance

Overall performance was up six percent compared to the same quarter last year. Performance improved from 5.3 minutes in the first quarter FY 2004 to 2.3 minutes in the first quarter FY 2005 for average delay from scheduled sailing time (see table below).

For more information and analysis on Washington State Ferries see the *Gray Notebook*, pages 69-72.

## Rail

### Amtrak Cascades

Ridership on state-supported Amtrak *Cascades* trains was 111,404 in the third quarter of 2004. This represents a slight increase of 1.4 percent over the third quarter of 2003 and is the highest third quarter total in program history.

### Washington Grain Trains

The Washington Grain Train carried 287 carloads of grain to Columbia River ports in the third quarter. This represents an 11 percent increase when compared to the third quarter of 2003 and a 20 percent increase compared to year to date for 2003.



Amtrak *Cascades* trains began stopping at the new Skagit Transportation Center on September 13th.

|                                  | 1st Quarter<br>FY 2004 |                                                      |                                                             | 1st Quarter<br>FY 2005 |                                                      |                                                             |
|----------------------------------|------------------------|------------------------------------------------------|-------------------------------------------------------------|------------------------|------------------------------------------------------|-------------------------------------------------------------|
| Ferries                          | Number of<br>Trips     | Percent of Trips<br>Within 10 Minutes<br>of Schedule | All Trips Average<br>Delay From Sched-<br>uled Sailing Time | Number of<br>Trips     | Percent of Trips<br>Within 10 Minutes of<br>Schedule | All Trips Average<br>Delay From Sched-<br>uled Sailing Time |
| San Juan Domestic                | 6,797                  | 62%                                                  | 11.2 Minutes                                                | 7,198                  | 72%                                                  | 8.3 Minutes                                                 |
| International Route              | 343                    | 70%                                                  | 9.5 Minutes                                                 | 338                    | 81%                                                  | 5.8 Minutes                                                 |
| Edmonds-Kingston                 | 4,505                  | 91%                                                  | 4.3 Minutes                                                 | 4,554                  | 87%                                                  | 5.0 Minutes                                                 |
| Pass-Only Seattle - Bremerton    | 1,564                  | 97%                                                  | 2.8 Minutes                                                 | N/A                    | N/A                                                  | N/A                                                         |
| Pass-Only Seattle - Vashon       | 1,042                  | 97%                                                  | 1.8 Minutes                                                 | 957                    | 98%                                                  | 1.7 Minutes                                                 |
| Fauntleroy - Vashon - Southworth | 10,786                 | 84%                                                  | 5.1 Minutes                                                 | 10,412                 | 91%                                                  | 3.4 Minutes                                                 |
| Keystone - Port Townsend         | 2,541                  | 77%                                                  | 6.7 Minutes                                                 | 2,596                  | 89%                                                  | 4.2 Minutes                                                 |
| Mukilteo - Clinton               | 6,634                  | 97%                                                  | 2.8 Minutes                                                 | 6,701                  | 96%                                                  | 2.7 Minutes                                                 |
| Pt. Defiance - Tahlequah         | 2,589                  | 87%                                                  | 5.3 Minutes                                                 | 2,932                  | 96%                                                  | 3.0 Minutes                                                 |
| Seattle - Bainbridge Island      | 4,010                  | 93%                                                  | 3.7 Minutes                                                 | 4,051                  | 94%                                                  | 3.8 Minutes                                                 |
| Seattle - Bremerton              | 2,523                  | 96%                                                  | 3.1 Minutes                                                 | 2,531                  | 95%                                                  | 3.3 Minutes                                                 |
| <b>Total</b>                     | <b>43,334</b>          | <b>85%</b>                                           | <b>5.3 Minutes</b>                                          | <b>42,270</b>          | <b>89%</b>                                           | <b>4.3 Minutes</b>                                          |

## How to Find Performance Information

The electronic subject index gives readers access to current and archived performance information. The comprehensive index is easy to use and instantly links to every performance measure published to date. Measures are organized alphabetically within nineteen program areas. A click on the subject topic and edition number provides a direct link to that page. A copy of the subject index is also provided in the back of each edition. To access the index electronically, visit: [www.wsdot.wa.gov/accountability/graybookindex.htm](http://www.wsdot.wa.gov/accountability/graybookindex.htm).

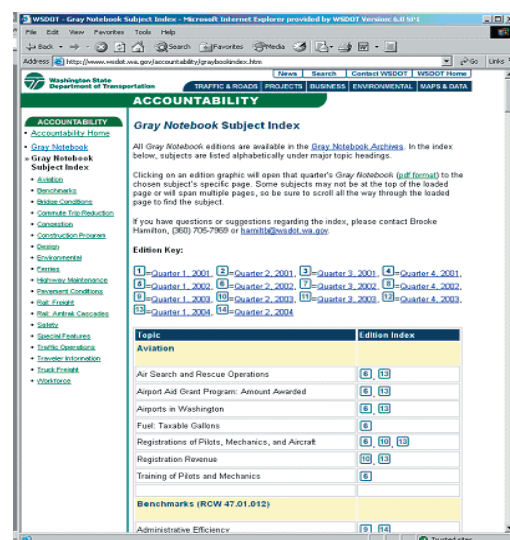
The information presented here is a snapshot of what you'll find in the full version of the Gray Notebook. For detailed information, please refer to the unabridged copy (September 30, 2004) always available on line at: [www.wsdot.wa.gov/accountability/](http://www.wsdot.wa.gov/accountability/)

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Cover Photos:

Left to right, the ferry Wenatchee approaches Pier 52 in Seattle, Incident Response Truck, Amtrak Cascades, U.S. 395 in Stevens County



## Beige Pages: Project Reporting on the 2003 Transportation Funding Package For the quarter ending September 30, 2004

WSDOT's Web site provides information on almost every project at [www.wsdot.wa.gov/projects](http://www.wsdot.wa.gov/projects). The *Beige Pages* begin with guidance and instruction on how to navigate to WSDOT's on-line project pages where you can find more detailed project information. The project information is updated regularly.

### Roadmap to On-line Project Information

The diagram below is a roadmap to the information found on-line. The on-line version of the *Gray Notebook* as well as the Home Page has "hot links" to the individual Project Pages.

#### Project Information Roadmap

##### Gray Notebook

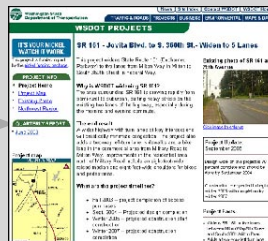


##### Home Page



##### Project Page

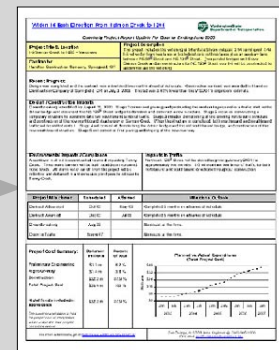
Project Pages will report on all WSDOT 2003 Transportation Fund projects. Project Pages provide detailed information that is updated regularly.



- Overall Project Vision
- Financial Table
- Funding Components
- Roll-up Milestones
- Roll-up Cash Flow
- Contact Information
- Maps and Links

##### QPR

Quarterly Project Reports will summarize quarterly activities.



- Highlights
- Milestones
- Status Description
- Problem Statement
- Risk Challenges
- Project Costs/Cash Flow
- Contact Information

### Projects Advertised and Completed

As of September 30, 2004, 24 highway projects in the 2003 Transportation Funding Package have been advertised, 5 of the 24 have been completed.

#### Projects Completed

- 1) 97A, Entiat Park Entrance – Turn Lanes
- 2) I-90, Highline Canal to Elk Heights –Truck Climbing Lanes
- 3) I-90, Sullivan –State Line Median Barrier
- 4) SR 124, East Jct SR 12 – Reconstruction
- 5) I-182/U.S. 395 Interchange – Roadside Safety

#### Projects Advertised

- 6) I-5, 2nd Street Bridge – Replace Bridge
- 7) I-5, Salmon Creek to I-205
- 8) I-5, Roanoke Vicinity Noise Wall
- 9) SR 9/SR 528 Intersection – Signal
- 10) SR 18, Covington to Maple Valley Highway
- 11) SR 31, Metaline Fall to International Border
- 12) I-90, Argonne to Sullivan Road  
(includes: I-90, Argonne to Pine Road)
- 13) I-90, Eastbound Ramps to SR 18 - Signal
- 14) I-90, Cle Elum River Bridge

- 15) I-90, Ryegrass Summit to Vantage –Truck Climbing Lanes

- 16) I-90, Geiger Road to U.S. 2 Median Barrier
- 17) SR 161, 234th Street to 204th Street E
- 18) SR 203, NE 124th/Novelty Rd. Vic
- 19) U.S. 395, Kennewick Variable Message Sign
- 20) U.S. 395, NSC-Francis Avenue to Farwell Road
- 21) SR 500, NE 112th Ave. – Interchange
- 22) SR 527, 132nd St. SE to 112th St. SE

#### Projects Advertised But Not Awarded

- 23) SR 16, HOV - Union Ave to Jackson Avenue
- 24) SR 161, Jovita Blvd to S. 360th Street

#### Projects Awarded (includes completed projects)

The total of the award amounts for the 22 projects is \$142 million. The total of the pre-bid engineer's estimate for the awarded construction contracts is \$148 million. Two projects have been advertised, but not awarded. These projects have not been included in the engineer's estimate of \$148 million.

#### Delayed / Deferred Projects

As previously reported, five projects scheduled to be advertised prior to September 30 have not been advertised.

## Progress on Projects to Date

Several of the highway projects funded by the Nickel Account are now under construction or have reached other important milestones. Details can be found in the respective on-line Project Pages at [www.wsdot.wa.gov/projects](http://www.wsdot.wa.gov/projects). Some of these projects include:

### I-90, Build Lanes from Argonne to Pines Road

This project constructs one additional lane in each direction on I-90 and is approximately fifty percent complete. Work is proceeding to reconstruct the eastbound lanes, including drainage, noise walls, signage, and illumination. A significant milestone was met when eastbound traffic was routed to the second detour sequence on August 21, 2004. No additional impact to traffic is expected for the work remaining in this stage until early November 2004. At that time, eastbound traffic will be routed to a temporary configuration on the new paved sections of I-90 eastbound in preparation for the next detour sequence. The project remains within budget and on schedule with a planned open to traffic date of November 2005.

### U.S. 395, Kennewick Variable Message Sign

This project installs a Variable Message Sign (VMS) and camera near the north end of the Columbia River Bridge on U.S. 395 to warn drivers of congestion and accidents. Work started July 26, 2004 and is substantially complete, except for some adjustments to the camera and the video server. The adjustments are expected to make the camera and server operational by November 2004. There will be two months of additional work to connect the VMS to the WSDOT Traffic Management System.

## Watch List Projects

WSDOT is giving special attention to projects where cost, schedule or scope expectations may be at risk in the project delivery process, sometimes for reasons outside of WSDOT's control. See pages 13-15 of the *Gray Notebook* for details on all the Watch List projects.

**Eleven projects remain on the Watch List, including the two "new items added" discussed below:**

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

Work to prepare this project for advertisement in January 2005 is proceeding. WSDOT is now working to resolve the last right of way and environmental issues on the project. Negotiations for slope easements are underway. Environmental documentation and permitting work will soon be complete. Because these are being completed close to the scheduled advertisement date, it is possible that the advertisement date may be delayed, but it is not expected to interfere with the scheduled spring 2005 construction date. An update of the project outlook will be provided in the December 2004 *Gray Notebook*.

### SR 20 – Quiet Cove Road to SR 20 Spur– Safety Improvements

The Cost Risk Assessment (CRA) performed in April 2004 identified a new total project cost of \$19.8 million, an increase of \$5.4 million over the plan. Based on the CRA, the right of way acquisition costs increased \$2.2 million because of a larger number of full parcel takes and more relocations. The construction estimate increased by \$2.7 million due to wetland mitigation sites, unanticipated roadside restoration costs and geotechnical survey results impacting the design of the bridge.

Also, the CRA identified that an additional \$440,000 will be needed to cover increases in preliminary engineering. The project team is evaluating design options to offset the budget shortfall. An update of this project will be provided in the December 2004 *Gray Notebook*.

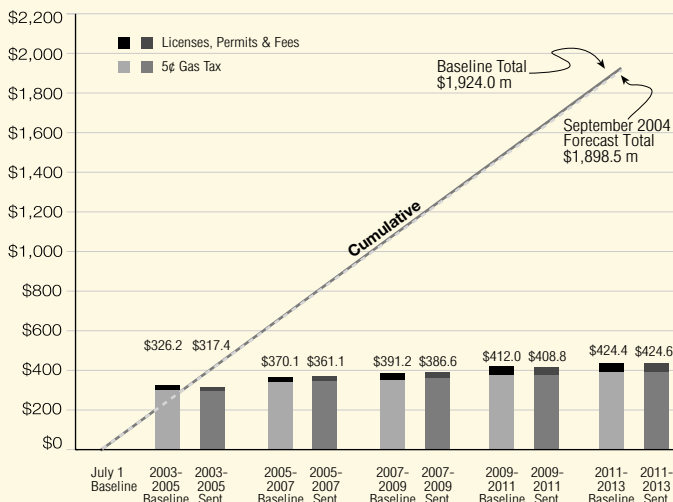
## Revenue Forecast

The 2003 Transportation Funding Package enacted by the 2003 Legislature included tax and fee increases. The following charts show the current projected revenues over the next ten years (for the new funding sources) as forecasted in September 2004 by the Transportation Revenue Forecast Council.

### 2003 Transportation (Nickel) Account Revenue Forecast

March 2003 Legislative Baseline Compared to September 2004 Transportation Revenue Forecast Council with 2004 Legislative Session Impacts

Millions of Dollars



### New Sources - Multimodal Account Revenue Forecast

March 2003 Legislative Baseline Compared to September 2004 Transportation Revenue Forecast Council

Millions of Dollars

