

# ODOT Project Delivery Guide

## APPENDIX D:

### MANAGING THE PROJECT DEVELOPMENT PROCESS

*To report problems or update information, please e-mail the [PDG Webmaster](#)*

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#### ***PMI PROJECT MANAGEMENT***

The Project Management Institute's "A Guide to the Project Management Body of Knowledge" (PMBOK® Guide) defines a project as "a temporary endeavor undertaken to produce a unique outcome." An ODOT capital project produces a unique physical improvement to the transportation system in Oregon. "Project" refers to the work that is performed. Projects produce products. A project is temporary because it has a definite beginning and a definite end. The outcome is unique because it differs in some distinguishing way from all similar products or services. For example, ODOT may be engaged in many highway maintenance projects, but each project is unique because it involves a unique location and work elements on a specific section of highway.

ODOT divides each project into "stages," each of which produces a major product required by law. Collectively, these stages constitute the "project lifecycle."

Because available resources are limited - compared to transportation needs - efficient use of tax dollars is essential. Project management helps us maintain efficiency by making sure that the right people complete the right tasks at the right time.

The PMBOK® Guide defines project management as “...the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed sponsors’ needs and expectations from a project.” Project management balances competing demands (scope, schedule, budget, quality, requirements, etc.) throughout the project lifecycle and involves the interaction of three elements:

People – People perform the work and determine the success or failure of a project

Processes – Processes specify activities, products or deliverables required for the project and identify who will perform the work and when

Tools –predefined tools and techniques people use to manage the project

For projects to be successful, the project team must understand and apply generally accepted project management techniques such as work breakdown structures, critical path analysis, and earned value. While they are necessary, these techniques alone are not sufficient for effective project management. Effective management of Oregon state highway projects requires that the project team understand and use five knowledge and skill sets:

Project management knowledge and practices – these consist of the project lifecycle definition, five project management process groups, and nine project management knowledge areas.

State highway project standards and procedures – the Project Delivery Guidebook and the Project Delivery Academy are the primary sources of these procedures.

Understanding of the project context – the project team must understand the project in its social, biological, and physical environment. The team must understand how the project affects people and how people affect the project. This requires an understanding of the political, economic, demographic, educational, ethical, ethnic, religious, and other characteristics of the people who will be affected by the project or who have an interest in the project. Some team members must be familiar with applicable federal, state, and local laws and with the relevant portions of the budgets of the entities that are funding the project. Other team members must be knowledgeable about the flora, fauna, geology, and physical geography of the region around the project.

General management knowledge and practices – these are needed for the management of any enterprise. They include strategic planning, health and safety practices, marketing, financial management and accounting, and personnel administration.

Human relations skills – these are often called “soft skills,” including the management of relationships with others and the management of oneself. Soft skills include communication, teamwork, leadership, conflict management, negotiation, problem solving, motivation, delegation, personal time management, and stress management. Every person can improve his/her soft skills through training and practice.

It is not necessary for every team member to possess all these knowledge and skill sets. In fact, it is unlikely that any one person will have all of the knowledge and skill necessary for project success. Some knowledge and skill sets might not be needed on a particular project, but they should be available “on call” within ODOT or through consultants.

Each component involves a series of processes from five “process groups.” The PMBOK® Guide defines a process as “a series of actions bringing about a result.” Project processes fall into one of two categories:

Project management processes – describe and organize the work of a project.

The project management processes are associated by having an integrated purpose. The purpose is to initiate, plan, execute, monitor and control, and close a project.

Product-oriented processes – specify and create the product. Product-oriented processes are defined by the project lifecycle (Program Development, Project Development, Award Construction Contract, and Construction Management).



## ***PARTICIPATION AND PARTNERING***

All transportation projects with any possible impacts to the local community require a balanced and sensitive approach to planning, design, and construction. Projects must be supported by sound engineering and at the same time incorporate the needs of the jurisdictions involved. This is borne out again and again in a world where competing interests must reach consensus on how to address multiple social needs.

As might be expected, solutions to complex issues are rarely easy to achieve. There is no computer program that can accomplish the aims of [public involvement](#), no formula for the “right” answer. The process of soliciting, listening, and responding to what citizens and customers have to say about a public agency’s plans for action can be a complicated, challenging, and often intimidating process for all involved. However, when it is done well and thoroughly, it is also a rewarding and meaningful experience that leads to better decisions.

Public involvement describes any two-way communication that seeks to involve, inform or gather input from the public and stakeholders. It’s the umbrella term to describe all levels of public information, education, relations, outreach, input, involvement and collaboration and it is at the core of Context Sensitive and Sustainable Solutions (CS<sup>3</sup>). Depending on the project, stakeholder participation efforts may involve various levels of public information.

Public involvement is:

Actively engaging a broad cross-section of stakeholders early in the decision-making process for planning, programs and/or projects  
Accommodating the political climate and level of public impact  
Building trust and credibility among all parties  
Promoting the shared obligations of the decision-makers and public to define policy, goals, and objectives  
Conducted using a variety of techniques, including public information materials, surveys, soliciting comments, consensus-building activities, meetings, workshops, advisory groups, etc.  
Including elements suggested by the public when possible, and when not, thoroughly explaining why suggestions could not be incorporated in the final plans or designs

Public involvement is not:

Public information (alone)  
Public relations (selling, persuading)  
Public hearings  
Political abandonment of decision-making responsibility  
An end in itself

Core values of public involvement:

People should have a say in decisions about actions that may affect their lives  
The public's contribution will influence our decisions  
The process communicates the interests and serves the needs of all participants  
The process seeks out and facilitates the involvement of those potentially affected.  
The process involves participants in defining how they participate  
The process provides participants with the information they need to participate in a meaningful way  
The process communicates to participants how their input affected the decision

**Why public and stakeholder participation is important.**

There is general agreement that a well-conceived and well-implemented stakeholder participation plan can bring major benefits to the transportation planning process and lead to better decision outcomes. Benefits include the following:

Stakeholder ownership: By involving stakeholders in the assessment of needs and solutions and identifying troublesome issues early, stakeholder participation can promote citizen "ownership." While most transportation projects have some negative effects, stakeholders are more willing to accept these when they accept the need for the policy or project, participate in developing the alternatives, and understand the technical and regulatory constraints. To the extent that stakeholders are involved in the decision, their support will be sustained over time.

Decisions that reflect community values: The stakeholder participation process involves consultation with many segments of the community. Because this is a collaborative process, decisions reflect community values.

Efficient implementation of transportation decisions: Decision makers understand the concerns of the public and can be more sensitive to those concerns in the implementation process. Incorporating stakeholder participation into transportation projects can reduce risk of litigation and avoid revisiting decisions, thus significantly reducing costs.

Enhanced agency credibility: The process of stakeholder participation often transforms agency culture by requiring agency decision makers to interact with their constituents. As a result, stakeholders develop a better understanding of agency operations, and agency officials have a better understanding of public thinking. This mutual education leads to better decisions and improved relations.

ODOT is committed to involving the public -- individuals, governments, and other organizations -- in planning and decision-making efforts that may affect them. This commitment is an outgrowth both of ODOT's responsibility as a public agency to be accountable to those we serve and the recognition that better communication can lead to better decisions. The more we understand and address the needs and ideas of those affected, the better able we are to achieve our mission.

ODOT believes that by engaging the public through stakeholder participation we will:

- Improve the quality of ODOT decisions and relationships with stakeholders
- Increase the ease of constructing a project, helping to minimize costs and delays

- Help ODOT maintain credibility and legitimacy

- Improve our ability to anticipate stakeholder concerns and attitudes

- Promote informed consent, as better educated stakeholders not only understand transportation issues, but also know how and why ODOT makes its decisions

For every project a Public Involvement Plan is developed and modified throughout the lifecycle of the project. The Project Delivery Public Involvement Guidebook provides information on how to develop and implement a plan and also provides templates.

More detailed information can be found in [Operational Notice 12](#) and in ODOT's [Public Involvement Resource Guide](#).

For information about project lifecycle Title VI and Environmental Justice considerations, visit the [Title VI Plan](#) at [Oregon.gov/ODOT/CS/Civil Rights](http://Oregon.gov/ODOT/CS/Civil Rights).



## QUALITY PROGRAM FOR DESIGN

### BACKGROUND

ODOT initially implemented the Quality Program because increased construction caused the agency to re-examine its approach to design production: With a goal of limited agency staffing, ODOT moved toward greater use of consultants and witnessed a progression from partial design outsourcing to full project design outsourcing. At the same time, internal production design resources migrated from a central to a de-centralized structure. This combination of changes resulted in significant increases of the design volume delivered by non-central providers, with only about 20 to 30 percent delivered by ODOT employees at decentralized offices.

Responding to this rapid change in design sources, ODOT developed the Quality Program for Design to better document and manage the organization's processes, offer useful quality tools, perform quality assurance reviews, and provide consistent guidance for continual improvement to ODOT's design process.

### DEFINITIONS

The following definitions were compiled in March 2009 through coordination with ODOT's Quality Assurance Steering Team (QAST):

Term	Definition	Attributes and Examples
Quality	<p>"Any character or characteristic which may make an object good or bad, commendable or reprehensible; the degree of excellence which a thing possesses."</p> <p><i>Webster's New World Dictionary 1987</i></p>	<ul style="list-style-type: none"> <li>• Performance</li> <li>• Conformance</li> <li>• Reliability</li> <li>• Durability</li> <li>• Safety</li> </ul> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>
Quality Assurance (Quality Program)	<p>All those planned and systematic actions necessary to provide adequate confidence that a structure system or component will perform satisfactorily in service.</p> <p><i>ODOT Quality Assurance Steering Team (2009)</i></p>	<ul style="list-style-type: none"> <li>• Continued improvement</li> <li>• Initiates efficiencies</li> <li>• Tightens controls for accurately replicated products</li> <li>• Implements corrective actions</li> <li>• Involves: verification, training, end product testing etc...</li> </ul> <p><i>ODOT Quality Assurance Steering Team(2009)</i></p>
Quality Control	<p>Routine operational activities designed to consistently produce a predictable result.</p> <p><i>ODOT Quality Assurance Steering Team (2009)</i></p>	<ul style="list-style-type: none"> <li>• Ensures the work is completed accurately the first time</li> <li>• Occurs concurrently with creation of the product</li> </ul>

		<ul style="list-style-type: none"> <li>• Involves immediate review of completed activities for accuracy and completeness</li> <li>• Quality control findings (positive or negative) are documented</li> </ul> <p><i>Project Development Quality Program for Provider's Guidebook, ODOT 2004</i></p>
Quality Management	<p>"That aspect of the overall management function that determines and implements the quality policy."</p> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>	<ul style="list-style-type: none"> <li>• Assures acceptable quality while executing on-time and on-budget</li> </ul> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>
Quality Management System	<p>"The organization structure, responsibilities, procedures, processes, and resources for implementing quality management."</p> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>	<ul style="list-style-type: none"> <li>• Emphasizes effective management practices</li> <li>• Leadership - adopting a quality policy</li> <li>• Strategic Quality Plan - have vision for the future</li> <li>• Focus on customer satisfaction</li> <li>• Continuous improvement</li> <li>• Teamwork, employee participation</li> <li>• Training and development</li> </ul>
Quality Manual(s)	<p>"The typical form of the main document used in drawing up and implementing a quality management system. The quality manual should contain the quality policy and written procedures."</p> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>	<ul style="list-style-type: none"> <li>• Contains the quality policy and written procedures</li> <li>• "In larger properties, there can be more than one quality manual. For example, there should be a corporate quality manual, divisional quality manuals, and specialized quality manuals for design, procurement, and construction activities, prepared by those responsible for the work."</li> </ul> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>
Quality Oversight	<p>'A dictionary definition of oversight is "watchful care; general supervision." Quality oversight is conducted by an organization that is ultimately responsible for project quality where other organizations have been assigned QA and QC. Quality oversight can range from an informal process of keeping in touch with the QA organization to a second layer of QA activities, depending upon the circumstances.'</p>	<ul style="list-style-type: none"> <li>• Involves a second layer of QA activities</li> <li>• Performed by an entity separate from the initial QA and QC organization</li> <li>• Verifies execution of the quality program</li> </ul> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>

	<i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i>	
Quality Plans	<p>"A written description of intended actions to control and assure quality. The Quality Plan defines applicable quality policy for the project and applicable quality procedures. For new projects Quality Plans should be developed consistent with all other requirement of a grantee's quality management system."</p> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>	
Quality Policy	<p>"The overall quality intentions and direction of an organization as regards quality, as formally expressed by top management."</p> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>	<ul style="list-style-type: none"> <li>• Established by Director of agency</li> <li>• Justifies and supports the Quality Program</li> </ul> <p><i>ODOT Quality Assurance Steering Team</i></p>
Total Quality Management (TQM)	<p>"An organization-wide effort that involves everyone in the effort to improve performance. It makes quality a primary strategic objective. TQM is achieved through an integrated effort among personnel at all levels to increase customer satisfaction by continuously improving performance."</p> <p><i>FTA Quality Assurance and Quality Control Guidelines, February 2002</i></p>	<ul style="list-style-type: none"> <li>• Strong support at management level</li> </ul>

## WHAT IS QUALITY?

Quality is the result of several ongoing planned and deliberate processes. It requires many individuals performing appropriate activities at the correct time during design development. Quality does not just consist of a review after a work product is completed. It requires continuously performing all activities in conformance with ODOT requirements and expectations. Quality processes should ensure that the work is done correctly the first time.

Quality is achieved by:

- preventing problems or errors rather than reacting to them
- qualified individuals performing appropriate work functions
- providing proper training of personnel
- ensuring that all personnel remain current on the knowledge and skills needed for their position

Quality is controlled by:

- adequate planning, coordination, supervision, and technical direction

- proper definition and a clear understanding of job requirements and procedures
- the use of appropriate, skilled personnel

Quality is verified through checking, reviewing, and monitoring work activities, with documentation by experienced, qualified individuals who are not directly responsible for performing the work.

A quality process must adhere to three basic principles:

1. Prevent errors from being introduced. At least as much effort should be dedicated to preventing errors as in finding the errors later.
2. Ensure that errors are detected and corrected as early as possible. Therefore, quality controls, which include checking and back-checking procedures, must be implemented during all phases of the work.
3. Eliminate the causes of the errors as well as the errors themselves. By removing the cause, the quality process has been improved.

### ODOT'S QUALITY PROGRAM FOR DESIGN

ODOT's Quality Program for Design ensures continuous high standard results. It provides tools and to manage provider performance for the benefit of all concerned, but especially the citizens of Oregon. The program seeks to meet Federal Highway Administration requirements as well as those of the Oregon Department of Justice.

Timely reviews are one method used to manage quality. ODOT's Quality Program provides an objective review to ensure consistent quality and standards for all ODOT projects and to provide feedback to all design providers. It does not delay nor prevent project schedules from being met. It is a tool for providers (regions and consultants), and Quality staff to work together for ODOT's success in delivering all transportation projects.

While quality control is performed for every project, quality assurance reviews occur only for a representative sampling of projects. While quality control is ongoing through the development of a project, a quality assurance review usually occurs after project development has been completed and is under construction. Occasionally, projects are reviewed even after construction has been completed. Conversely, a few projects receive a quality assurance review while still in the project development phase. This occurs only for those projects considered to be "high profile" or "high risk." This type of project is yet to be defined.

ODOT's Quality Program for Design uses defined methods of project selection to conduct reviews. These methods also ensure that all providers are scheduled for reviews on a consistent and fair basis. Reviews are performed based on objective and defined standards. These standards are documented both for reviewers and providers. Design providers are managed according to standard application of expectations and how reliably these are met.

## QUALITY CONTROL PLANS

Every ODOT region has a quality control plan that needs to be used for in-house projects. All providers of engineering documents for ODOT must have a documented Quality Control plan in place. Sub-providers must either agree to comply with the provider's quality control plan or have their own documented quality control plan in place.

To implement a quality control plan, the person assigned to oversee project quality:

- selects and assigns qualified professionals to perform the project tasks
- assigns qualified specialists to oversee all elements of the work and carry out a consistent, deliberate program of quality control
- instills a sense of ownership and personal concern felt by every person on the design team towards quality and continually improving the quality process
- makes certain that all personnel involved in performing the work have a clear understanding of the scope and intent of the overall project, and the appropriate design criteria and environmental concerns, in order to ensure that the work product meets or exceeds ODOT expectations
- makes certain that all personnel involved in performing the work are aware of the project schedule, and understand the importance of meeting intermediate deadlines as well as final completion dates
- makes certain that designers and reviewers have a clear understanding of the work requirements and of their responsibilities
- arranges for peer reviews to be conducted by qualified personnel outside of the design team
- documents the quality control process properly, to the degree appropriate to each project

## QUALITY PROGRAM FOR DESIGN WEBSITE

Additional Quality Program information is available at ODOT's Quality Assurance website at the Office of Project Letting within the Roadway/Traffic Engineering Section. <http://www.oregon.gov/ODOT/HWY/QA/index.shtml>



## CHANGE MANAGEMENT

Project change management encompasses many processes and approval thresholds throughout the Project Delivery Business Line. To effectively manage projects, the changes that occur with respect to scope, schedule and budget, must themselves be managed. The PL should work with the project team to develop a plan for identifying, quantifying, approving, and reporting changes.

Formalized change management needs to occur early in the project lifecycle; beginning at the Draft STIP milestone through construction completion. The Project Delivery process as per the Project Delivery Guidebook and [Operational Notice](#) PD-02 specifically, focus on change management processes that occur from STIP inclusion through PS&E submittal.

Once a project has been programmed into the STIP, communication for decisions resulting in substantial\* changes to project scope, schedule and budget must be supported and communicated by a Project Development Change Request, and approved through the documented approval processes. A change request is required for any of the following:

- Scope modification
- Major schedule adjustment
- Budget adjustments
- New project request
- Cancellation of project

Change Requests can also be used to support submittal of STIP Amendments (or for other approval authorities as needed), for performance measurement and benchmarking and for communicating project delivery information with stakeholders, etc.

It is also important to note that a change request can involve a variety of approval requirements, beginning with any processes within the respective regions as well as those at the statewide level. For more information, see [PD-02](#).

\*Substantial change is defined in existing and established change management protocols as established by OTIA program(s) requirements, STIP amendment requirements, and additional region-specific requirements.

### **WHEN TO SUBMIT A CHANGE REQUEST (STATE PROJECTS)**

Requirements on when to submit a change request depend on the applicable approval processes (i.e., OTIA I, II or STIP Amendment). In most cases, change management does not become effective until a project is approved in the final STIP. Once a project is approved in the final STIP, project changes should be tightly managed and documented to ensure compliance with STIP funding and delivery expectations as well as OTIA and other program requirements.

It should be recognized that changing the project may affect the project's NEPA classification. Check with the REC before making the change.

### **WHEN TO SUBMIT A CHANGE REQUEST (LOCAL PROJECTS)**

Following the STIP approval milestone, communication for decisions resulting in substantial changes to project scope, schedule and budget must be approved by

the program manager, MPO, or through the local authorization process, depending on the original process and the defined program procedures. Additional approval processes may be required, such as in cases where federal or OTIA funds are involved.

Requests for changes must be communicated by the local agency to the ODOT Local Agency Liaison, and must include all support material for submittal of STIP Amendments and additional program requests.

## CHANGE REQUESTS & STAKEHOLDER PARTICIPATION

When important project decisions or changes are needed, the region manager, State Project Delivery Manager, or their delegated authorities will consult with affected stakeholders (including those who will receive or review the deliverables) prior to making the final Scope, Schedule and/or Budget decision or change. The communication should target these three objectives

- To inform those affected that a decision is pending
- To achieve a thorough understanding of the consequences of the decision
- To build consensus among the stakeholders on key decisions for each project

For information about project lifecycle Title VI and Environmental Justice considerations, visit the [Title VI Plan](https://www.oregon.gov/ODOT/CS/Civil%20Rights) at [Oregon.gov/ODOT/CS/Civil Rights](https://www.oregon.gov/ODOT/CS/Civil%20Rights).

## AMENDMENTS TO THE STIP

The following chart provides guidelines on when amendments are required at the Highway Program Office (HPO) level, the Oregon Transportation Commission (OTC) level and the federal agency level. These requirements include approvals necessary for change requests for projects that are not yet in the STIP as well as projects that are in the STIP.



## AMENDMENTS TO THE STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM

*NOTE: If more than one type of change applies, use most restrictive approval process (i.e., if #8 also applies, change must go before OTC and Full Amendment must be done).*

Type of Change	OTC Approval	Region Manager/ Statewide Program Manager Approval	Federal Action	Full Amendment	Administrative Amendment	Financial Plan/ PCS Change Only
<b>If it is NOT in the STIP:</b>						
1. Adding a state or federally funded (FHWA or FTA*) project, or a project that requires an action by FHWA or FTA (any funding source), to the STIP	If on state system	✓	Approval if in first 3 years	✓		
2. Adding a regionally significant project to the STIP (any funding source)	If on state system	✓	Approval if in first 3 years	✓		
3. Adding a federally funded project that is funded with discretionary funds	If on state system	✓	Notification		✓	
4. Adding a non-federally funded project that doesn't impact air quality conformity or require FHWA or FTA action to the STIP	If on state system		Notification		✓	
<b>If it is already in the STIP:</b>						
5. Canceling a state or federally funded project, or a project that requires an action by FHWA or FTA (any funding source)**	If on state system	✓	Approval if in first 3 years	✓		
6. Moving an approved project to a NEEDS status, releasing funding from the project	If on state system	✓	Approval if in first 3 years	✓		
7. Major change in scope of a project with state or federal funds, or a project with CMAQ funds that requires a new CMAQ eligibility finding, or a project that requires a new regional air quality conformity finding	If on state system	✓	Approval if in first 3 years	✓		
8. Changing Project Eligibility Criteria conditions on a project for which the OTC has applied conditions of approval	✓	✓	See NOTE above	✓		
9. Advancing a project or phase of a project from the fourth year to the first three years of the STIP***		✓	Approval	✓		
10. Advancing an approved project or phase of a project from year two or three into the current year of the STIP			Notification		✓	
11. Slipping an approved project or phase of a project from the current year of the STIP to a later year						✓
12. Adding or deleting PE, ROW, or UR phase of an approved project in the first three years of the STIP			Notification		✓	
13. Combining two or more approved projects into one project			Notification		✓	
14. Splitting one approved project into two or more projects, or splitting part of an approved project into a new project			Notification		✓	
15. Breaking a new project out of an approved program-specific pool of funds (but not reserves for future projects; see #1-4 above for new projects utilizing reserve funds), or adding funds to an existing project from any bucket or reserve			Notification		✓	
16. Minor technical corrections to make the printed STIP consistent with prior approvals (such as typographical errors or missing data)			Notification		✓	
17. Changing name of project (valid reasons are combining or splitting project, changing scope, or to comply with ODOT naming convention)			Notification		✓	
18. Adding FHWA funds to an approved FTA-funded project			Notification		✓	
19. Increasing or decreasing the federal funds of an FTA-funded project, without affecting fiscal constraint of the STIP			Notification		✓	
20. Increasing or decreasing the federal funds of an FHWA-funded or state-funded project, without affecting fiscal constraint of the STIP						✓

\*Funds from 49 USC Chapter 53 or 23 USC, excluding State Planning & Research funds, Metropolitan Planning funds, and most Emergency Relief funds.

\*\*If a program has been delegated certain authority levels, OTC approval may not be required.

\*\*\*The federally approved STIP contains years one to three; year four is informational only.

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### *Highway Program Office Change Form*

For STIP amendment change requests involving projects with federal funding or projects that require OTC approval, the [STIP Amendment Request Form](#) is completed.

### *Financial Plan (FP) Changes*

All financial plan change requests are made directly by e-mail or phone to HPO. The Financial Plan is used to track the regional and statewide funding allocations for each fiscal year. As regional personnel realize the need for additional or changed funding, requests are submitted to the regional STIP Coordinator who then finalizes the requests and submits them to HPO. HPO is tasked with ensuring each region stays within its overall funding targets as well as ensuring that, statewide, all programs and targets balance to available revenue.

HPO will communicate the change requests to all affected parties, in cases where a change request is submitted as a STIP Amendment that also impacts the Financial Plan or other approval processes.

### *Submitting a Change Request for OTIA I/II/III Modernization Projects*

If a change to the project name, scope, schedule, budget, or other aspect of an OTIA project is needed, an [OTIA project change request form](#) will be submitted by the region. This includes all projects regardless of delivery method or source (e.g., local, outsourced, etc.).

All change requests require the approval of the appropriate region manager prior to submission to the OTIA program manager. At that point, the OTIA Program Manager will determine if the request can be administratively approved, or if it must go to the OTIA Steering group (OSG).

If the change is significant and requires OSG action, the OTIA Administrative Manager will coordinate development of a formal OSG change request memo with the requesting region. The Region Manager, or designee, will submit all pertinent documentation to the OTIA Program Manager, including the following:

- Project key number and name
- Project limits/scope
- Type of change request: scope, schedule, budget, other
- Summary of change request
- Why is the change needed?
- If additional funds are requested, what is the region's priority for additional funds from the OTIA funds balance?
- What alternatives exist if the request is not approved?
- What will be the consequences if the request is not approved?

If the change involves a scope change, a detailed map should be provided that clearly identifies the scope change.

**IMPORTANT:** If the request is for a project change in scope, to start a new project, or to cancel a current project, the request must receive final approval from the OTC.

The following change requests can be approved by the Statewide Project Delivery Manager:

- Name changes that do not adjust the approved scope
- Schedule changes that do not significantly change the construction season or the year the project will be completed
- The transfer of funds within the overall project budget

Approval by the OSG is required for all other project changes including any scope change, significant schedule delays, or requests for additional funds beyond that identified in [Operational Notice #2](#) on Fund Management or in [Operation Notice #3](#). Any such change request will be scheduled for review at a meeting of the OSG or the OTIA Core Team.

The following flowchart helps illustrate the Highway Project Change Management Process for the primary approval mechanisms including OTIA program management, STIP amendment and financial plan management.

More info is available at:

[http://www.oregon.gov/ODOT/HWY/PDU/change\\_management.shtml](http://www.oregon.gov/ODOT/HWY/PDU/change_management.shtml)



## ***RISK MANAGEMENT***

### **PURPOSE**

A risk is any factor that may potentially interfere with successful completion of the project. Risk management is the implementation of control systems and facilities that minimize an organization's exposure to loss through the careful management of those risks. The purpose of risk management is to provide a systematic, disciplined approach to identifying, measuring, and controlling events within a project to minimize loss.

Risk is a fundamental ingredient of opportunity and is inherent in every project. It is the possibility, not the certainty, of bearing a loss. The loss could be anything from diminished quality of an end product to increased cost, missed deadlines, or project failure. Risk is not something to fear, but something to manage. Successful project teams deal with risk by recognizing and minimizing uncertainty and by proactively addressing each identified risk.

Every project a team undertakes involves risk. Therefore, managing risk successfully is crucial to the success of the project.

### **PRINCIPLES OF SUCCESSFUL RISK MANAGEMENT**

Risk management should be a part of every project. Risk involves not only technology, but also people and processes. Successful risk management includes:

- Assessing risks continuously throughout the project life cycle. Successful risk management is more than just identifying risk factors at the start of the project; it requires the constant assessment of risk throughout the life of the project. New risks are revealed during the life of a project, and previously identified risks change by becoming either more or less probable or severe. Ongoing risk management of a project introduces resilience to change.

- Using risk-based decision making. Successful risk management requires that all decisions be made within the context of their risk - the highest risk items are dealt with first.

- Establishing some level of formality. Successful risk management requires a process that is understood and used by the team. A reasonable amount of discipline and consistency is required. If the process of managing risk is too difficult, risk management will not occur. If the process is not structured, it will not be useful.

- Covering all key people and processes. Successful risk management requires the project team to look for risk everywhere in the project. The project team must ensure that the key persons and processes are covered, or it is likely that significant risk will be missed.

Treating risk identification as a positive. For risk management to be effective project team members must be willing to identify risk without fear of punishment or criticism. The identification of a risk means that there is one less surprise waiting for an unsuspecting project team. When risk is identified, the project team can then prepare for the risk and perhaps prevent it from occurring altogether.



## ***BUSINESS FUNCTIONS***

The business functions are an ongoing series of related tasks for a project. The following outlines the purpose, major steps and importance of business functions, including intergovernmental agreements and reviews.

### **Project Delivery Procurement: Project Agreements**

Project agreements, such as intergovernmental agreements, interstate agreements, and tribal agreements, help determine and settle project obligations, including but not limited to:

- Addressing funding and cost responsibilities for planning, project development, right of way acquisition, construction and maintenance
- Determining long-term maintenance responsibility of a facility, such as a traffic signal or landscaping
- Providing guidance on federally-funded non-highway projects for local governments
- Granting permission to work on or across right of way belonging to other agencies providing for temporary or permanent street closures (redundant)
- Obtaining approval from cities for required grade changes
- Transferring jurisdiction from one agency to another or abandoning a section of roadway
- Providing additional support for permits
- Establishing specific criteria for local land use and access management decisions affecting a transportation facility

### ***Identifying Issues***

The Project Leader works with the project team and region management to identify issues that may require a formal written agreement with another agency, such as:

- City
- County
- Metropolitan Planning Organization

Other state agencies  
Federal agencies  
Utility Districts  
Tribes  
Special districts and other governmental agencies

### *Timing for an Agreement*

The project agreement process must begin early in the program development stage and will continue through the project delivery stage, until all issues are resolved. Project agreements must be signed before beginning any work outlined in the agreement. Ideally project agreements are in place before starting preliminary engineering or right of way acquisitions.

### *Processing Project Agreements*

The Project Leader:

- Provides a complete package of information to the designated region agreement specialist

- Includes the necessary agreements in the project schedule

- Tracks the agreement status

- Ensures that the agreement is signed before beginning any work outlined in the agreement

## PERFORMANCE MANAGEMENT SYSTEM

In October 2003, ODOT's Highway Division underwent a fundamental change from an organization that produced engineering products to one that manages engineering resources and projects. This change shifted the focus from short-term project delivery to assuming long-term management responsibilities.

As part of the realignment, the Highway Division was directed to implement a Performance Management System. The HPO Performance, Resource, and Data Management Unit was created to develop a comprehensive performance management, position management, and resource leveling program.

The performance management system measures the major goals of the Highway Division such as: timeliness, cost control, safety, mobility and customer satisfaction, and in turn assists the Highway Division to become more efficient in reaching short-term and long-term goals.

The system provides a clear indication of progress towards strategic objectives, as well as feedback that helps Highway Division managers and staff identify needed management actions or course corrections. Though portions of the performance management system are useful for providing external accountability, the system is primarily intended as a guidance tool used by Highway Division managers and staff.

A simple high-level model for the performance management system was developed. This model recognizes the need to address two distinct types of questions:

- Is the division "doing the right things"?
- Is the division "doing things right"?

Doing the right things means allocating resources in the best possible way, and doing the mix of work that strikes the right balance of addressing the needs for preservation, safety, mobility, and other factors. Understanding whether the division is doing the right things means measuring whether desired end results are being achieved and adjusting plans, programs, and budgets accordingly.

Doing things right means being efficient and effective - having the right people deployed in the best way, providing training and support, and having solid and efficient processes in place. Understanding whether the division is "doing things right" involves measuring production (output); efficiency (ratio of inputs to outputs) quality; pinpointing causal factors and addressing staffing, management, process, CS3 considerations, IT support and other dimensions of organizational capacity.

Here is a model for development of the Highway Division performance management system. It shows the relationships between organizational capacity, functions performed and end results.



The desired end-results of Highway Division activities are shown at the bottom of this model, reflecting the Highway Division’s role in achieving ODOT’s mission of “providing a safe, efficient transportation system that supports economic opportunity and livable communities for Oregonians.”

The middle box indicates that in order to achieve these desired outcomes, the Highway Division must undertake its core functions - planning, delivering, maintaining and operating the highway system. The Division has to demonstrate accountability for choices that are made (plans, programs and activity-based budgets), and then deliver on the promises that have been made in a high-quality and efficient manner.

The top box indicates that the Highway Division must have the organizational capacity to develop good plans and deliver on them. This entails the capacity to: attract and retain talented staff; provide managers and staff with the information they need to make good choices; understand future needs and set priorities; and ensure prudent and best use of financial resources.

Performance measures need to reflect three key levels: results being achieved; output, efficiency and quality of work; and capacity to produce quality work in an efficient manner. Such measurements allow the division to better understand what actions are required to better achieve its mission.

The Highway Division supports the ODOT mission by planning, developing, implementing, maintaining and operating a safe and efficient highway system in context with the built and natural environment that provides economic opportunities for Oregonians.

The table below provides a set of goals and desired outcomes for the Highway Division that is in alignment with Highway Division’s mission, and highlight the Highway Division’s function and role in achieving ODOT’s mission.

Goal	Desired Outcomes
I. Safety. Enhance the Safety of the Highway System	<ol style="list-style-type: none"> <li>1. Reduced incidence of crashes, fatalities and injuries related to roadway design, condition or operations.</li> <li>2. Reduced work-zone related injuries to motorists and highway workers</li> </ol>
II. Preservation. Preserve and Maintain the Highway System	<ol style="list-style-type: none"> <li>1. Highway system condition that allows for safe and efficient movement of people and goods</li> <li>2. Asset condition maintained at sustainable levels</li> <li>3. Maintenance and operations activities on-budget and at targeted levels of service</li> <li>4. Reduction of delay related to construction, incidents, events and weather to the maximum extent possible</li> <li>5. Protection of the functional integrity of the highway system while providing for access consistent with established system designations</li> </ol>
III. Livability. Enhance Oregon’s Livability Through Highway System Improvements	<ol style="list-style-type: none"> <li>1. Maintained or reduced travel times and delays between communities in key freight corridors</li> <li>2. Efficient highway system operation from the user perspective, considering linkages with other transportation system components and services</li> <li>3. Enhanced scenic qualities of byways and tourist routes.</li> <li>4. Environmental requirements and commitments met</li> <li>5. Near-term construction-related benefits to the Oregon economy</li> <li>6. Long-term benefits to the Oregon economy from highway system investments</li> </ol>
IV. Customer Satisfaction. Meet or Exceed Customer Expectations	<ol style="list-style-type: none"> <li>1. Positive customer and stakeholder perceptions of ODOT planning, delivery, maintenance and operations</li> </ol>
V. Efficiency. Employ Innovative, Efficient and Cost-Effective Practices	<ol style="list-style-type: none"> <li>1. Projects on-time, on-budget, on-scope</li> <li>2. High quality work delivered efficiently</li> <li>3. Diverse, talented, well trained, guided and motivated workforce</li> <li>4. Timely and accurate information provided to support management decisions</li> </ol>

Achievement of Highway Division goals contributes to ODOT's overall success. Goal success is determined by the extent to which the desired outcomes have been accomplished.

Leading and Lagging performance measures were created to track each outcome. Leading measures were created to provide information that helps managers take corrective action. Lagging measures reflect the desired outcomes, and are used to assess whether efforts to improve performance have been successful.

To assess whether or not the performance management system is successful, the Highway Division has implemented a Quarterly Business Review (QBR). The QBR is a forum for Highway Division staff to share and discuss performance oriented information that will help the division achieve its mission, goals, and outcomes.

The QBR is directly connected to and supported by the Highway Division's Performance Management System. The QBR, in itself, is a Feedback Loop. The feedback loop is crucial in the management of performance because it ties changes made to business practices and processes directly to performance.

With a feedback loop in place, change management is based on performance management. Vice versa, any changes made to the Highway Division's business practices and processes will ultimately change components of the performance management system. This can include but is not limited to: measures added and deleted; measures redefined; and further analysis of data and data sources. With the close of the feedback loop, business practices and processes will continue moving in a cyclical motion.

For information about project lifecycle Title VI and Environmental Justice considerations, visit the [Title VI Plan](https://www.oregon.gov/ODOT/CS/CivilRights) at [Oregon.gov/ODOT/CS/Civil Rights](https://www.oregon.gov/ODOT/CS/CivilRights).

