CITY OF KIRKLAND
Department of Public Works
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
www.ci.kirkland.wa.us

MEMORANDUM

To: David Ramsay, City Manager

From: Daryl Grigsby, Public Works Director
Jennifer Schroder, Parks and Community Services Director
Ray Steiger, P.E., Capital Projects Manager

Date: September 25, 2006

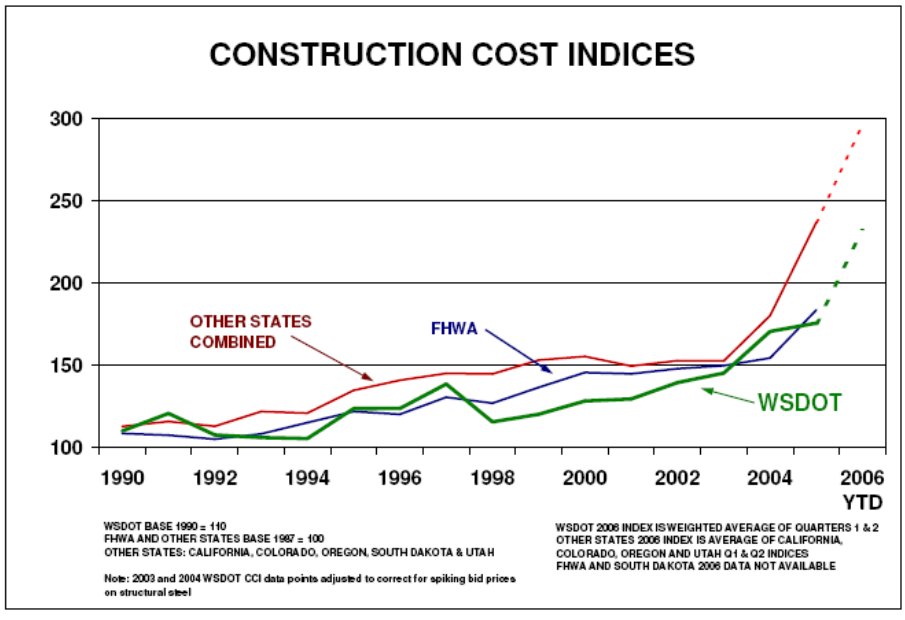
Subject: Construction Cost Increases

RECOMMENDATION:

It is recommended that the City Council consider current and anticipated methods being utilized by staff to manage cost escalation on projects.

BACKGROUND AND DISCUSSION:

For a number of reasons, infrastructure construction costs are increasing in the Puget Sound region far beyond historical trends reflecting a nationwide trend (attachments A, B, D). The WSDOT utilizes a number of factors and measurements to track northwest roadway construction; much of the information used in Kirkland Public Works follows pricing and estimating that is made available by WSDOT. Their recent update (Aug) is shown in the attached graph of cost indices. The graph below shows construction costs over time relative to the WSDOT cost base of 110.



As is evident of the chart, over the last two years, prices in construction significantly break from the previous 10 to 12 year history.

Council has recently been asked to consider a number of requests for budget increases and project modifications in order to continue infrastructure investment. Public Works and the Parks and Community Services Departments continue to work with their consultants and the contractor community to provide projects that will allow continued maintenance and expansion of the City's infrastructure. A number of alternatives have been incorporated into projects to date:

- grouping smaller projects into a larger project (i.e. annual watermain replacements)
- allowing flexible starting dates
- delaying lower priority projects to fund current projects (i.e. delay Trend Lift station and fully fund Waverly Beach lift station)
- explore City owned paver to extend paving options and streamline annual program for bidders

Looking to other agencies for additional considerations, there are a number of other available options. These options fit into two categories:

1) Administrative options currently available to staff. We will implement these during the year as the need arises.

- break projects into various smaller schedules
- coordinate bids with seasonal cycles
- reduce current standards utilized (use asphalt paths in lieu of concrete sidewalk)
- refine project scopes (target specific areas of damage; new video equipment may assist this)

2) Policy options to be considered. Should the need arise, we will return to Finance Committee during the year with a more complete discussion of these options.

- increase project contingency levels from 10-15% to 40-45% during the CIP process – during the CIP update process, public works projects are typically given a 10% contingency and inflation is applied to all projects at 3% per year.
- spread project delivery dates to stay under current funding levels
- raise rates to cover increased costs (utilities) – during the update of the various masterplans and rate studies for utilities, costs estimates will be increased to reflect current trends; this delivery cost would be incorporated into future rates
- look at external debt for utilities (water, sewer, surface water) – Public Works Trust Funds have been secured previously for the wastewater component of the utility, however water and surfacewater projects have not sought that source of funding
- utilize reserves to sustain investment level

In addition, other options developed by WSDOT are included in Attachment C. We will also review and consider these as well.

attachments

SNOHOMISH COUNTY BUSINESS JOURNAL
YOUR COUNTY. YOUR BUSINESS JOURNAL.

Published March 2006

Construction industry panel warns of possible material, labor shortage

By John Wolcott
SCBJ Editor

Builders enjoying Snohomish County's strong construction activity this year may run into some material shortages because the entire Pacific Northwest is a hot market for residential, commercial, industrial and public works projects.

A panel of major project owners recently told the Seattle-based Northwest Construction Consumer Council that some materials could see price hikes, too, as local, regional and global supply-and-demand forces put pressure on various commodities, including drywall and cement.

Laborers, too, are expected to be in short supply in many fields as skilled workers see their ranks stretched to handle a pipeline filled with both major and minor projects, they said.

For instance, Don Grimes, vice president of Glacier Northwest, the region's largest supplier of cement products, said he's "having trouble finding enough drivers, and they're limited by the feds in their work hours, which can be a huge problem for us."

Also, he said he sees "increasing cost for cement, aggregate and equipment in the concrete market, with much of the cement being imported into Washington from other states."

Kim Robinson, regional engineer for the American Institute of Steel Construction Inc., a nonprofit organization, said construction steel is primarily made from scrap metal, noting that the problem is not supply but price.

"At the rate U.S. teenagers are wrecking cars, we can't run out of scrap," she quipped, "but China is paying more for scrap metal and steel, so we have to pay more. Price is the only issue."

The situation is made worse, she said, by the fact that in the past year China has "gone from a net importer of steel to a net exporter of steel, primarily to developing countries such as South Africa, making them a new competitor in the world marketplace."

As for metal framing products, prices are expected to be stable this year, predicted Joe Brosseau, purchasing manager for Vertecs Corp. in Seattle, with good supplies available through the summer.

Drywall, on the other hand, has been on allocation for the past year, he said. Although most Puget Sound suppliers will get all they want, he said, quarterly price increases are expected.

With five insulation producing plants down for maintenance nationally, suppliers already are limiting allocations to clients, he said, and surcharges to cover rising fuel costs for delivery trucks are still being seen in nearly all industries.

Tracy Robbins, area manager in the Seattle area for Walters & Wolf Inc., Mukilteo, suppliers of glass, glazing and exteriors of high-rise office buildings, told the group glass manufacturers continue to face high prices for the large amounts of electricity used in making products.

“Energy cost is a big item for us. The price of aluminum extrusions was up 10 percent in January over the prior year, but the price of glass is of more concern to us. With two major commercial fabricators in North America closed, the remaining plant has a 32-week waiting period. With new plants coming, prices should come down in six to 12 months. We’ve also seen gasoline prices increasing dramatically.”

Like the region, Snohomish County is expected to feel the impact of the robust economy in the region and nationally, said U.S. Bank regional economist John Mitchell, making his 10th annual Pacific Northwest economic outlook presentation to the NWCCC.

He foresees ongoing residential growth, increasing construction of health-care facilities for the aging population, higher state education budgets for more schools, rising hotel occupancy as tourism grows and strong port activity spurred by increased global trade.

Mitchell also noted strong aerospace industry production and employment is supporting an outlook for long-term employment growth at a faster rate than the national economy. Office vacancy rates in the Puget Sound region are declining, he said, and many commercial projects held back during the slower economy are under way again.

Summarizing major construction in the state, managers for BP and Shell refineries, the Washington state Department of Transportation and Sound Transit, the ports of Seattle and Tacoma, the University of Washington, the state General Administration office, Amgen, Vulcan and Boeing reported on their current and future projects:

- BP’s Cherry Point refinery is seeing a decline in Alaskan North Slope crude oil and is searching for replacement oil, including running some Canadian crude oil. The plant will have a host of small capital projects until 2015.

- Shell OPUS’s Anacortes refinery is wrapping up a $400 million investment program that began several years ago, the largest upgrade since the plant was built in the mid-1950s, with $30 million worth of work remaining this year.

- Sea-Tac International Airport has more than $400 million in projects this year, including further construction of the third runway, which will see concrete poured next year and a

late-2008 opening. This month, bids will be invited for realignment of the north expressway into the airport, part of a $100 million investment to extend Sound Transit's Link light rail project to the northwest corner of the parking garage.

- Sound Transit will invest $500 million this year in its light rail project, along with $440 million for its Sounder train system, including construction of several new stations and work on several regional bus transit centers.

- The University of Washington's major focus for the next five to seven years will be on renovating older buildings on campus, beginning with Spector Hall, plus a $300 million construction program at Harborview Medical Center and a $100 million parking garage project at the Tacoma campus, with 125 apartments on top.

- With the new state gas tax to finance highway construction, the typical $1 billion of biennium construction by WSDOT in recent years will increase to a level of $3 billion in 2007-09 for projects throughout the state.

- Washington state's General Administration office has 149 construction projects costing $780 million in the 2005-07 biennium budget, including $22 million for a new Arts and Science facility at Everett Community College; a $9.5 million theater and Mukilteo Hall at Edmonds Community College and $4.7 million to renovate Brier Hall; $5 million for SR-522 off-ramp construction at Cascadia Community College; and $2.2 million for an automotive coursework building at Shoreline Community College.

- Amgen, which employs 800 at its Seattle waterfront biotech site, also plans to expand its Bothell facilities in Canyon Park, where some 150 employees are engaged in research work.

- Vulcan Real Estate projects include its $200 million South Lake Union project for 261 condominiums, a Pan Pacific hotel and retail businesses, due to open this fall; The Martin, with 170 condominiums and street-level retail at Fifth Avenue and Lenora; and the 320 Westlake project, a full city block of mixed-use development that includes a new Group Health headquarters, beginning construction early this year.

- Boeing reported record sales of 1,002 aircraft during 2005 and plans for $100 million to $150 million in construction at the Everett plant for the 787 program, continuing at nearly the same level in 2007.

- Port of Tacoma's 2006-2010 capital improvement budget includes up to $2 billion in projects, including $301 million already planned, $1.2 billion projected and $451 million in potential projects. Most of the projects will focus on marine terminal growth, industrial development and increased infrastructure capacity.

Washington State Department of Transportation

Information about Rising Construction Costs in Washington State

- WSDOT's Construction Cost Index
- Trends – Number of Bidders
- Prospects for Labor Costs
- Relationship between HMA, Crude Oil, and Diesel
- Recent National Media Coverage

For more information, contact:

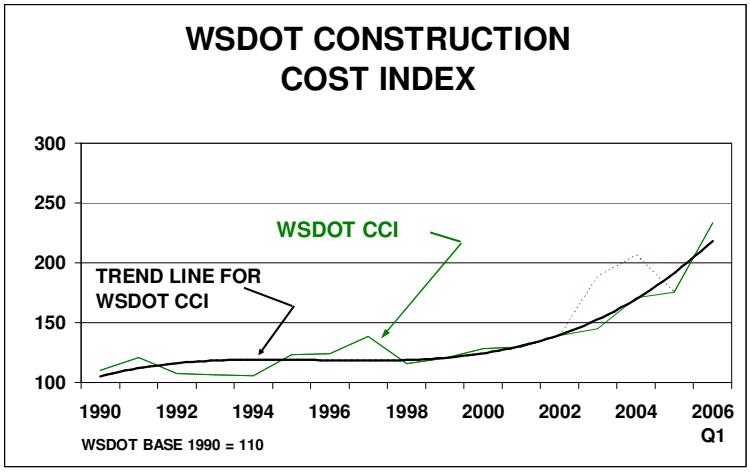
Kevin Dayton, State Construction Engineer
daytonk@wsdot.wa.gov
360-705-7821

Dave Erickson, Asst. CN Engineer, Roadway
ericksd@wsdot.wa.gov
360-705-7829

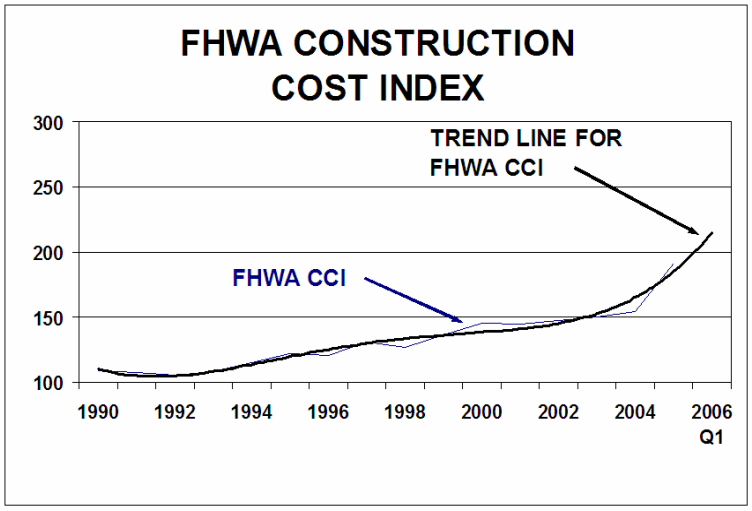
June 29, 2006

WSDOT Construction Cost Index (CCI) With FHWA and Other States Compared

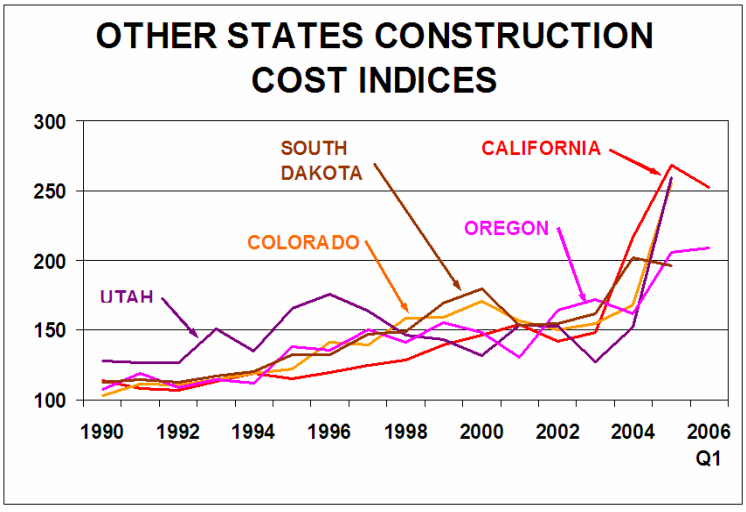
WSDOT has long maintained a "market basket" index of construction costs as drawn from bid submissions on its own projects. The trend line and quarterly data points for the WSDOT Construction Cost Index through the first quarter of 2006 are shown on the adjoining graph. Backup details are on the next two pages.



The Federal Highway Administration (FHWA) maintains a similar index using, however, different materials and different sources and methodology. The FHWA index, through the last quarter of 2005, is shown as a smooth line on the adjoining graph.



Several other states maintain indices of a similar kind, although there is no common methodology. Results from several of the states generally track with the WSDOT and FHWA indices. See the adjoining graph.

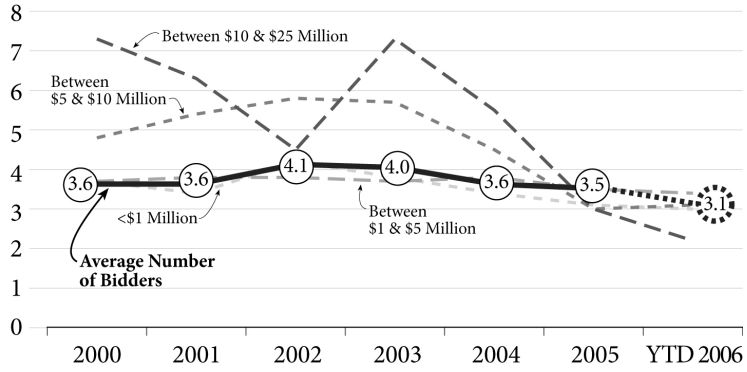


* Index reflects unit and bid prices which include labor, equipment, and materials.

Washington State Department of Transportation

Number of Bidders for WSDOT Construction Projects: Trends Since 2000

Average Number of Bidders
By Size of Contract



	2000	2001	2002	2003	2004	2005	YTD 2006
3 Bidders	24%	23%	16%	24%	23%	33%	17%
4 or more bidders	42%	41%	50%	50%	44%	35%	35%
3 or more bidders	66%	64%	65%	74%	66%	69%	52%

Analysis

- With the large construction program in Washington and national infrastructure rebuilding underway, the number of contractors bidding is trending *downward,* diminishing competition tending toward good bid prices.
- The percent of contracts bid on by at least four firms has decreased from 50% in 2002-03 to about 35% YTD in 2006.
- These trends have been observed by other owners in Washington State and in other states around the country.

WSDOT *does* influence:

- Fair and efficient practices and risk allocating in contract administration.
- Communicating current and future job opportunities and bid advertisement schedules to promote competitive environment. This includes providing special outreach on unusual or difficult projects
- Specifications on which contractors can confidently prepare bids. and a fair process for responding to bidder's questions.

WSDOT *does not* influence:

- Overall volume of public and private sector work seeking contractors or their access to key subcontractors and construction material.
- Bonding and other capacity constraints affecting contractors' appetite for work.
- Market trends in the construction industry towards consolidation and shrinkage of the number of local firms, especially in subcontracting specialists.

Implications for Specific Projects: Examples

SR 543, I-5 to International Boundary (January 18, 2006) There were two bidders with prices ranging from $27.3 million to $28.6 million. The low bid was 22.3% ($5 million) over the Engineer's Estimate of $22.3 mi.

• Most of the excess over the estimate was retaining walls, noise walls, barrier and pavement (concrete) and Hot Mix Asphalt. The lack of competition is attributed to the geographical location and mix of work.

SR 7, SR 507 to SR 512 – Safety (July 27, 2005) The project had three bidders. The low bid was 24% ($2.6 million) over the Engineer's Estimate of $10.8 million.

• Most of the excess over the estimate was haul items (fuel costs and a congested work area), and curbs, islands and sidewalks (concrete prices).

Prospects for Labor Costs

May 25, 2006

Labor costs contribute roughly 40% to contractor costs for the delivery of a typical WSDOT highway construction project. There is significant variation in this percentage based on the specific character of the project.

Hourly salary rates as well as pension and benefit costs are generally established by reference to master agreements negotiated with the trades by the Associated General Contractors, for the five major construction trades (laborers, teamsters, carpenters, cement masons, and operators). These master agreements are negotiated on the west side of the state by the AGC of Washington and on the east side of the state by AGC Inland Northwest Chapter, with the Oregon Chapter handling the five southwest counties of the state.

Master agreements for the east side of the state are set to expire this year, and the Inland Northwest Chapter is currently in negotiations on these agreements, while the agreements on the west side of the state expire next year.

In recent weeks, WSDOT sources in industry have advised us of industry's expectation of significant upward cost pressure. In the recent past, labor contract negotiations have been relatively flat, with respect to wages, leaving the majority of the discussion to center around the benefits package, comprised of healthcare and retirement. Wayne Brokaw, Executive Director of the Inland Northwest Chapter of the AGC, told us that this year negotiations will be different. Wages, healthcare and retirement will all be major issues brought to the table.

AGC of Washington is also expecting to see increases as they begin their contract negotiations next year. Roland Dewhurst, Chief Executive Officer of the AGC of Washington, informed us that the upward pressures on wages and healthcare as well as labor shortages will play a significant role in the cost of projects for several years to come.

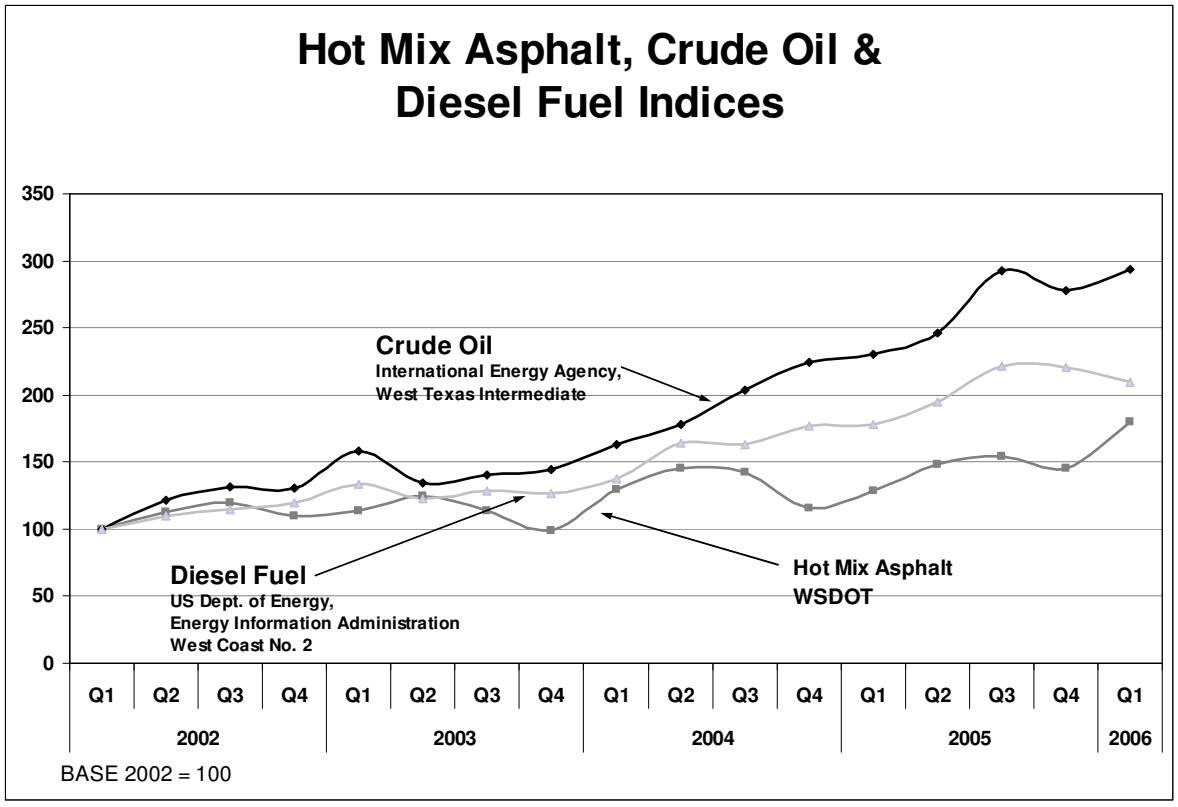
In a booming construction market such as we are currently experiencing, there are other factors that affect the price of a project. For instance, with potential labor shortages, contractors can face a "premium charge" in addition to the labor package in the contract just to attract and retain a qualified workforce. Other labor-related costs also enter into the overall cost of the project, such as transportation costs to get the workers to and from the project site, as well as temporary lodging costs or per diem allowances associated with bringing workers to the projects.

Construction labor costs are incorporated into a contractor's pricing of construction costs. In addition, shortages and significant salary and benefit run-ups are being seen in the rates of private engineering consulting firms that are engaged by WSDOT for outsourced design and other professional consulting services.

There is no systematic tool currently available to WSDOT to predict the exact magnitude of forthcoming inflationary cost pressures arising from collective bargaining for the construction trades and the general labor market rates for engineering consultant services.

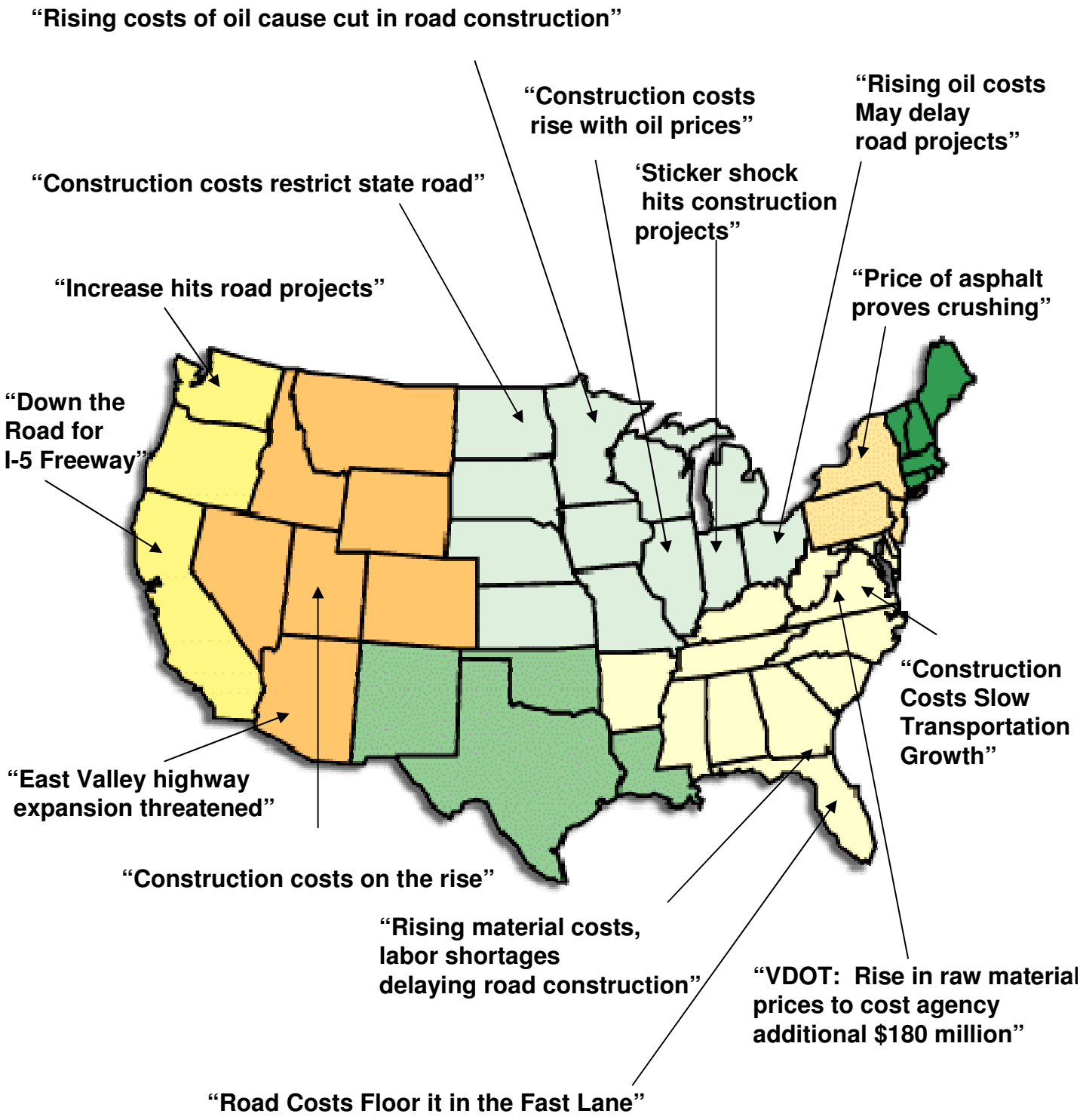
Hot Mix Asphalt Price Experience Tracked Against Crude Oil & Diesel Fuel Costs

Crude oil and diesel fuel prices have been increasing more than HMA in the past but that gap is now closing. This may be due to contractors no longer able to lock-in prices from the supplier due to volatility in the current market conditions.



Washington State Department of Transportation

Rising Construction Costs – Recent National Media Coverage of Rising Highway Construction Costs and Impacts



Things that WSDOT Can Partially Control
The "Toolbox"

Reduced cost through increased competition

Communication

- Time bid advertisements to promote competitive appetite
- Communication of current and future contract opportunities; special outreach on unusual or difficult projects
- Call bidders

Contract structure

- Bundle or break up projects to attract bidders
- Give flexibility to contractors to encourage them to shop for the most economical materials values ("performance or end product specifications")
- Flexible start date

Owner of choice

- Provide early payment provisions ("materials on hand")
- Cost Reduction Incentive Proposals (CRIPS)
- Fair and efficient practices in contract administration
- Fair and efficient risk allocation in the contracting relationship
- Consistency in specifications and a fair process for responding to questions and requests for clarification

Reduced cost through reduced scope

- Bid "additive alternates"
- Adjust a project scope to "buy-less"
- Cancel a project that inflation in materials costs has made too expensive (not preferred)

Things that WSDOT Cannot Control
The "Crystal Ball"

There is no crystal ball. Past results are not a guarantee of future performance. This is precisely the case when looking ahead to national and local construction industry pricing, especially when price volatility seems inevitable from the many trends the industry now faces.

WSDOT cannot influence:

- Overall volume of public and private sector work seeking contractors
- Contractors' access to key subcontractors and sources of construction material
- Bonding and other capacity constraints affecting contractors' appetite for work
- Market trends in the construction industry towards consolidation and shrinkage of number of local firms
- Contractors' appetite for "risk" is inversely proportional to the volume of work available

Questions?

Visit www.wsdot.wa.gov/biz/construction/

From: SR 520 Bridge Replacement & HOV Project [mailto:SR520Bridge@WSDOT.WA.GOV]
Sent: Wednesday, September 20, 2006 4:45 PM
To: SR 520 Bridge Replacement & HOV Project
Subject: SR 520 Bridge Replacement and HOV Project Update: WSDOT Responds to Expert Review Panel Reccomendations

WSDOT Responds to Expert Review Panel Recommendations

SEATTLE – WSDOT today released the results of preliminary revisions to cost estimates for the SR 520 Bridge Replacement and HOV Project and the Alaskan Way Viaduct and Seawall Replacement Project. The release of this information follows suggestions recently made by the Expert Review Panel, and addresses the likely impact of recent worldwide construction cost inflation on project costs.

"It is important that new estimates be in the public's hands," said Doug MacDonald, Secretary of Transportation. "Sharply higher prices for construction materials in recent months have been seen in projects across the country and even around the world. The entire construction industry has been affected by these trends. These two important projects will be no exception, and we have agreed with the Expert Review Panel that the best information we have now should be made available to everyone."

Final stages of the cost estimate updates were conducted under the eye of several Expert Review Panel members in Seattle over recent weeks. Lee Baker, P.E., a construction cost specialist and member of the Expert Review Panel, said: "Today, new cost numbers are not welcome news on any project, but we support the approach WSDOT has taken and it follows our recommendations. We believe the cost ranges that WSDOT has prepared are representative of what the currently envisioned projects will cost. Use of specific costs at this preliminary stage are sufficient for comparing and selecting the alternatives to be built, and even more work will be required for predicting final costs."

A team of in-house WSDOT experts and private sector consulting engineers working under the supervision of David L. Dye, WSDOT's Urban Corridors Office Administrator, prepared the new estimates. "These estimates introduce a new number, the 'likely cost,' as our best way of giving the public good project comparisons when tomorrow's inflation rates are hard to guess and 'worst case' ranges are more pessimistic than the future we actually expect to encounter. Our project design and construction efforts will, we hope, stay very close to the 'likely range' estimates," Dye said.

Alaskan Way Viaduct and Seawall Replacement Project

Core Tunnel:

Re-evaluated Most Likely Cost, Sept 2006	Previous Cost Range, Oct/Nov 2005
$4.63 billion	$2.98 - $3.63 billion

Core Elevated Structure:

Re-evaluated Most Likely Cost, Sept 2006	Previous Cost Range, Oct/Nov 2005
$2.82 billion	$1.99 - $2.36 billion

SR 520 Bridge Replacement and HOV Project

4-Lane Alternative:

Re-evaluated Most Likely Cost, Sept 2006	Previous Cost Range, April 2005 (Pre-Katrina)
$2.79 billion	$1.67 - $2.02 billion

6-Lane Alternative with Montlake Interchange:

Re-evaluated Most Likely Cost, Sept 2006	Previous Cost Range, April 2005 (Pre-Katrina)
$3.90 billion	$2.33 - $2.83 billion

6-Lane Alternative with Pacific Interchange:

Re-evaluated Most Likely Cost, Sept 2006	Previous Cost Range, April 2005 (Pre-Katrina)
$4.38 billion	$2.73 - $3.10 billion

For more information about the latest cost estimates, visit:

www.wsdot.wa.gov/Projects/Viaduct/CostEstimates

The viaduct and Alaskan Way surface street together carry more than 120,000 vehicles each day (about one quarter of all north-south traffic through Seattle) and serve as an important route for commuters and freight. The seawall, which is included in these new project estimates, supports Alaskan Way and the soil underneath the viaduct. Immediately after the 2001 Nisqually earthquake, WSDOT made $3.5 million in earthquake repairs to keep the viaduct safe and functional and began semi-annual earthquake inspections to closely monitor cracks, structural movement and foundation integrity.

The 42-year-old SR 520 Evergreen Point Bridge is 1.5 miles long and carries approximately 115,000 vehicles daily. The bridge approaches, which run between Portage Bay and Lake Washington, are vulnerable to earthquakes, and the floating bridge is vulnerable to windstorms. In February 2006 the 520 bridge had to be closed to traffic during an evening rush-hour winter storm, causing hours of massive traffic congestion on I-5, I-405, I-90 and other roadways around the region.

For more information about the projects and the Expert Review Panel, visit the WSDOT Web sites listed below.

SR 520 Bridge Replacement and HOV Project: www.wsdot.wa.gov/projects/SR520Bridge

Alaskan Way Viaduct and Seawall Replacement Project: www.wsdot.wa.gov/projects/Viaduct

Expert Review Panel: www.wsdot.wa.gov/Projects/Viaduct/ExpertReviewPanel