

WSDOT Alternative Delivery Procedures for Construction Service Report

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**Washington State
Department of Transportation**

REPORT TO THE JOINT TRANSPORTATION COMMITTEES

Alternative Delivery Procedures for Construction Services (as required by SSB 5248; Part One)

Washington State Department of Transportation

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This report to the Joint Transportation Committees describes the use of construction engineering services from private firms in the delivery of the highway construction program. The following items are discussed:

1. Background/Context.

- The Nickel Package is approved, and legislation is passed to allow for increased outsourcing opportunities.
- The first report on alternative delivery procedures was submitted in December 2004.
- The Transportation Partnership Account is approved.

2. Private industry is performing more project-specific, programmatic, and specialty contract work.

- Trends indicate continued increase in consultant utilization across all phases of project delivery.
- WSDOT has contracted with a private sector Statewide Program Management Group to develop the Strategic Delivery Plan and improve WSDOT's ability to manage projects and programs.
- General Engineering Consultants have been contracted to assist with delivery of the Nickel and Transportation Partnership Account Programs.
- Additional Preliminary Engineering Services by Private Industry are embedded in design-build projects.

3. An agency workforce outlook indicates that current workforce needs influence the discussion of benefits and costs associated with use of private sector services.

Background/Context

In 2003, the Nickel Package was approved and legislation was passed to allow for increased outsourcing opportunities.

In 2003, the legislature created an approximately \$4 billion “Nickel” funding package to fund over 150 transportation projects to be delivered over ten years throughout the state. The five-cent-per-gallon gas tax increase will expire when the 158 Nickel Projects are completed and the accompanying bonds are paid off. The Nickel Package includes:

- 5 cents per gallon gas tax increase
- 15 percent increase in gross weight fees on heavy trucks
- 0.3 percent increase in the sales tax on motor vehicles

With the creation of the Nickel Package, the legislature recognized that additional workforce would be necessary to ensure project delivery timelines were met, and that “recruiting and retaining a high quality workforce, and implementing new and innovative procedures for delivering these transportation projects, is required to accomplish them on a timely basis that best serves the public” (SSB 5248, Section 101). The legislature in 2003 authorized WSDOT to use private firms to provide construction services and construction engineering services in the highway construction program to augment WSDOT’s workforce capacity when the services in question cannot be delivered through existing workforce (SSB 5248, Section 103(2)).

As a requirement of the new legislation, the Secretary of Transportation must report on a biennial basis to the legislative transportation committees on the use of construction engineering services from private firms authorized under that legislation. The report must include an assessment of the benefits and costs associated with using construction engineering, or other services from private firms, and a comparison of public versus private sector costs. The types of services whose use was authorized by SSB 5248 include real estate services and construction management, construction administration, materials testing, materials documentation, contractor payments, general administration, construction oversight and inspection and surveying (See Section 102 of SSB 5248).

The first report on alternative delivery procedures was submitted in December 2004.

In December 2004, the first report on alternative delivery procedures for construction services was submitted by WSDOT. The 2004 report described several early signs of promise WSDOT was experiencing with this program in the Right-of-Way (ROW) and Construction (CN) phases of project delivery. (See attached Report to the Legislative Transportation Committees: SSB 5248 Part One; Alternative Delivery Procedures for Construction Services, December 2004.)

The 2004 report highlighted that in recent years since passage of the legislation, the department had contracted with ten real estate acquisition firms that had performed \$1.4 million worth of acquisition work. Some of this work consisted of turnkey services, including appraisal review. Using the private sector to perform this acquisition work was a new approach for WSDOT. In general, the department’s experience with the private firms was that they were achieving fast turnaround times and good results for the money. While some of the outsourced situations

proceeded very well, a few were reported to be satisfactory but required significant levels of WSDOT supervision, intervention, and support.

The 2004 report also discussed a recent pilot project which tested the use of private industry to provide construction administration services. Physical construction of all WSDOT projects is accomplished by private contractors. Construction administration activities, like materials testing, inspection and payment, are traditionally performed by the department. As on a typical project, private contractors performed the construction work on the SR-121, Maytown Interchange to 93rd Interchange paving project. The construction administration work, however, was contracted to the private firm of Kris Betty and Associates (KBA) as the WSDOT representative.

KBA provided construction administration, inspection, surveying and materials testing services. WSDOT performed oversight of the consultant's work, including examination of testing personnel and equipment, and also reviewed test results to make sure that materials and processes were within allowable parameters. The firm selected to conduct the construction administration on this project had a thorough understanding of WSDOT practices, specifications, and expectations. With the benefit of that experience, they performed the project administration, inspection, and documentation well, producing work that was comparable to that of WSDOT employees on this type of project. The cost of construction engineering services on this project was slightly higher at 17 percent on this project, compared to a statewide average of 14 percent.

WSDOT reported that its short (under one year) experience under the enabling legislation was too limited for drawing broad generalizations on cost, and outlined several other factors to use when deciding whether or not to outsource construction engineering and other kinds of engineering services. These include the necessity to access specialized knowledge not available within WSDOT, the best mechanism for managing workload peaks and valleys, the opportunities for innovation, the best approach to build institutional knowledge, the best structure for assuring integration of the highway construction aspects of the program, and the best arrangement for assuring effective supervision and accountability.

Finally, in the 2004 report, WSDOT addressed the topic of public sector versus private sector cost comparisons. WSDOT explained that the department believes that state workforce costs would be lower in a project-specific cost analysis; but that this analysis has not been performed because it would require development of a pro forma overhead rate for state workers, which would require many intricate and sometimes judgment-laden calculations that would be costly to develop. Studies that were cited in the 2004 reports reinforce this assessment (Wilmot, et. al; *In-House Versus Consultant Design Costs in State Departments of Transportation*).

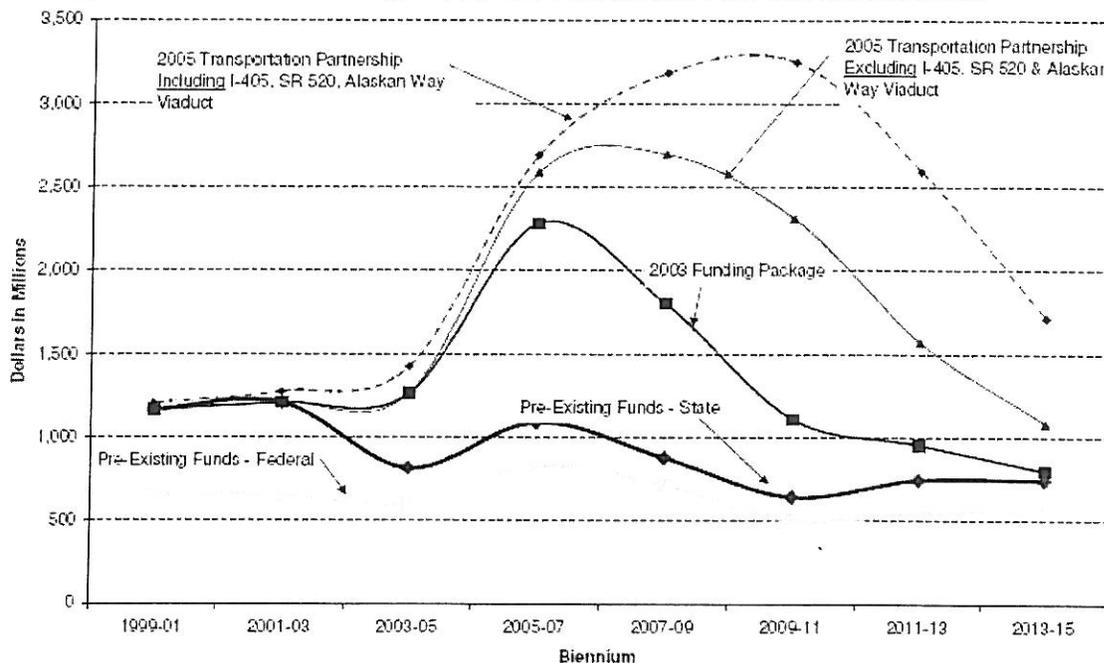
In 2005, the Transportation Partnership Account is approved.

In 2005, the legislature passed an additional \$7 billion transportation revenue package to fund 274 projects across the state over the next 16 years. The package includes a 9.5 cent gas tax increase phased in over four years, and other weight fee increases.

The chart below, frequently referred to as “the hump chart”, portrays a dramatic incline, followed by a sharp decline in projected expenditures associated with planned delivery of the Nickel, and TPA programs, as well as pre-existing delivery commitments.

Highway Construction
Legislative Final 2006 Supplemental Budget - 3/06

*Includes Preservation and Improvement Programs with two exceptions
 Excludes expenditures for the Tacoma Narrows Bridge and expenditures in the Improvement Program reimbursed by Sound Transit*



As of November 2006, 56 of the 432 combined Nickel and TPA Projects have been completed. These 56 projects represent \$310.2 million worth of expenditures (Nov. 2006 GMAP presentation). Spending is programmed to rapidly increase from \$1.5 billion in the 2003-2005 biennium to \$3.3 billion by the 2009-2011 biennium.

Private industry is performing more project-specific, programmatic, and specialty contract work

WSDOT uses consultants to handle workloads that the department does not have the resources or expertise to perform internally. To contract out this work, WSDOT uses two different types of consultant agreements: On-Call Task Orders and Project-Specific Agreements. On-Call Task Agreements comprise the majority of the funds spent on consultant contracts. Biannually, WSDOT assesses the types of work services that it consistently uses, such as preliminary engineering, traffic engineering, real estate appraisal and negotiation, land surveying, traffic engineering, and transportation studies. Based on the estimated need, the agency advertises for predetermined categories of work and initiates multiple On-Call Task Order Agreements for each category. The regions will determine if work can be completed using one of these On-Call Task Order Agreements. Project-Specific Agreements, individually advertised by project, are typically used for work that is more comprehensive and cannot be performed using one of the On-Call Agreements described above.

Once a consultant has been tasked, through an On-Call Task Order or Project Specific Agreement, to perform work for the department, funding for a particular portion of work is

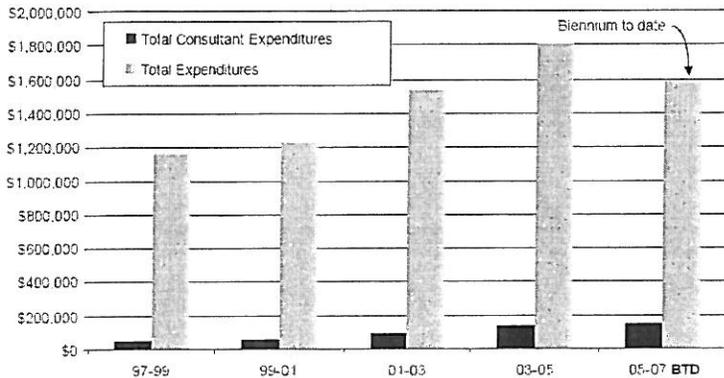
authorized through a “Task Order”. Expenditures for that approved work are tracked by the project phase in which it falls. In other words, capital program delivery work conducted by WSDOT falls within three funding-driven categories, or project phases. These phases include Preliminary Engineering (PE), Right of Way (ROW), and Construction (CN). This report discusses consultant expenditures (both project specific and the on-call variety) in terms of these three project delivery phases.

Trends indicate continued increase in consultant utilization across all phases of project delivery.

Since the enabling legislation was passed in 2003, all phases of project delivery reflect an increased use of private sector resources.

Consultant Utilization by Biennium

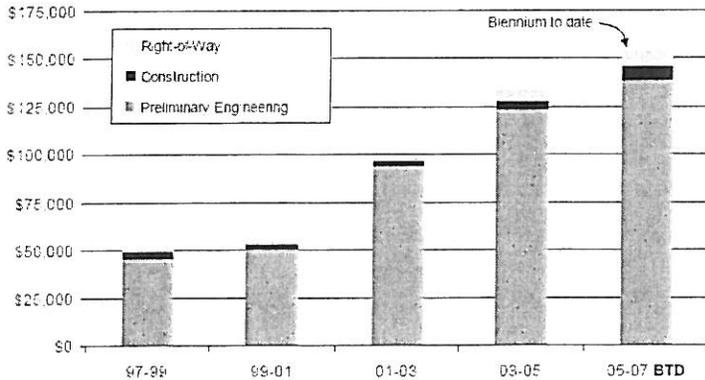
Dollars in Thousands



Note: Expenditures for preliminary engineering and construction engineering on Design-Build projects are included in the total expenditures but are not represented in total consultant expenditures.

Consultant Expenditures by Biennium

Dollars in Thousands

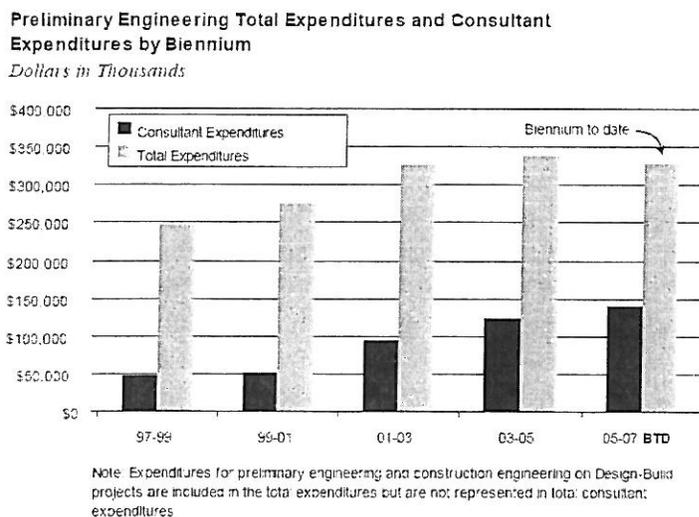


Note: Expenditures for preliminary engineering and construction engineering on Design-Build projects are included in the total expenditures but are not represented in total consultant expenditures.

The Preliminary Engineering phase includes all design and environmental work activities that take a project from an approved, funded, concept to a project with environmental clearances, and a specific set of engineering drawings, specifications, and estimate and schedule that is ready to go to advertisement. WSDOT contracts with the private sector design consulting community on

a project-specific basis to perform this type of work. On average, Preliminary Engineering expenditures constitute 20 percent of overall capital program expenditures each biennium.

Historically, the majority of work contracted out to the private sector has taken place in the Preliminary Engineering phase. Over the last decade, WSDOT has begun to contract out more of the work the department used to self-perform in order to develop Environmental Impact Statements, engineering designs, specifications, and estimates. In '97-'99, 19 percent of total Preliminary Engineering expenditures consisted of consultant expenditures. By '03-'05, that number had climbed to 37 percent. As of November 2006 (approximately two-thirds through the '05-'07 biennia), biennial consultant expenditures comprise \$138 million worth of work, which is 43 percent of total Preliminary Engineering expenditures. This equates to almost 550 WSDOT biennial FTEs.



The Right-of-Way (ROW) phase includes work activities necessary to secure property and property rights so that a project can be constructed on it. Excluding dollars actually paid in compensation to property owners for property acquisition or for relocation benefits, the ROW phase constitutes approximately seven percent of overall capital program biennial expenditures. Prior to the passage of the alternative delivery legislation, WSDOT used the private sector on a minimal basis (approximately 1.0–1.5 percent of ROW phase expenditures) to perform property appraisal services for project specific work. In '97-'99, consultant payments for work constituted 1.4 percent for total real estate services expenditures. By '03-'05, that share had risen to 3.4 percent. Approximately two-thirds through the '05-'07 biennia, consultant expenditures comprise 6.6 percent of total ROW expenditures.

Under the SSB 5248 authorization, WSDOT has currently authorized 10 consulting firms to provide real estate acquisition services for WSDOT projects.

Details of the actual tasks that each firm performs vary with the individual WSDOT project. Some include full “turnkey” services, including appraisal review. On other projects, WSDOT has requested the private firm perform only certain phases of the acquisition process, while leaving other portions to WSDOT staff.

To date, ten consultant firms have been tasked with acquisition responsibilities for work totaling consultant contract value near \$10 million, a \$7 million increase since our last report in December 2004. (Note that this figure is for the consultant work involved in acquisition and relocation, not the money actually paid in compensation to property owners for property acquisition or for relocation benefits.) Through the end of November 2006, the total amount paid for real estate services to date provided by private firms on these ten agreements is \$5.6 million. This equates to over 20 WSDOT biennial FTEs.

The authorization in SSB 5248 has been very helpful to WSDOT in achieving timely property acquisition because this clearly has been an area in which WSDOT's own forces (which have in their own right been very busy on similar work on many other projects) needed to be augmented to meet the aggressive delivery schedules of the program.

Finally, the Construction Phase includes the actual construction work involved with building the projects, as well as the construction administration and oversight work. The Construction Phase accounts for approximately 72 percent of overall agency biennial expenditures.

As mentioned previously, WSDOT typically contracts with the private sector for virtually all actual capital program construction work. Conversely, until the enabling legislation was developed, construction administration activities had been performed virtually exclusively by the department. Prior to the enabling legislation, only .2-.3 percent of overall Construction Capital Program expenditures was paid to consultants; this typically for work such as formal dispute resolution services, and specialized services (such as scheduling) needed from time to time. Following the new legislation, use of consultants for this construction administration work has expanded to include inspection and materials testing. As of November 2006, consultant expenditures comprise \$7.8 million, or .69 percent of total construction biennial expenditures. This equates to approximately 30 WSDOT biennial FTEs.

Until the passage of SSB 5248, contracting out for this work by WSDOT was not allowed by state law.

WSDOT is finding that in many cases, we need to augment state workforce to deliver our projects. To date, we've created 11 agreements throughout the state – although, primarily on the west side of the mountains, with private industry to perform a variety of construction engineering services during the construction phase of our projects, as illustrated in the table below:

Agreement Name	Approved Expenditures	Total Expenditures To Date
SR 121 Maytown I/C to 93 rd I/C	\$202,417	\$165,462
I-5 164 th HOV Direct Access	\$245,000	\$155,461
SR 104 Hood Canal Bridge Constructability Review	\$90,000	\$14,375
SR 104 Construction Schedule Review	\$760,000	\$472,708
SR 522 Fales Rd / Eco Lake Rd I/C	\$75,000	\$48,305
SR 202, SR 520 to Sahalee Way On Call	\$200,000	\$4,343
I-90 Sunset I/C On Call Construction Services	\$665,000	\$651,042
SR 18 180 th Ave SE To Maple Valley	\$75,000	\$52,982
SR 195, Jct SR 271 to Vic Plaza Road	\$197,000	\$180,138
SR 167 Springbrook Ck. Culvert Replacement	\$2,499	\$322
SR 99 AWV Construction Advisory Services	\$24,000	\$7,462

Currently, the total paid for work conducted for these 11 Construction Engineering Services contracts is \$1.75 million, which is equivalent to approximately seven WSDOT biennial FTEs. Total work authorized on these contracts to date is \$2.5 million. The amount WSDOT contracts out for this type of work will likely increase rapidly as more projects move from the design phase to construction and the bulk of our workforce needs move to Construction Administration, (as is reflected on the hump-chart on page 4).

Results have been positive. A detailed report has been developed discussing success and lessons learned associated with consulting out Construction Engineering Services for the Maytown Interchange to 93rd Ave. Interchange Project that first piloted this alternative delivery approach. (See attachment.) Construction Engineering (CE) expenditures on the Maytown Interchange to 93rd Ave. Interchange Project totaled 17 percent, compared to a statewide average cost of approximately 14 percent on this type of project.

Cross-fertilization of consultant and WSDOT staff has led to a strong and collaborative transportation design culture in Washington State. As we are beginning to utilize the private sector in new ways, we are cognizant of national experience which teaches us that a “strong owner” role of project management and engineering oversight is essential to successful and accountable project delivery.

While increasing our collaboration with the private sector, WSDOT is committed to retaining overall “strong owner” project responsibility through effective budget and schedule control and performance on each of our contracts.

WSDOT has contracted with a private sector Statewide Program Management Group.

The legislature funded the Statewide Program Management Group (SPMG) in 2006 to assist the department with management of the large program, to develop project management and reporting tools, and to provide training to WSDOT staff. The SPMG is a consortium of seven consulting firms who are staffed with recognized leaders in the implementation of best management practices to support delivery of programs similar in size to the Nickel and Transportation Partnership Account. The SPMG has been contracted to support WSDOT over the next five years. The goal is to maintain WSDOT's core expertise and technical capabilities and to develop future project managers and team leaders through on-the-job training and by working in partnership with industry experts.

The Strategic Delivery Plan has been developed.

The SPMG has developed a Strategic Delivery Plan for the WSDOT's Capital Construction Program, which the department has adopted. The strategic planning process identified many issues which, for the most part, can be seen as "three over-arching points of strategic focus....Each of the three strategic points of focus requires attention, and all are capable of supporting the delivery program" (SPMG; a Strategic Delivery Plan for the WSDOT Capital Construction Program; Phase 1 Final Report. P. 2). These three points of strategic focus include Workforce Capacity, Best Management Practices, and Flexibility.

WSDOT is currently addressing key issues outlined in the Strategic Delivery Plan, such as program delivery approaches, program and project management issues, workforce capacity, organizational issues, and oversight and accountability.

Next Steps for the Statewide Program Management Group (SPMG) include development of a Project Management Reporting System (PMRS) and a Project Management Academy.

The SPMG is currently working to develop a PMRS. Development of this system is estimated to be approximately \$16 million. Through November 2006, the total paid for work conducted by the SPMG is near \$3 million, which equates to approximately 12 WSDOT biennial FTEs. Another primary task in implementing the strategic plan is development of a Project Management Academy. WSDOT employees who complete this training will receive certification. The completion of this training will be a required step in the career ladder to management of the agency's largest projects. As SPMG staff is able to transfer their knowledge and skills to agency staff, they will transition out of the agency. The department estimates that over five years, the SPMG will provide work totaling up to \$25 million.

General Engineering Consultants have been contracted to assist with delivery of the Nickel and Transportation Partnership Account Programs.

In addition to the Statewide Program Management Group, WSDOT has engaged private sector firms to provide assistance to regions on large projects and, in some cases, clusters of projects. These firms are called General Engineering Consultants, or, GECs.

In January 2006, WSDOT selected engineering consulting firms to assist in the delivery of some of the major TPA construction projects. Twenty-one firms competed for the assignments. Each selected General Engineering Consultant was designated to a specific major project or project cluster. Duties differ from project to project, but generally include planning, design, and program management responsibilities, in some cases including assistance in the award and management of construction contractors ultimately selected to build the projects. The use of GECs by WSDOT is new since the passage of the 2003 legislation, and was originally piloted in the SR 405 corridor. While the use of GECs is new to WSDOT, other states have used these types of consultants successfully for several years on very large projects. Louisiana and South Carolina are two examples. GEC expenditures span the Preliminary Engineering, Right-of-Way, and Construction Phases of project delivery.

The following eight GECs were recently contracted to assist WSDOT with the work outlined below:

Project / Cluster	GEC (Prime)	Approved Expenditures
Mt. Baker Area Projects	H.W. Lochner, Inc.	\$3,098,006
Snohomish-King Counties Area Projects	DMJM Harris	\$2,536,660
I-90 Snoqualmie Pass East – Hyak to Keechelus Dam	URS	\$4,945,412
SR 520 Bridge Replacement and HOV Project	HDR Engineering Inc.	\$12,774,449
Alaskan Way Viaduct and Seawall Replacement Project	Hatch Mott MacDonald	\$8,143,955
SR 167 Valley Freeway Corridor	Perteet	\$3,858,432
Tacoma/Pierce County HOV Program	CH2M Hill, Inc.	\$8,665,618
SR 167 Extension in Pierce County	Carter Burgess	\$6,296,064

Through November 2006, the total paid for work conducted by GECs on these eight agreements is approximately \$17 million, which represents over 65 WSDOT biennial FTEs. Total work authorized this biennium to date is about \$50 million.

Additional Preliminary Engineering Services by private industry are embedded in Design-Build Projects.

WSDOT has made additional use of GECs on two recent design-build projects: the I-5 – Everett, SR 526 to US 2 HOV Lanes, and I-405 - Kirkland Nickel Stage 1.

Design-Build is a method of project delivery in which WSDOT executes a single contract with one entity (the design-builder) for design and construction services to provide a finished product.

In a traditional WSDOT contract, the design process is completed independent of the construction contract (design-bid-build). This separation allows WSDOT to minimize potential

impacts to third parties by removing time as a critical component of the design. Right-of-way, environmental permits, local agency agreements, and utility agreements are all either very well defined or in place prior to awarding a construction contract. This process minimizes potential risks, but requires a very linear approach toward completing the project. Possible design improvements during construction can become costly and time consuming since they are made after the design is 100 percent complete and frequently under a very tight contractual timeline.

The attractiveness of design-build lies mainly in the promise of innovation stemming from the designer/builder collaboration. If the process is applied to the right project, with the right controls in place, the public gets a quality product in a shorter time.

In contrast to the design-bid-build contracting approach, design-build projects are based on a lump sum contract amount. This lump sum amount includes professional services such as the development of the Plans, Specifications, & Estimate (PS&E), material and contract administration, material testing, inspection, as-builts, and final records. By the very nature of a 'Lump Sum' amount, no specific amounts are allocated. The exact expenditures for design work contracted to the private sector, therefore, can only be approximated.

The I-405-Kirkland Nickel Stage 1 Project provides an example. The Kirkland Nickel Stage 1 Project will reduce congestion through the "Kirkland Crawl," and complements the Sound Transit 128th Direct Access Project, which began construction in June 2005. It will improve the 116th Street Interchange and will address an additional lane from NE 85th to NE 124th both northbound and southbound. The contract amount is \$63 million. Applying a typical average Preliminary Engineering (PE) expenditure amount of 10-15 percent of the total project cost of the total contract, approximately \$6-\$9 million of this total contract will be paid for work performed by design consultants. (Note: 10-15 percent average PE expenditure appears inconsistent with earlier data that reports average PE biennial expenditures as 20 percent of overall expenditures. The variance in these figures, however, is attributed to the fact that this later PE cost reflects project-specific PE information, and because WSDOT has already conducted environmental and permitting work. Excluded from this 10-15 percent figure are ROW plan updates, direct project support allocations, bridge condition inspection, and scoping. Together, these additional items represent the additional five percent of the overall agency PE expenditures).

Another example is the I-5 Everett, SR 526 to US 2 HOV Lanes Project. This project, in order to help eliminate sudden lane changes and improve a major traffic chokepoint on I-5 in Everett, will widen the northbound and southbound freeway lanes to include an extra merging lane between 41st and US 2. The project will also extend the HOV lanes from Boeing Freeway (SR 526) to US 2 (Hewitt Avenue Trestle) and make other safety and traffic flow improvements. The contract amount is \$250 million. Again applying a typical average PE expenditure amount of 10-15 percent, approximately \$25-\$38 million of this total contract is estimated to be paid for work performed by design consultants.

The consultant work on these two design-build contracts represents private sector work ranging from \$31-\$47 million. These expenditures are above and beyond the \$138 million total consultant PE expenditures reported earlier in this report, and equate to approximately 120-185 WSDOT biennial FTEs.

Design-Build was not chosen as the contracting method for these projects solely for potential schedule benefits. One of WSDOT’s strategic delivery strategies is to leverage outsourcing. “As an extension of employee development, WSDOT can use the staff’s opportunity to work closely with experts in various fields as an opportunity to train future WSDOT staff and increase its knowledge base through integrated teams. Design-build implementation strategies, or other innovative project implementation strategies, are excellent candidates for leveraging the outsourcing opportunities to train and attract new staff.” (SPMG workforce analysis draft report February 2006.) Administration of these design-build contracts has provided good training ground for two additional design-build contracts totaling \$215 million which will be under contract within the next several months. The I-405 112th Ave SE to SE 8th ST and I-405/I-5 to SR 169 Stage 1 widening projects will likely provide additional private sector PE work ranging from \$22-\$32 million; or, 85-125 biennial FTEs.

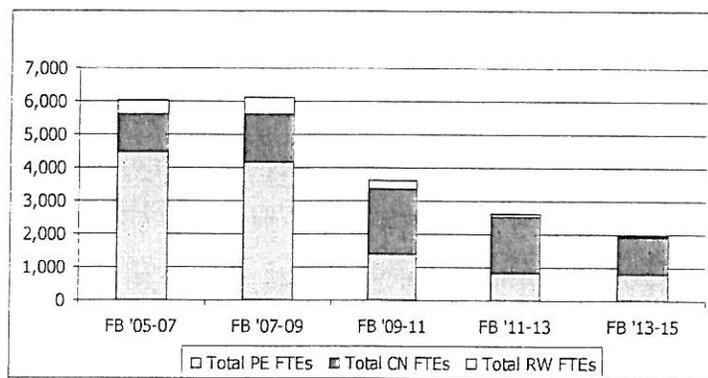
An agency workforce outlook indicates that current workforce needs influence the discussion of benefits and costs associated with use of private sector services

The strategic delivery planning effort confirmed that WSDOT would be unable to deliver the Nickel and TPA Programs with the workforce we have. “This assessment produced the following key findings:

- WSDOT clearly faces an immediate need to increase resources to undertake and complete its ambitious capital program. The combined workforce needed (WSDOT plus consultants) to deliver the capital program during the current and next biennium is approximately 6,000 Full-Time Equivalents (FTEs) as compared with a present cohort of about 3,000+ that has developed to deliver the last biennium’s \$1.5 billion in spending.

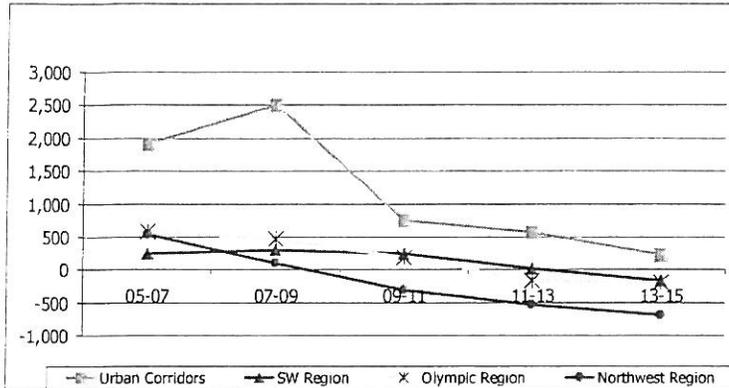
- Figure 5 displays a current short-term “peaking” in workforce needs, followed by an immediate and significant decline in those needs beginning in the 2009-2011 biennium assuming current programmatic schedules. This indicates the need for immediate staff actions to meet program needs for a three-to-four year window and then argues for restraint in adding permanent long-term new positions to the WSDOT workforce. If the locally planned Regional Transportation Improvement District (RTID) programs are successful, however, these would dove-tail well with WSDOT’s current staffing plans.” (SPMG Strategic Delivery Plan, June 2006).

Figure 5 – Estimated Workforce Needs for Construction Program



When assessing workforce needs in the regions, SPMG estimated that the Urban Corridors Region currently had a “combined project delivery workforce, including WSDOT staff and consultants, of approximately 700 FTEs, leaving a shortfall of approximately 900 FTEs, or more than 50 percent of the workforce needed to deliver the region’s projects as scheduled...” (SPMG UCO Region Capital Program Delivery Workforce Analysis Memo; July 2006). Due to current

Workforce Gaps for Selected WSDOT Regions



constraints with WSDOT’s legacy information systems, the information used to develop those projections on a formula basis was tenuous; however, the message is clear: In order to deliver projects on schedule, WSDOT cannot afford *not* to contract out significant segments of work that would historically have been conducted by state forces. Six months later, the Urban Corridors Region has a combined project delivery workforce of 785, and projected workforce needs are currently being re-examined.

WSDOT is meeting the short-term increase in workforce demand through a combination of additional state force employees and consultants. While reassessing workforce projections, WSDOT is currently attempting to hire approximately 400 new department employees to assist in delivery of this program, and projects a consultant need of up to 1000-1500 during the peak delivery period. WSDOT believes that if constrained to deliver the program exclusively with traditional contracting mechanisms and existing state workforce, a significant (several-year) extension of the delivery schedule and dramatic associated project cost increases would result.

In the December 2004 Report to the Legislative Transportation Committees, WSDOT provided a discussion about the factors the department considers when making a decision about outsourcing work. These decision-making factors include ease of access to knowledge, available mechanisms to manage workload peaks and valleys, ability to contribute innovation, long-term dividends associated with building institutional knowledge and considerations for assuring efficient future operation and maintenance activities, and the best arrangement for assuring effective oversight and accountability with respect to work performance.

The report submitted in 2004 reflects mixed results from all recent studies regarding the comparison of costs for work performed by state employees and that work performed by consultants. WSDOT reported generally on the assessment of the benefits and costs associated with using construction engineering or other construction services from firms by citing the most recent thorough review of literature and experience in this area, called *In-House Versus Consultant Design Costs in State Departments of Transportation*, which concluded that comparisons have yielded “widely varying results although the majority have concluded that consultants are more expensive.” Additional historic research indicates that “For cost analysis of outsourcing versus in-house work, 80 percent of the studies done on the subject show that outsourcing of design work is more expensive than or as costly as in-house work.

These studies varied as to the extent of the expense, claiming anywhere from 30 percent to 100 percent.” (Thomas R. Warne “State DOT Outsourcing and Private-Sector Utilization: A Synthesis of Highway Practice”).

Other research in this area has generally concluded that consultant work is more costly than the same work done by state employees, although one study done by Caltrans indicated equal costs.

As reported in the 2004 report, while WSDOT believes that hours spent for a given task are roughly the same for a consultant or for a WSDOT staff person, there are at least five other factors that would generally lead to the conclusion that state workforce costs would be lower in a project-specific cost analysis:

- State wages are typically lower than consultants’ wages for the same workforce hour.
- Private sector overheads (office rents, more extensive training and development benefits, etc.) are generally higher than their counterpart costs associated with the public sector workforce.
- Private sector costs include profits for the firm.
- Private sector costs sometimes include “start-up” expenses for the familiarization of private consultants with state standards and practices used every day by public sector counterparts.
- Additional state costs are incurred in developing and negotiating a contract and providing follow-up liaison and administration activities when a private firm is engaged (transaction costs). A rough estimate for WSDOT consultant transactional costs is 15 percent, although the number would vary widely based on type of work, firm involved, etc.

One necessary step in improving the ability to compare costs would be to build a pro forma “overhead” rate to apply to the direct hourly rates of public sector employees for comparison to the contract costs of using private firms. (WSDOT’s contracts with private engineering firms today provide for “multipliers” or overhead rates applied to direct hourly salaries that range from 100 percent to 200 percent.)

WSDOT does not believe that conducting research to compare private and public sector costs is currently a prudent use of resources for the following reasons:

1. Development of a pro forma overhead rate for state workers would require many intricate and sometimes judgment-laden calculations; activities not included in current department budget.
2. Private and public sector cost comparisons are less relevant due to the constrained state workforce environment the department is facing. The department must rely on the private sector to supplement workforce; it is not merely a matter of choice.

Conclusion

WSDOT has successfully used the flexibility provided by SSB 5248 to augment state workforce capacity in Preliminary Engineering, Right-of-Way, and Construction Engineering phases of project delivery. Our current delivery record would not be possible without this legislation. Future biennia will likely see a continuing increase in consultant use with a particular shift of consultant work moving from Preliminary Engineering to Construction Engineering work. Continued analysis of the results of this staffing approach will dictate future department decisions regarding the type and amount of work contracted to the private sector.