

## A Remarkable Public-Private Partnership: A Case Study - Part II <sup>1</sup>

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### **Abstract**

The Oregon Transportation Investment Act (OTIA) III State Bridge Delivery Program was a comprehensive public–private partnership between the Oregon Department of Transportation (ODOT) and a Fluor–HDR joint venture. The program established a model for sustainable infrastructure investment by simultaneously enhancing economic performance, mobility, and environmental stewardship while delivering a positive return on public expenditures.

During a period of significant economic stress, the program successfully managed more than \$2.1 billion in funding (\$1.3 billion in OTIA funds and \$800 million in additional sources), achieving economies of scale and saving or avoiding in excess of \$2 billion in costs. The program was completed on schedule and more than \$45 million under budget. It is estimated to have created or sustained approximately 22,000 jobs, with 90% of expenditures directed to Oregon firms and residents, thereby providing substantial statewide economic stimulus. The program also recorded more than 3 million work hours without major safety incidents.

A suite of innovative delivery approaches contributed to savings exceeding \$1 billion. These included:

1. advanced information technology systems that, according to a state-of-the-art public-sector cost–benefit analysis, generated a return of \$2 for every \$1 invested; among them, the Work Zone Traffic Analysis tool alone is estimated to have saved motorists more than \$200 million in avoided delay;
2. a single environmental programmatic permitting framework that coordinated requirements across 11 state and federal agencies, avoiding an estimated \$74 million in costs and preventing delays associated with conventional permitting; and
3. a design exception process that met ODOT and Federal Highway Administration standards while streamlining decision-making and avoiding nearly \$700 million in costs.

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Collectively, these strategies enabled the OTIA III State Bridge Delivery Program to exceed its performance, cost, and schedule objectives and to demonstrate the potential of well-structured public–private partnerships to deliver large-scale transportation infrastructure with strong stakeholder and partner support.

## **Introduction**

Part I of this case study focused on the OTIA III Program’s scope, schedule, budget, governance structure, and the delineation of roles and responsibilities within the public–private partnership. Part II examines how the program was operated in practice, highlighting key operational strategies, innovations, and lessons learned across safety, quality, economic stimulus, mobility, environmental stewardship, engineering and construction management, staffing, reporting, communications, project delivery methods, closeout, and joint-venture governance.

## **Safety**

The program adopted safety, health, and overall well-being as top priorities. This emphasis improved quality of life for workers, minimized work disruptions, raised morale, increased construction efficiency, and reduced costs, including workers’ compensation claims. Fundamentally, the program embraced the principle that “if you have your health, you have everything,” and sought to embed that philosophy in daily practice.

Given the long duration of the program, OBDP recognized the risk of complacency in both office and field environments. Field hazards included extensive driving, bridge demolition, night work, major repair/replacement activities, proximity to train traffic, work over water, work at height, and continuous exposure to live highway traffic. To address these risks, OBDP integrated safety into all aspects of program delivery, particularly in construction, by:

- Establishing strict safety requirements and comprehensive training programs.
- Ensuring appropriate personal protective equipment and safe work methods.
- Developing and maintaining a 24/7 safety culture for office and field staff.
- Creating an OSHA-compliant employee safety committee.
- Conducting monthly safety breakfasts for office and field personnel.
- Recognizing “safe employees of the month” and using posters and other visible reminders.
- Opening meetings with safety briefings.

Construction personnel were required to complete a daily Safety Task Assessment (STA), which identified task-specific risks and mitigation measures; visitors were required to review and sign the STA. This practice increased awareness, accountability, and facilitated trend analysis. Every identified risk required a mitigation strategy before work proceeded.

By program completion, the team had accumulated more than 3 million work hours without a major safety incident, demonstrating that a robust safety culture and systematic risk assessment can significantly reduce both human and financial costs.

## Quality

OBDP implemented a new, risk-based Quality Program for ODOT (Perry, 2012). Combined with construction quality checks and the oversight of a third-party auditor (Delcan), this approach increased the likelihood of successful outcomes and helped ensure that ODOT received the value it expected.

Design errors can be consequential even on small projects; in a \$1.3 billion statewide program, the stakes were far higher. As program manager, OBDP was responsible for quality assurance across hundreds of bridge projects, even though most detailed design work was performed by architecture and engineering (A/E) subconsultants. Recognizing that systematic quality reviews would be essential, OBDP:

- Developed a comprehensive consultant guide that clarified process expectations, deliverables, and compliance requirements for each discipline.
- Required A/E firms to complete program-specific Quality Assurance/Quality Control (QA/QC) training prior to receiving work.
- Provided a Quality Control Plan template that A/E firms tailored to meet program standards.

Under this framework, A/E firms were responsible for both quality control (verifying accuracy and completeness of their designs) and internal quality assurance (confirming that their QA/QC procedures were followed). OBDP, in turn, carried out independent quality assurance using a risk-based checklist that categorized review items as high, moderate, or low risk. Discipline-specific reviewers focused first on high-risk items—such as long-term safety, performance, major schedule and cost risks, and compliance with FHWA and other regulatory requirements. Examples of high-risk areas included:

- Compliance with the programmatic environmental permit; any issue that could jeopardize this permit was automatically treated as high risk.

- Compliance with the FHWA–ODOT Stewardship Agreement; design exceptions were scrutinized to ensure they met agreed-upon criteria.
- Mobility during construction, especially in light of commitments to the Oregon Trucking Associations (OTA) as a key funding partner.

If high-risk items met standards, OBDP did not automatically “drill down” into all moderate and low-risk items, thereby preserving resources. If high-risk items were deficient, OBDP expanded its review to include moderate- and low-risk items. Where A/E deliverables failed to meet program quality standards, OBDP could:

- Reject the submittal and require resubmission after the A/E reapplied its QA/QC process.
- Request targeted corrections.
- Initiate an unscheduled quality audit in the A/E’s office, reviewing QA/QC files for completeness and compliance (in addition to routine audits).

This tiered approach allowed OBDP to maintain rigorous quality assurance without overtaxing financial and human resources—critical for a program of this scale. The chief managerial challenge was helping technically oriented staff recognize when not to over-review moderate and low-risk items, given schedule and budget constraints.

The process also proved effective at uncovering latent issues. For example:

- A moderate-risk checklist item requiring complete construction staging diagrams—including traffic configurations, barrier types, and saw-cut locations—led to identification of inadequate clearance between construction stages for reinforcing steel lap splices. OBDP revised plans to incorporate mechanical splices, averting a potential contractor claim.
- A moderate-risk requirement to verify elevations on bridge plans led to the discovery of mismatched profile grades and superelevation rates between bridge and roadway plans. This, in turn, exposed coordination issues between disciplines, which were corrected for future work.

Overall, of roughly \$1 billion in construction, the total constructed value of acknowledged design errors was less than \$2 million—approximately 0.2% of construction costs. This outcome underscores the effectiveness of the risk-based quality assurance process.

## Economic Outcomes

Stimulating Oregon’s economy was the program’s most prominent goal (Hagar, 2012). Approximately 90% of total expenditures went to Oregon firms, maximizing local economic benefits.

ODOT and OBDP recognized that the program would generate jobs and spending simply through normal delivery, but they deliberately structured additional strategies to amplify in-state economic impact while maintaining freight mobility. Key measures included:

- **Optimizing bundle size:** ODOT and OBDP carefully determined the size and geographic scope of project “bundles,” balancing two objectives: capturing economies of scale (to reduce unit costs) and avoiding bundles so large that they would primarily attract out-of-state contractors. Strategy sessions evaluated the number of bridges per bundle and reasonable geographic ranges. By program end, 1,272 of 1,436 contractors (about 89%) were Oregon companies.
- **Pre-qualification and local presence:** To promote use of Oregon-based design resources, design firms—particularly prime contractors—were required to maintain office space in Oregon and hire Oregon-based subconsultants. Of the \$81 million spent on design, approximately \$64 million (78%) went to Oregon firms.
- **Support for disadvantaged, minority, women, and emerging small businesses (DMWESB):** OBDP established diversity objectives and engaged a minority-owned firm to help achieve them. The share of expenditures going to DMWESB firms rose over time, reaching nearly 15% of all spending. More than 13% of design employees were women, and design work generated over 11,000 intern hours, helping build the next generation of engineers in Oregon.
- **Maximizing in-state materials and services:** ODOT and OBDP trained engineering and construction firms on the program’s economic goals and encouraged use of Oregon-made materials (e.g., steel) wherever feasible. Design–build bidders were required to submit economic development plans and were held accountable for performance. As a result, approximately 90% of materials and subcontract spending for design–bid–build projects, and 71% for design–build projects, went to Oregon firms.

Employment and wage impacts were rigorously tracked, recognizing that legislators and stakeholders would use these metrics to assess effectiveness. Over the life of the program:

- An average of approximately 2,200 jobs per year—about 22,000 direct, indirect, and induced jobs in total—were created or sustained.

- Total labor income was estimated at \$1.165 billion, generating about \$90.2 million in state and local tax revenues.
- More than 90% of all program work was performed by Oregon companies employing Oregon residents.

Additional cost savings resulted from targeted engineering and risk-management decisions, including:

- Pre-purchasing structural steel for the Sandy River Bridge (saving an estimated \$10 million).
- Switching from concrete to steel girders on the same project (saving an additional estimated \$20 million).
- Eliminating temporary work bridge piers, thereby avoiding an estimated \$100 million in potential flood damage.
- Applying cost–risk analysis on the Willamette River Bridge, reducing projected overrun exposure by approximately \$15 million.

Overall, the total estimated economic impact from re-spending within Oregon exceeded \$5.6 billion. The \$1.3 billion OTIA III program generated about \$3 billion in re-spending; adding \$212 million in program management increased the total to approximately \$4.3 billion, and including roughly \$606 million in non-OTIA III funds raised the total to about \$5.6 billion.

## **Mobility**

Maintaining and improving mobility for both the traveling public and freight carriers was a central program objective. The Work Zone Traffic Analysis Tool (WZTA) tool was a key innovation in this area (DeMerritt, 2012). Using ODOT’s StratBENCost model, an evaluation comparing WZTA-informed strategies to a “no measures” baseline estimated more than \$200 million in economic savings from reduced delay (Baldwin and Craig, 2011). Program-specific analysis indicated mobility-related savings of over \$215 million.

The WZTA tool fundamentally changed how ODOT conducts traffic studies in work zones and is being implemented across the agency. Key features and benefits included:

- A secure, GIS-based web interface that integrated maps, straight-line diagrams, digital elevation models, and traffic data to generate pre-construction and real-time simulations.
- Centralization and standardization of work-zone data and processes across projects.
- Enhanced visualization for designers and engineers, reducing errors and improving staging decisions.

During planning and design, WZTA allowed designers to test lane-closure scenarios, understand anticipated delays, and ensure that adequate budget was set aside for traffic control and staging. As projects moved into detailed design, WZTA was used to refine allowable lane-closure windows and specify time-of-day and duration limits in contract documents.

During construction, WZTA supported rapid evaluation of unplanned or emergency lane closures. Project managers and contractors could use the tool to predict queue lengths and delays, select appropriate mitigation measures, and provide timely traveler information, thereby improving both mobility and safety.

An independent benefit–cost analysis estimated a benefit–cost ratio of 3.6:1 for statewide WZTA implementation, indicating that each dollar invested in the tool yielded approximately \$3.60 in benefits.

## **Environmental Stewardship**

Traditional, project-by-project permitting across 11 regulatory agencies was estimated to require decades—up to 50 years—to fully permit all bridges in the program. To address this, ODOT and OBDP developed an innovative environmental stewardship framework that significantly streamlined regulatory processes while maintaining or enhancing resource protection (Richards, 2012).

Key elements included:

- Development of Environmental Performance Standards (EPS) that served as outcome-based terms and conditions for all bridges in the program.
- A single, “batched” programmatic biological opinion, a regional general permit, and a 401 Water Quality Certification, consolidating more than 14 separate statutes and permits into one coherent framework.
- An emphasis on outcome-based language (e.g., “the project at completion shall achieve X”), allowing flexibility in methods as long as effects remained within defined “sideboards.”

Gaining consensus among regulatory agencies was the primary challenge. Six agencies ultimately agreed to the shared framework, which required them to relinquish some traditional project-specific control. To build and maintain trust, the program emphasized:

- Formal interagency teams:
  - The Programmatic Agreements Reporting and Implementation Team (PARIT), with representatives from Oregon Department of State Lands (ODSL), U.S. Army

Corps of Engineers (USACE), Oregon Department of Fish and Wildlife (ODF&W), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), Department of Environmental Quality (DEQ), FHWA, State Historical Preservation Office (SHPO), United States Department of Agriculture (USDA) Wildlife Services, ODOT, and OBDP. PARIT met twice monthly for the first five years, monthly thereafter, and then as needed.

- The Materials and Contamination Team comprising ODOT, DEQ, and OBDP, meeting every other month until 2012 and annually thereafter.
- Transparency: Agencies were given password-protected access to the electronic document management system (EDMS) and could review compliance documentation at any time.
- Field-level collaboration: Environmental compliance inspectors worked directly with contractors and construction teams, emphasizing education, best practices, and shared stewardship rather than a purely enforcement-oriented approach. Environmental monitors visited sites weekly during in-water work and monthly at other times to help ensure compliance with the Biological Opinion.

Over the life of the program, OBDP conducted more than 2,600 environmental compliance inspections. There was only one permit violation, which OBDP self-reported.

The programmatic permitting framework is estimated to have saved approximately \$74 million relative to conventional permitting processes, in addition to over \$20 million in savings from recycled materials. These figures do not capture the broader positive impacts on habitat, fish, and wildlife resources.

## **Engineering and Construction**

The OTIA III program’s approximately \$1 billion in construction spending required an estimated \$167 million in engineering services. One of OBDP’s early challenges was addressing inconsistent application of repair standards across ODOT regions. Developing and applying uniform repair criteria:

- Shifted some bridges from “replacement” to “repair” status.
- Moved others to “no work” status.
- Contributed to a more consistent, least-cost, life-cycle-oriented approach to project selection (Prieto, 2011).

Initially, cost estimates varied widely in content and methodology. From May through October 2005, OBDP developed a comprehensive database capturing scoping history and probable costs

(including anticipated efficiencies) for each bridge. This database underpinned the first integrated view of program scope, schedule, and budget and evolved into the Bridge Reporting System (BRS)—described in Part I as perhaps the single most important tool for program management and credible reporting to legislators, the public, and other stakeholders.

A key element of OBDP’s proposal was the use of “prime subconsultants” from the local A/E community, ensuring that the program stimulated the broader consulting industry rather than concentrating work in a single firm. Each A/E contract was managed by an OBDP Design Coordinator responsible for:

- Contract administration and schedule management.
- Coordination of OBDP technical reviews and QA activities.
- Resolving internal technical conflicts and professional differences between A/E engineers of record and OBDP technical staff, within the context of program goals.

Design Coordinators typically managed multiple A/E firms simultaneously, and strong working relationships were critical to success.

Bridges were packaged into bundles to capture economies of scale (shared mobilization, standardized details, repeated temporary works), while some bridges were deliberately unbundled to enhance competition. In total, the program engaged 685 unique contractors and subconsultants (56 in program management, 150 in design, and 479 in construction), including 21 unique prime construction contractors. OBDP also contracted directly with 123 contractors and consultants.

Construction contracts were executed by ODOT, with OBDP serving as ODOT’s representative, providing project management, field support, and inspection services. The program employed three principal delivery methods:

- Design–Bid–Build (DBB)
- Design–Build (DB)
- Construction Management/General Contractor (CMGC)

For the CMGC project (the Willamette River Bridge, renamed as the Whilamut Passage Bridge), OBDP provided staff augmentation and was fully integrated into ODOT’s project management team. Having an on-site ODOT project manager capable of rapid decisions contributed to the absence of construction change orders on that project.

Across the program, fewer than \$3 million in construction change orders were issued—less than 0.3% of the constructed value (Table 3). Analysis of change-order categories highlighted the importance of robust design-phase QA/QC.

CCO Cause	Avoidance Strategy	Number of Occurrences	Total Value of CCO	Average Value of CCO
Design Error and/or Omission	Increase Quality Control effort	7	\$760,492	\$108,642
Differing site conditions	Verify existing conditions	13	\$610,681	\$46,975
Boilerplate language unclear	Clarify mobility requirements in affirmative language	1	\$495,000	\$495,000
Change in Policy	Update PS&E with most recent information	5	\$286,921	\$57,384
Claim Settlement	No action proposed	1	\$180,489	\$180,489
Quality Control not adequately precise	Need more experienced reviewers/checklists	12	\$150,918	\$13,720
Changed Conditions	Verify conditions prior to bidding	4	\$136,849	\$34,212
Bid Item Conflict	Use Bid Item book during plan development	10	\$74,771	\$8,308
Contractor Error	No action proposed	5	\$58,146	\$11,629
Earthwork Imbalance	Independently validate earthwork quantities	2	\$54,240	\$27,120
Inspection Protocol not followed	More training on Inspection Protocol	1	\$44,305	\$44,305
Incomplete scope in plans	Conduct Constructability Review	4	\$23,012	\$5,753
Lack of construction sequence	Conduct Constructability Review	1	\$10,284	\$10,284
Field Change	Additional Engineer support during construction	1	\$7,134	\$7,134
Conflict between PS&E and Shop Drawings	More thorough Shop Drawing review	2	\$7,030	\$3,515
Standard Drawings and Specifications incomplete	Update Standards	1	\$2,393	\$2,393
Subconsultant lacked QC	Perform QA/QC on subconsultant deliverables	1	\$540	\$540

Table 3. Generalized Construction Change Order categories under OBDP CEI and their associated cost.

The program website included a directory of prequalified prime and specialty contractors, noting their areas of expertise and DMWESB status. This enabled OBDP and prime A/E firms to identify suitable firms for specific tasks and to track progress toward aspirational DMWESB participation goals. Approximately 76% of listed DMWESB firms obtained work on the program.

A total of 275 design exceptions were approved, saving an estimated \$683 million and helping ODOT keep the program within its fixed budget. These practices supported ODOT’s subsequent adoption of “practical design.” Illustrative examples include:

- Reducing shoulder width from an 8-foot standard to 4 feet on an urban bridge with no existing shoulders and no crash history, saving about \$15.4 million.
- Maintaining existing shoulder and median widths on a mountainous section of highway (below nominal standards) to avoid expensive rock and earthwork, saving roughly \$5 million.

Third-party quality assurance by Delcan—at a cost of less than 0.4% of the capital program—generated tangible improvements by identifying systemic issues and trends. More than 450 assessments were conducted, with OBDP construction engineering and inspection (CEI) compliance exceeding 97%.

## Staff Management

Over an 11-year program, staff inevitably experienced major life events and career changes. Sustaining continuity and institutional memory was a persistent challenge. Midway through the program, leadership turnover raised concerns; renewed ODOT–OBDP collaboration helped restore momentum.

Key drivers for staff engagement across OBDP, ODOT, and partner organizations included:

- Feeling valued, supported, and involved.
- Participation in decision-making.
- Freedom and encouragement to voice ideas and concerns.
- Confidence that input would be heard and acted upon.
- Clear enablement to perform effectively.

Three planning documents were particularly important in managing staff and aligning the organization:

- A **Strategy Document**, setting direction and priorities.
- A **Responsibility Assignment Matrix (RAM)**, clarifying roles and accountabilities.
- A **Staffing and Financial Plan**, tying resource needs to scope, schedule, and budget.

These documents supported staff release and redeployment, consolidation of activities, goal-setting, and alignment between OBDP and ODOT. “Stretch targets” were used to raise performance expectations and to demonstrate to ODOT that its interests were being proactively served.

Succession planning and staff release were jointly planned with ODOT and reflected in strategy and contract documents to manage risk. Social events played a nontrivial role in building cohesion in a large, long-duration joint venture, creating a sense of “family” that facilitated collaboration.

Community outreach was another highlight. OBDP employees contributed more than \$60,000 and over 11,000 volunteer hours to schools, shelters, and other community organizations.

## Reporting

Concise, focused, and actionable management reports were essential for timely decision-making, communication, and alignment. Among the most important were:

- **Weekly “Flash Report”** (not required by contract; Appendix A): Provided forward-looking information on full-time equivalents, fleet status, work order contract (WOC) closeout status, accounts receivable, and critical issues/areas of focus. It rapidly became an indispensable tool for both ODOT and OBDP.
- **Annual CS3 (Context Sensitive and Sustainable Solutions) Report:** The primary “umbrella” document for overall program performance, including trends and metrics for the five program goals.
- **Monthly Progress Report (MPR)** (Appendix B): Summarized status on the five program goals, bridge progress, budget, and risks; co-signed by ODOT and OBDP program directors. The MPR format was later adapted for the State Radio Project (SRP), lending immediate credibility to that effort.
- **Annual Economic Stimulus Report:** Documented jobs created or sustained, wage and tax impacts, and other economic indicators.
- **Annual Programmatic and Materials and Contamination Environmental Performance Standards Monitoring Report:** Provided updates on environmental performance under the Biological Opinion and satisfied annual regulatory reporting requirements.

In total, 123 Monthly Progress Reports were produced over the life of the program. Together with the weekly Flash Report, they became two of the most valuable management tools. Final program documentation was accessible via the legacy website ([www.otiabridge.org](http://www.otiabridge.org)) which is no longer available:

- Program Final Report (Lauer and Craig, 2015)
- *Leaving a Legacy: OTIA III State Bridge Delivery Program* (magazine)
- Final CS3, Economic Stimulus, and Environmental Performance Reports

- Final Monthly Progress Report

## **Communications**

Strategic, focused communications were essential to delivering clear, consistent messages to ODOT, stakeholders, partners, and the public. Regular “feedback loops” supported continuous improvement and alignment.

Leaders recognized two common tendencies in communication chains: messages often become more forceful as they move down the hierarchy, and weaker or more attenuated as they move up. To counteract this, senior leaders routinely left their offices to engage directly with staff at all levels, seeking out issues and concerns, resolving them, and reporting back to those who raised them. These site visits:

- Built trust and strengthened relationships.
- Identified emerging issues earlier.
- Provided opportunities to share progress and celebrate successes.

In practice, the program consistently gained more insight from these interactions than it delivered, reinforcing their value as tools for continuous improvement. It was equally important that all staff understood how their work contributed to program success.

## **Project Delivery Highlights**

For roughly a century, design–bid–build (DBB) has been the dominant project delivery method for state departments of transportation. While DBB allows agencies to retain direct control of design, it can limit opportunities for innovation and typically entails longer delivery timelines. Fiscal pressures and aging infrastructure have led many states to explore alternative delivery methods to accelerate projects, promote innovation, and better accommodate stakeholder needs.

Alternative delivery methods used on OTIA III included:

- **Design–Build (DB):** Single contract for design and construction, facilitating innovation and schedule compression; contractor assumes responsibility for many design errors and omissions.
- **Construction Management/General Contractor (CMGC):** Early engagement of a construction manager under a separate contract from the designer, preserving owner control of design while leveraging contractor expertise.

Table 4 compares the advantages and disadvantages of DBB, DB, and CMGC.

	<b>Pros</b>	<b>Cons</b>
<b><i>D-B-B</i></b>	<ul style="list-style-type: none"> <li>• Conventional approach</li> <li>• Owner designed or largely so</li> <li>• Suited to small, well-defined projects</li> <li>• Lower cost if no change orders</li> <li>• More time on front to secure right of way permits</li> </ul>	<ul style="list-style-type: none"> <li>• Longer timeline</li> <li>• More change orders</li> <li>• No likely contractor involvement in design</li> </ul>
<b><i>D-B</i></b>	<ul style="list-style-type: none"> <li>• No owner risk or minimal</li> <li>• Saves time – reduces schedule</li> <li>• Single point of responsibility-contractor</li> <li>• Opportunity of innovation</li> <li>• Design error and omission responsibility are contractor’s, less cost to owner</li> </ul>	<ul style="list-style-type: none"> <li>• Not suited to complex designs</li> <li>• Limited owner involvement in design</li> <li>• Potential for contractor design error decisions</li> <li>• Selection criteria can be subjective, hard to evaluate</li> <li>• Permits, right of way railroad approvals need to be secured/documented upfront</li> <li>• Value engineering too defined and who keeps savings</li> <li>• Stakeholder management must be defined/documented prior to award</li> </ul>
<b><i>CMGC</i></b>	<ul style="list-style-type: none"> <li>• Good for unique approaches</li> <li>• Good for complex construction phasing</li> <li>• Owner controls design</li> <li>• Contractor selected on quals/best value</li> <li>• Early const estimate (open books)</li> <li>• Owner controls risk</li> <li>• Gross maximum price (GMP) decided</li> <li>• Allows continuous design and construction, especially through early work packages</li> <li>• Can mitigate escalation, especially for complex projects</li> </ul>	<ul style="list-style-type: none"> <li>• Need sophisticated owner</li> <li>• Not appropriate for small, well-defined projects</li> </ul>

**Table 4.** Pros and cons of alternative project delivery methods used on the OTIA III Program: Design-Bid-Build (D-B-B), Design-Build (D-B) and Construction Management-General Contractor (CMGC).

In summary:

- DB can reduce owner risk and shorten schedules, with a single point of responsibility, but may limit owner influence over design and requires careful upfront handling of permits, right-of-way, and stakeholder commitments.
- CMGC is well suited to complex, unique projects and allows for open-book cost estimating and negotiated Guaranteed Maximum Price (GMP) but requires a sophisticated owner and is generally not appropriate for small, well-defined projects.

ODOT’s decision to use program management, DB, and CMGC was driven by the need to repair or replace 365 bridges as quickly as possible despite limited internal experience with DB and no prior CMGC experience. Consequently, procedures and guidance were developed essentially concurrent with program delivery (Cox, 2012).

Table 5 summarizes the distribution of bridges and budgets across delivery methods (as of February 29, 2012), excluding 94 bridges ultimately moved to “no work” status and \$606 million in non-OTIA III funds that augmented OTIA III allocations.

	Bridges	Budget
D-B-B	198	\$721,445,035
D-B	72	\$354,534,938
CMGC	1	\$173,626,000
<b>Total</b>	<b>271</b>	<b>\$1,249,605,973</b> <b>(reserve \$50,394,027)</b>

**Table 5.** OTIA III Program repair and replacement projects (bridges and budgets as of February 29, 2012) in categories of Design-Bid-Build (D-B-B), Design-Build (D-B) and Construction Management-General Contractor (CMGC). These budgets do not include another \$606 million of non-OTIA III funds that augmented and leveraged the OTIA III Program funds. For example, the Willamette River Bridge CMGC budget included \$32,229,000 of federal funds for a total CMGC budget of \$205,855,000. These numbers do not include 94 bridges that were moved to no work. And with them the total would be 365 bridges.

To distinguish alternative delivery/design project managers from construction project managers, ODOT and OBDP adopted the term “Design Coordinator” for the former. Design Coordinators performed a similar role to construction project managers, with particular emphasis on controlling scope creep and maintaining budgets.

In DB, risk to ODOT was minimized by transferring many design responsibilities and associated risks to the DB contractor. In CMGC, ODOT retained more risk in exchange for lower costs and

greater flexibility. For example, the Willamette River Bridge CMGC project had no construction change orders, largely due to nine negotiated design packages that allowed risks and design decisions to be managed iteratively. This flexibility is difficult to achieve under traditional DBB and allowed ODOT to respond more readily to uncertainties and stakeholder needs (Dodson, 2013).

Numerous technical and project-management innovations—ranging from temporary bridge construction and the use of bubble curtains for pile-driving noise mitigation, to gantry crane erection schemes and flood insurance assistance—are documented elsewhere in ODOT publications, white papers, webinars, and industry articles (e.g., Bollman, 2012; Bonn, 2015).

## **Program Closeout**

A key lesson from OTIA III is that program closeout planning should begin at program inception.

### *Contract Closure*

ODOT and OBDP held regular meetings to monitor progress toward contract closeout, guided by the Program Closeout Work Plan approved by ODOT. Closeout activities included:

- Verification of more than 7,000 deliverables.
- Reconciliation of nearly 800 Potential Deviation Notices (PDNs).
- Verification of more than 250 contract amendments, including three amendments to the Agreement to Agree.
- Verification of nearly 700 Change Management Requests (CMRs).
- Financial reconciliation and settlement.
- Execution of final amendments and closeout agreements for 71 work order contracts.

Each of the 71 final closeout agreements included mutual releases: ODOT's release of OBDP and OBDP's release of ODOT from further contractual obligations. Timely execution of these agreements reduced risk and avoided additional costs.

### *Administrative Closure*

The Program Completion Tactical Communications Plan (PCTCP) identified key administrative closeout objectives:

- Communicate the successful completion of the OTIA III Program.
- Celebrate the accomplishments of the 11-year effort.
- Document successes, challenges, and lessons learned in creating, managing, and delivering the program.

- Establish a historical reference and final program report.

Administrative closeout also encompassed:

- **Transfer of physical assets:** Return or transfer of 74 fleet vehicles, client-purchased equipment, and 11 IT systems. A rigorous inventory process reconciled purchase records with ODOT's asset registers.
- **Transfer of project files:** Hard-copy records were transferred to ODOT via formal document control transmittals; electronic files were archived for both ODOT and OBDP, creating a comprehensive, accessible record.

## The Fluor–HDR Joint Venture

Operating under a joint venture agreement executed in 2004, the Fluor–HDR partnership functioned effectively by almost any measure. The JV structure provided a broader talent pool and organizational depth, enabling successful delivery of a complex program for ODOT. Transparency between the partners and with the Program Director was a defining feature.

A Joint Venture Board, initially comprising three representatives from each firm (later reduced to two per firm for efficiency), provided:

- Strategic oversight and feedback.
- A link back to the parent companies.
- Support for maintaining a strong client relationship.

Board membership evolved over time, paralleling leadership changes within ODOT and OBDP.

By the program midpoint (2009–2010), both ODOT and the JV were concerned about leadership turnover. Joint efforts to address retention and succession regained momentum and supported successful completion of the program (Fluor Corporation, 2012).

Prieto (2013) summarized a Bank of America Merrill Lynch survey of business leaders on owner–JV partner relationships, noting that 90% believed future success would require even greater collaboration. The OTIA III experience aligns closely with several key findings:

1. The ODOT–OBDP team performed significantly better than the 23 programs surveyed.
2. Attention to JV management must not come at the expense of attention to the client.
3. The JV Program Director/Manager's ability to be perceived as singularly focused on the JV's and client's success—and to manage relationships with the client, project teams, JV partners, and stakeholders—is critical. Maister et al's (2000) "trust equation" is instructive:

TRUST = C + R + I/SO

C - credibility

R - reliability

I - intimacy

SO - self-orientation

## Lessons Learned

Change and success throughout the program were driven by candid, transparent, and robust dialogue between ODOT and OBDP. These conversations supported leadership and staff changes, IT system development, continuous QA/QC improvements, contract and strategy adjustments, and dispute resolution. Against this backdrop, several overarching lessons emerged:

- **Leadership Matters:** Effective leaders build relationships, trust, and alignment; program management requires both strong technical skills and exceptional people skills. In complex, long-duration programs, communication is the most critical competency. Targeted executive intervention often resolved issues and removed obstacles.
- **High Turnover is Costly:** Contracts should address retention of key leaders while allowing flexibility. Controlled, mutually agreed staff changes are essential for preserving stability and institutional knowledge.
- **Relationships, Trust, and Alignment:** OBDP functioned as an extension of ODOT’s workforce. Poor fit or misalignment with program goals was not tolerated because of the cost in time and performance. Trust and mutual respect across the ODOT-OBDP-JV-Contractor-stakeholder network were central to success.
- **Strong Safety Culture:** A pervasive safety culture and constant vigilance protected workers and the public and significantly reduced liability.
- **Planning is Critical:** Adequate time for planning—especially during contract negotiations—helps secure “buy-in” from operational staff and improves understanding of contractual obligations.
- **Closeout Starts at the Beginning:** Initial focus on rapid delivery delayed closeout planning, but once processes were developed, contracts were closed out on schedule. Future programs should integrate closeout planning from the outset.
- **Focus on Outcomes as well as Process:** While process is necessary, concentrating on ultimate objectives and outcomes is paramount. Maintaining this “big picture” focus contributed directly to program success.

- **Economies of Scale:** The program leveraged \$136 million in new state and federal funding and approximately \$470 million in non-OTIA III funds. Bundling of bridges reduced mobilization and other costs while encouraging competition.
- **Simple, Focused Reports:** Clear, objective, and easily understood reports saved time and improved decision-making. The Annual Sustainability, Economic Stimulus, and Environmental Reports, the Monthly Progress Report, and the weekly Flash Report were especially valuable.
- **Anticipate Technological Change:** Over an 11-year program, technology evolved rapidly. While OTIA III managed these changes effectively, future long-duration efforts must explicitly plan for technology refreshes and compatibility.

Continuous assessment of program performance allowed ODOT and OBDP to incorporate lessons learned in real time. The Project Management Body of Knowledge (PMBOK) provided additional guidance and structure.

## Conclusion

The OTIA III State Bridge Delivery Program required leaders to develop new approaches to managing a large, complex, and dynamic infrastructure initiative. Success depended on authentic, open, and resilient leadership; an integrated, holistic program framework; and the ability to maintain a strategic, “big picture” perspective while managing intense project-level demands.

Two themes framed the program experience: “**stay aligned with the client**” and “**it is all about people.**” The so-called “soft” issues—relationships, trust, communication—proved to be decisive. Relationships with all stakeholders—ODOT, the JV partners, consultants, contractors, freight industry, regulatory and resource agencies, and elected officials—were fundamental to success. The program experience reinforces the idea that “relationships rule the world.”

As the owner’s representative, OBDP sought to focus on the client’s interests, avoid arrogance, remain transparent, self-report issues, and respond rapidly and reliably. The central challenge was to provide strategic leadership while maintaining trust, mutual respect, and alignment among ODOT, OBDP, the JV Board, HDR, Fluor, partners, and stakeholders.

Sustainability—operationalized through the CS3 framework—proved to be a competitive advantage and an effective integrator across functional areas and stakeholders. Through training, checklists, and embedded processes, CS3 supported consistent consideration of economic, social, and environmental trade-offs.

The Program Management Office (PMO), led by a dedicated Business Manager, was critical in integrating interdependent business functions and maintaining financial and contractual discipline. A comprehensive safety culture broadened the definition of safety to encompass health and environmental conditions, further reducing risk and improving outcomes.

Finally, capturing and sharing knowledge from OTIA III is vital. This case study is intended to contribute to ongoing development of program management practice. Information “mined” from this program will continue to inform future efforts.

Ultimately, the ODOT–OBPD team achieved its overarching objective: delivering a sustainable infrastructure investment program that improved the economy, mobility, and environment while providing a positive return on investment for the citizens of Oregon.

## **Acknowledgments**

The OTIA III Program began over two decades ago, and I believe the experience and lessons learned remain relevant. However, during this long duration, it is impossible to recognize all of the people involved, their contributions, and myriad other program details. I am in debt to all of them and I take full responsibility for the content of this case study, both Part I and II.

## **AI Disclaimer**

AI was used for light editing but not content generation.

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## Appendix A: Flash Report

		<b>OTIA III Program Weekly Flash Report</b> Payroll Week Ending: <span style="color: blue;">04/21/12</span>				ATA 23856 Oregon DOT Salem, OR	
		-- Weekly FTE --			-- Cumulative Hours --		
Description	Plan	Stretch	Actual	Plan	Stretch	Actual	
WOC 8 Workforce	-	0.5	-	-	-	-	
WOC 11 Workforce	2.4	2.4	1.0	206,775	204,591	202,797	
WOC 12 Workforce	16.6	17.1	14.6	521,626	511,588	507,349	
WOC 13 Workforce	30.3	28.5	25.1	227,303	220,445	214,825	
		-- Weekly --					
Description (current)	Plan	Stretch	Actual				
Fleet Vehicles	20	15	16	Transfer In Progress 3			
		-- Weekly --		-- Cumulative --			
Description (current)	Current Plan	Actual	Original Plan	Current Plan	Actual	Actual	
WOCs - Close-out Submittal	-	-	68	65	65	63	
WOCs - Closed	-	-	65	61	61	54	
		-- Weekly FTE --		-- Cumulative Hours --		-- Actual Dollars through January 2012 --	
Bundle No.	Plan	Actual	Plan	Actual	Budget	Forecast	Actual
210	6.8	6.3	23,121	17,095	7,047,839	7,047,839	1,504,838
220	11.4	6.2	53,970	40,463	7,747,450	7,747,450	3,250,977
224	-	0.8	19,378	16,929	1,986,519	1,930,806	1,708,058
508	-	0.2	14,726	12,107	1,550,000	1,550,000	1,454,005
Invoice No.	WOC	Accounts Receivable Description (current)			Date Due	Amount	
13-0312 ERIA	13	WOC 13 ERIA			5/9/2012	57,692.00	
12-0312	12	12-0312 July_Dec 2011 ODC Credit			5/24/2012	-18,717.28	
13-0312	13	13-0312 July_Dec 2011 ODC Credit			5/24/2012	-7,421.92	

**Critical Issues / Areas of Focus**

**Bundle 206** – No change. Waiting on revised inspection report from Region (anticipate 5/12).

**Bundle 210** – Three of the four Span 2 girder lines are in place, along with all of Spans 3 and 4. Delivery of remaining Span 2 girder line sections are expected early next week. Deck forming continues on Span 3. Span 4 deck forming is in place; epoxy coated deck reinforcement is being placed and tied. Remaining work for the eastbound I-84 overcrossing of Jordan Rd. is on hold as the contractor focuses on girder erection and deck forming for the EB Sandy River bridge.

**Bundle 220** – WRB NB: An additional footer has been completed with one remaining. There are a total of 22 columns in various stages of Work: overall 10 of the 22 columns are completed. Decking of Span 10 is complete, and rebar installation has begun. Spans 9, 8, and 7 have partially constructed falsework. End Bent 11 cross beam rebar installation is mostly complete with forms being placed. FHWA has visited the site to introduce the new Region 2 Engineer who will be covering the WRB Project. Roadway: The remaining soldier pile wall has had all lagging installed, but the coping will be deferred until a later date. PSB NB: The deck and both end panels have concrete placed and are in cure. R.O.W. Development: Initial weed maintenance has occurred as well as placement of top soil along the FN1 ramp. Roadway: NB I-5 between WRB and PSB (known as the LN1 line) continues to be worked by removal of detour bridge roadway bar run materials. Embankment continues to be placed on FN1 & LS1 lines.

**Bundle 317 (308)** – Bids were opened on April 5. Low bidder is Wildish for \$198,650.51

**Fenders Blue Butterfly** - Staking was completed 4/27. Fence construction to start 4/28.

**Commercial** – 4/27/2012: Eight OBDP staff members served two lunch shifts at the Union Gospel Mission.

**Bundle 220 - Looking NW at end of deck pour**



**Bundle 210: Installing epoxy coated rebar**



## APPENDIX B: Excerpt of Monthly Progress Report (MPR)

### OTIA III STATE BRIDGE DELIVERY PROGRAM Monthly Progress Report No. 91

#### GOAL 1: STIMULATE OREGON'S ECONOMY

##### Job Creation

Job numbers on the bridge program remained consistent in March, essentially sustaining the jump seen in February with only a slight drop from 968 to 958 for the month. The total number of jobs for the month increased from March 2011 as well, rising by 50 jobs from the previous year.

As illustrated in Figure 1, design expenditures translated into one job in March, and program management jobs rose slightly, to 37. Construction sustained 359 jobs for the reporting period, about 170 more jobs than a year ago. Construction job numbers should increase over the next month or two as weather conditions improve.

Figure 2 shows the forecasted bridge program jobs based on the budget approved by the Bridge Oversight Committee and the cost-loaded schedule for delivery of the bridge projects. Program management as a portion of the total jobs is based on the December 2011 quarterly cash flow analysis.

Based on the IMPLAN model, between 2009 and 2011 the average number of jobs associated with the bridge program was just under 2,150 annually. Job numbers in 2012 will be slightly higher than in 2011 before falling slightly in 2013.

The bridge program created or sustained nearly 3,000 jobs in 2009 and approximately 2,360 in 2010. For the duration of the bridge program, the average number of jobs created or sustained annually is approximately 2,200.

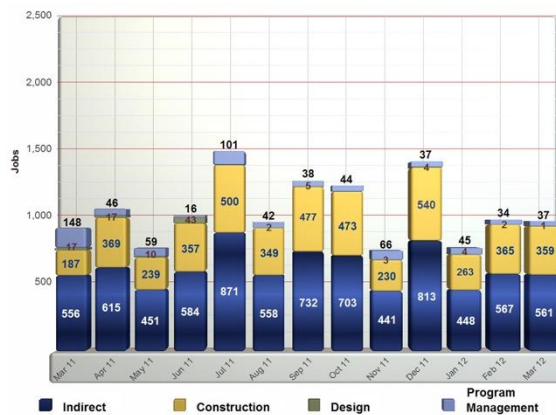


Figure 1: OTIA III State Bridge Delivery Program jobs by category

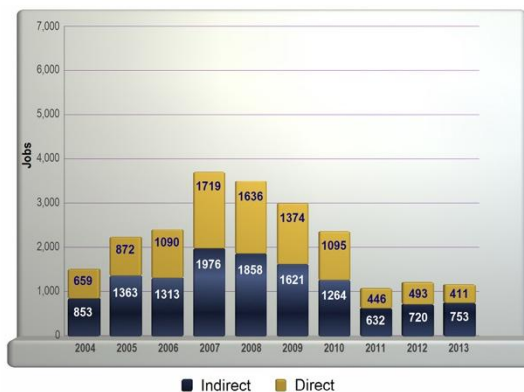


Figure 2: OTIA III State Bridge Delivery Program projected jobs

Note: Projected jobs are based on the most recently approved BOC schedule and expenditures as well as the December 2011 Oregon Bridge Delivery Partners quarterly cash flow analysis. Job numbers through 2011 are actual, while job projections in 2012-2013 are based on the September 2009 IMPLAN model update.

## OTIA III STATE BRIDGE DELIVERY PROGRAM Monthly Progress Report No. 91

### PROJECT STATUS

#### Overall Status Definitions

In the Project Status Summary table, the overall status of each bundle is identified under the following colors:

- G Bundle status is green if both Schedule and Budget are green.
- Y Bundle status is yellow if either Schedule or Budget are yellow and neither are red.
- R Bundle status is red if either Schedule or Budget are red.
- C Bundle status is complete if no further project bundle activities are reported.

Note: See page 22 for a schedule and budget status definitions.

#### Project Delivery Steps

The Project Status Summary table identifies the project’s current step in its delivery method. Definitions for these steps are available online at [obdp.org/method](http://obdp.org/method).

#### Design and Construction Completion Definitions

In the Project Status Summary table, the design and construction completion percentages are uniquely defined for each delivery method.

##### *Design-Bid-Build*

**Design Complete.** Physical percent complete as determined by OBDP design coordinators.

**Construction Complete.** Percent complete based on the contractor’s progress estimate prepared from Contract Payment System (CPS).

##### *Design-Build*

**Design Complete.** Percent complete based on the contractor’s progress estimate prepared from CPS (design cost center).

**Construction Complete.** Percent complete based on the contractor’s progress estimate prepared from CPS, less the design percent complete.

## OTIA III STATE BRIDGE DELIVERY PROGRAM Monthly Progress Report No. 91

### Project Status Summary Table

All project bundles, except those scoped as “No Work,” are summarized on the following table. They are listed in sequential order with the first digit representing the bridge program stage (i.e., Bundle 305 is in Stage 3, Bundle A04 is in Stage 1A, etc.). For each bundle, a corresponding bundle information sheet is available at the page number provided. Completed bundles have an abbreviated bundle information sheet in this report, and a full report is available online at [www.obdp.org/dashboards](http://www.obdp.org/dashboards).

Page	Bundle Number	Bundle Name	Overall Status	OTIA III Bridges	Other Bridges	Project Delivery Step	Design Complete	Construction Complete
23	210	I-84: Sandy River - Jordan Road - Bundle 210	R	4	0	Step 12 - Progress 50%-100%	100%	53%
24	220	I-5: Willamette River Bridge - Bundle 220	G	1	0	Step 12 - Const. Progress 50% - 100%	100%	61%
26	224	I-84: Exit 64 (Hood River) - Bundle 224	R	1	0	Step 12 - Progress 50%-100%	100%	96%
27	257	OR 58: Salt Creek Tunnel & Half Viaducts - Bundle 257	G	1	3	Step 10 - Pre-Construction	95%	0%
28	314	I-5: Valley View Road (North Ashland Interchange) - Bundle 314	Y	1	0	Step 12 - Progress 50%-100%	100%	90%
29	316	I-5: Green Springs Highway (Exit 14) - Bundle 316	R	1	0	Step 12 - Progress 50%-100%	100%	78%
30	317	I-5: North Umpqua River Bridge NB (Winchester) - Bundle 317	G	1	0	Step 9 - Pre-Let Period	90%	0%
31	357	I-5: Del Rio Road/Winchester Interchange - Bundle 357	G	1	0	Step 12 - Progress 50%-100%	100%	63%
32	460	OR 82: Minam Viaduct & Willowa River (Minam) - Bundle 460	G	4**	0	Step 12 - Progress 50%-100%	100%	78%
33	462	OR 82: Grande Ronde River and INP Railroad (Indian Creek) - Bundle 462	Y	1	0	Step 12 - Progress 50%-100%	100%	68%
34	509	OR 200: South Fork Siuslaw River - Bundle 509	Y	4**	0	Step 12 - Progress 50%-100%	100%	52%
35	513	OR 200: Bear Creek - Bundle 513	G	1	0	Step 12 - Progress 50%-100%	100%	94%
36	101	Mt. Hood to Chemult (D/B) - Bundle 101	C	10	2	Step 12 - Complete	100%	100%
36	102	Central Oregon Bridges (D/B) - Bundle 102	C	3	13	Step 12 - Complete	100%	100%
36	103	US 97: Nevada Avenue to Green Springs Drive - Bundle 103	C	3	0	Step 14 - Complete	100%	100%
37	105	Zig Zag River - Bundle 105	C	1	3	Step 14 - Complete	100%	100%
37	152	Spring Creek to Shady Pine Road - Bundle 152	C	4	0	Step 14 - Complete	100%	100%
37	154	Willow Creek - Bundle 154	C	1	0	Step 14 - Complete	100%	100%
38	A01	I-5: South Douglas County/Louse Creek - Bundle A01	C	0	0	Step 14 - Complete	100%	100%
38	A02	I-5: Clarks Branch to Tunnel Mill Race (D/B) - Bundle A02	C	10**	2	Step 12 - Complete	100%	100%
38	A04	I-5: Whiteaker Avenue - London Road - Bundle A04	C	6**	0	Step 14 - Complete	100%	100%





## OTIA III STATE BRIDGE DELIVERY PROGRAM Monthly Progress Report No. 91

### Bundle Information Sheets

#### Bundle Information Sheet Abbreviations

<b>ACOE</b> Army Corp of Engineers	<b>NTP</b> Notice to Proceed
<b>ATA</b> Agreement to Agree	<b>OBDP</b> Oregon Bridge Delivery Partners
<b>BOC</b> Bridge Oversight Committee	<b>ODOT</b> Oregon Department of Transportation
<b>BOT</b> Bridge Operations Team	<b>OPL</b> Office of Project-Letting
<b>CEI</b> Construction Engineering Inspection	<b>OTIA</b> Oregon Transportation Investment Act
<b>CM/GC</b> Construction Manager/General Contractor	<b>PS&amp;E</b> Plans Specifications & Estimate
<b>CPM</b> Consultant Project Manager	<b>PE</b> Preliminary Engineering
<b>D/M/W/ESB</b> Disadvantaged/Minority/Women/Emerging Small Business	<b>RFC</b> Released for Construction
<b>DP</b> Design Package	<b>RFI</b> Request for Information
<b>DAP</b> Design Acceptance Package	<b>RFS</b> Request for Services
<b>DAW</b> Design Acceptance Workshop	<b>ROW</b> Right of Way
<b>EA</b> Expenditure Account (\$)	<b>TCP</b> Traffic Control Plan
<b>MPB</b> Major Projects Branch	<b>WOC</b> Work Order Contract

#### Bundle Information Sheet Map Legend

-  Identifies OTIA III funded bridge project.
-  Identifies non-OTIA III funded bridge project.

#### Schedule and Budget Status Definitions

Definitions for Schedule and Budget Status		February Overall Status	March Overall Status
<b>G</b>	<b>Schedule.</b> All bridges in the bundle are on schedule. <b>Budget.</b> All the bridges in the bundle are within budget.	8	6
<b>Y</b>	<b>Schedule.</b> Any bridge in the bundle slips 1-90 days from the schedule. <b>Budget.</b> The bundle is up to 10% over budget.	2	3
<b>R</b>	<b>Schedule.</b> Any bridge in the bundle slips 91 or more days from the schedule. <b>Budget.</b> The bundle is more than 10% over budget.	2	3

OTIA III Stage 2

Step 12 - Progress 50%-100%

I-84: Sandy River - Jordan Rd - Bundle 210

**R** Overall  
**R** Schedule  
**G** Budget



Contract Number: C14165  
 Key Number: K14032  
 OTIA III Bridges: 06875A (20879), 06875 (20878), 06945, 06945A  
 Non-OTIA III Bridges: None  
 ODOT Region--County: 1 -- Multnomah  
 ODOT Area Manager: Richard Watanabe  
 ODOT BDU Area Manager: Jim Cox  
 ODOT BDU CPM: Ronald Reisdorf  
 OBDP Coordinators: Design: Wayman Bolly  
 Construction: William Barnhart  
 A&E Firm--Project Manager: Doug Johnson  
 Contractor--Contact: Hamilton Construction Co.  
 Percent Complete: Design: 100% Const.: 53%

Scheduled Milestone Summary				
Design	Planned	Forecast	Actual	
NTP	03/2006	---	05/19/2006	
Final DAP	06/2008	---	05/07/2008	
Progress Plans	12/2009	---	09/23/2009	
Advance Plans	02/2010	---	11/04/2009	
Final PS&E to OPL	03/2010	---	12/01/2009	
ROW	---	---	06/16/2010	
Construction		Planned	Forecast	Actual
Let	02/2010	---	02/18/2010	
NTP	04/2010	---	03/30/2010	
Complete	11/2013	11/2014	---	

Financial Summary (\$ 000's)			
BOR Budget (OTIA III Bridge Only)	\$24,946		
BOC Budget (OTIA III Bridge Only)	\$83,729		
Non-OTIA III Bridge Budget			
Total Bundle Budget	\$83,729		
Cost Item	Budget	Forecast	Expended
Totals	\$83,729	\$81,295	\$46,932

**Project Bundle Scope Summary:**

- This bundle consists of two replacement bridges (06875 and 06875A) and two repair bridges (06945 and 06945A).

**Project Bundle Status:**

- Programmatic Permits: The Sandy River bridges (06875 and 06875A) are outside the parameters for programmatic permits due to the large volumes of fill material required. Individual permits for Department of State Lands and US Army Corps of Engineers have been acquired.

**Project Bundle Activities/Accomplishments:**

- The detour bridges at Sandy River and Jordan Road are in use for eastbound I-84 traffic.
- Eastbound Sandy River Bridge: The overhead gantry crane delivery system is in place and operational. Girder placement is in progress for the eastbound structure. The four girder rows between Bents 4 and 5 (Span 4) have been set; three girder rows have been set between Bents 3 and 4 (Span 3). Girder placement will continue as girder sections are delivered and spliced. Deck forming is in progress on Span 4.
- Work continues on the eastbound portion of the pedestrian tunnel (CCO work) and the eastbound Jordan Road structure.
- The IGA with Oregon Parks and Recreation Department has been signed. The temporary easement with the city of Troutdale has been approved.

**Project Bundle Notes of Interest:**

- The contractor was directed to use an overhead delivery construction method in lieu of the conventional work bridge and crane delivery. This revised approach required adding an additional year of contract time to the project (added by CCO).
- The contract has received approval for a revised in-water work timeframe of May 1 to Nov. 30.

**Issues Being Worked:**

- The state is reimbursing local residents the cost of flood insurance. Policy renewals are on-going.

## About the Author



**John L. Craig**

Nebraska, USA



**John L. Craig** has served as a civil engineering executive in both the public and private sectors, leading award-winning multibillion-dollar programs and projects around the world. He served as the Program Manager/Director, Owner’s Representative, and Principal-in-Charge for the Fluor-HDR Joint Venture that delivered the Oregon Transportation Investment Act III State Bridge Delivery Program from 2009 to 2015, the last and final of three since the Joint Venture-Program began in 2004. A retired U.S. Army Corps of Engineers Lieutenant Colonel and former Director of the Nebraska Department of Transportation, he holds bachelor's and master's degrees from the University of Central Missouri, a master's degree from the University of Alaska-Fairbanks, and has published on the natural-built environment, engineering, construction, national defense, and security. He currently resides in Omaha, Nebraska, and can be contacted via email at [johnlcraigconsulting@cox.net](mailto:johnlcraigconsulting@cox.net).