Oregon Department of Transportation

Project Scoping Best Practices Guidebook

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http://www.oregon.gov/ODOT/HWY/OPD/
http://intranet.odot.state.or.us/opd/PDU.htm

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Section 1 – Overview

1.1 Acknowledgements

Contributors to this Best Practices Guidebook for Project Scoping include the following: the Project Delivery Leadership Team (PDLT); Office of Project Delivery (OPD) staff; Scoping Steering Committee and teams from all five regions; Region Planning staff; Technical Services staff; Project Delivery staff; Financial Services staff; Maintenance Services staff; Construction Services staff; Environmental Services staff and representatives from the Project Leader Leadership Team (PLLT) and the Consultant Project Manager Leadership Team (CPMLT).

1.2 Purpose and Use of this Guidebook

Informational
An electronic copy of this guidebook and referenced material can be accessed via the OPD web site at http://intranet.odot.state.or.us/opd/ProjectScoping.htm

This Guidebook outlines the processes necessary to satisfy the first milestone step in Operational Notice PD-02, Draft Statewide Transportation Improvement Program (STIP) for state projects.

The intent of this Guidebook is to provide guidance on best practices for STIP Development Scoping to Regions within ODOT. Project Scoping Teams should utilize this document as a tool to ensure that pertinent issues are considered and evaluated when planning and conducting scoping efforts. This Guidebook outlines the processes, procedures and tools currently used by ODOT Regions to complete annual scoping in support of the STIP.

Project scoping is a complex process that will benefit from continuous process improvement. This Guidebook will be periodically reviewed and updated to reflect scoping issues as they evolve and tools and techniques are refined with use.

1.3 Introduction

Informational
STIP
http://www.oregon.gov/ODOT/HWY/STIP/index.shtml

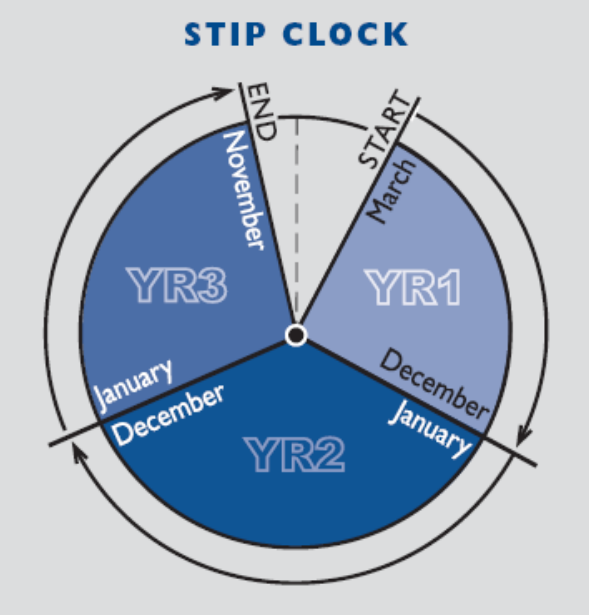
The STIP is Oregon's adopted four-year investment program for major state and regional transportation systems, including interstate, state, and local highways and bridges, public transportation systems, and federal and tribal roads. It covers all major transportation projects for which funding is approved and that are expected to be built or carried out during a certain time frame.

The STIP is a project scheduling and funding document. It is not a plan but may include planning and environmental studies that relate to potential construction projects. It lists transportation projects that are approved for construction as well as transit programs and other projects that are funded during the next three years. The fourth year that is programmed in the STIP is advisory only and funding is not obligated to those projects.

Federal law requires that the Oregon Transportation Commission (OTC) adopt a new STIP every two years. The STIP covers a four-year period and the cycle begins in even numbered years (e.g. the 2006-2009 STIP). Many groups participate in developing the STIP, including local and regional governments, tribal governments, federal agencies, special advisory committees, interest groups, and citizens. The STIP development process involves prioritization of needs

through consultation with local jurisdictions throughout the state. Depending on priority of need, projects in the STIP are funded for development and/or construction.

It takes about 21/2 years to prepare the STIP. The work begins in odd-numbered years. The STIP Clock below shows when the process starts and finishes.



In odd-numbered years, there is a time when ODOT is working on three different STIP cycles; however, there is only one approved STIP in effect at any time.

The STIP lists projects by work types and funding sources. The work type definitions that apply to most highway projects in the STIP include the following:

- Modernization – Improvements to accommodate existing traffic and/or projected traffic growth. Primary goal is added capacity.
- Preservation – Improvements to rebuild or extend the service life of existing facilities and rehabilitative work. Preservation projects add life to the road without adding capacity.
- Operations – System management and improvements that lead to efficient and safe operations and greater system reliability.
- Bridge – Improvements to rebuild or extend the service life of existing bridges and structures beyond the scope of routine maintenance.
- Safety – Improvements identified through benefit-cost criteria that address hazardous highway locations and corridors to reduce the number of fatal and serious injury crashes.
- Miscellaneous/Special Programs – Projects that may be more related to funding sources than project type. Projects can include: bike lanes, sidewalks, bus pullouts, public transit operations and capital purchases, congestion mitigation and air quality improvements, scenic byways, and salmon and watershed projects.

Most of the funds in the STIP come from federal and state gas tax revenues. Below is a list of some of the more common funding sources. Additional sources of funds may come from local governments and private entities.

- STP – Federal Surface Transportation Program
- NHS – National Highway System
- IM – Interstate Maintenance
- HBRR – Highway Bridge Rehabilitation and Replacement
- CMAQ – Federal Congestion Mitigation/Air Quality
- ENHAN – Federal Transportation Enhancement Program
- State Highway Fund
- IOF – State Immediate Opportunity Funds
- HEP – Hazard Elimination Program
- STPSFTY – STIP Funds for Safety Projects

Reference Operational Notices http://www.oregon.gov/ODOT/HWY/OPD/PoliciesGuides.shtml

Project Scoping is a key component for advancing projects forth into the STIP. New directives have been established through Project Development Operational Notice #2 (PD-02) describing the deliverables due before the Draft STIP is adopted. These deliverables include:

- Draft Prospectus parts 1, 2, and 3
- STIP Scoping Summary Report
- Environmental Baseline Reports (if required)
- Draft Stakeholder Participation Plan (PD-12)
- Draft Resource Recommendation (PD-14)
- Access Management Deliverables (PD-03)
- Draft Schedule

Section 2 – Project Scoping Concepts

2.1 Project Scoping Fundamentals

The Director of ODOT has stated that the STIP is our contract with the people of Oregon, Federal Highway Administration (FHWA), and local governments. To the extent the Department has control; projects identified in the STIP will go to contract as planned.

Projects in the STIP come from transportation management systems and planning processes involving local and regional governments, Area Commissions on Transportation (ACTs), other state agencies, and the public. The purpose of the Draft STIP scoping stage is to:

1. Establish the problem statement and solutions;
2. Develop cost estimate;
3. Develop a schedule;
4. Identify impacts to right-of-way (ROW) and utilities;
5. Identify options for different solutions; and
6. Identify stakeholders and develop a stakeholder participation plan.

The benefits of a proper scope are many. Project Teams are often frustrated by an inadequate or creeping scope. Scoping Teams can add substantial value to the project development process by making certain that what "can be known" is known before a project begins. The Project Team and Region Management must act together to contain scope once a project is underway.

Some of the benefits of proper scoping:

- Verifies and fixes the right problem at the right time;
- Project is correctly programmed as well as cost; and
- Project is kept within budget and on schedule.

Proper scoping can save you:

- Months of wasted effort.
- Hundreds of hours of staff time.
- Thousands of dollars in PE budget.
- Millions of dollars in construction cost.

2.2 Basic Concepts of Project Scoping

Project scoping is based on several concepts. They provide a basis for the process by which scoping is done. The concepts include teamwork, public participation, informed decision making, and proper documentation. The following will briefly discuss each concept.

Reference
Project Delivery Guidebook, Chapter 2 (Key Players in the Business Process)
http://www.oregon.gov/ODOT/HWY/OPD/docs/PDguidebook/PDGB_Chap02.pdf

2.2.1 Teamwork

Project scoping is a collaborative effort involving teamwork among internal and external stakeholders concerning the nature of a project (i.e., type, scale, major features, issues, etc.) and what it is intended to accomplish. During scoping there may be project needs and issues (e.g., environmental initiatives, community issues, access management, mobility enhancement measures, etc.) that require special attention to meet the needs of a properly scoped project. The project team plays a critical role in identifying and evaluating these issues and concerns to the appropriate depth and detail. The Project Delivery Guidebook identifies the key members who should be a part of the scoping team and what their roles and responsibilities are.

Reference
PD-12 Stakeholder Participation Process
http://www.oregon.gov/ODOT/HWY/OPD/PoliciesGuides.shtml

2.2.2 External Stakeholder Participation

Stakeholder participation is the cornerstone of successful project scoping and design. The start of the scoping stage (and earlier if possible) is the proper time to reach out to the public and project stakeholders so that issues of concern may be raised, put in their proper perspective, and given ample consideration/discussion. A project's Stakeholder Participation Plan guides all activities associated with stakeholder participation.

2.2.3 Informed Decision Making

Projects require a level of scoping commensurate with the type of proposed work. Project data requirements depend on a project's problems and needs, complexity, significance of related issues, and the scope and scale of alternatives to be evaluated. Sufficient data needs to be gathered and analyzed to ensure:

- Project area needs can be clearly understood;
- Community and stakeholders issues can be identified;
- Clear project objectives can be established;
- Environmental considerations and process can be identified;
- Feasible alternatives can be outlined;
- Reasonable comparison of alternatives can be performed; and
- Project cost and schedule can be estimated.

2.2.4 Proper Documentation

Clear and concise documentation that reflects the Department's stewardship of public interest and trust, logical decision making, and good record keeping is essential. Project documentation is a structured record of the evolution of a project and provides a clear, understandable, and acceptable "picture" of what is to be accomplished. The documentation is used to grant scope approval and provides specific information to guide subsequent stages of project development.

Reference
CS^3 Guidebook
http://www.obdp.org/partner/cs3/

2.2.5 Context Sensitive and Sustainable Solutions

CS^3 is a philosophy that guides ODOT in all phases of project development. The purpose of the CS^3 approach is to identify and address both transportation and project area needs and to develop effective transportation solutions that fit a project's context. Context sensitive projects recognize community goals, and are planned, scoped, designed, built and maintained while minimizing disruption to the community and the environment. While maintaining safety, infrastructure and operational priorities, CS^3 recognizes the need to

consider environmental, scenic, aesthetic, cultural, natural resource, and community issues within the overall project development process.

The following goals integrate the CS^3 approach into ODOT's project delivery system. The CS^3 goals are flexible for ease of alignment with current and future organizational priorities and needs.

1. Maintain or improve traffic mobility and safety; keep traffic moving.
2. Employ innovative, efficient, and cost effective delivery practices that result in quality projects.
3. Stimulate Oregon's economy and develop its workforce.
4. Build projects that are environmentally responsible and encourage the conservation and protection of natural resources.
5. Develop transportation solutions that are sensitive to community and social values.
6. Capitalize on innovative funding opportunities that support a viable transportation system today and for future generations.

Early, effective and continuous stakeholder participation is the cornerstone of successful CS^3. To proceed towards achieving a sound transportation solution, the 'context' of the project area environs must be understood and documented. Context Identification (CI) and assessment is the most thorough method for gaining a full understanding of the complete context of a project area. As a result of the Context Identification process, opportunities are more likely to be evident and explored that would not have otherwise presented themselves, by contributing to successfully achieving a fully developed solution that incorporates the context of the project area environments.

Section 3 – Project Identification

A project evolves from a transportation problem or need identified through a variety of sources including:

1. Metropolitan Planning Organizations' (MPOs)
2. Area Commission on Transportation (ACTs)
3. Corridor Planning
4. Local municipalities Transportation System Plans
5. Oregon Transportation Management System

ODOTs multiple plans and programs help to identify transportation needs and determine which transportation projects will be developed and constructed. These plans and programs, in conjunction with the Regions and ACTs help guide the setting of capital spending priorities for the STIP. From all these sources the Region planners and Management Teams develop and prioritize the project needs list which is where you get projects to scope from.

This section discusses the various sources and how a project is identified.

3.1 Metropolitan Planning Organizations

Informational
MPOs in Oregon
http://egov.oregon.gov/ODOT/TD/TP/resourcelinks.shtml

Metropolitan Planning Organizations (MPO) are federally mandated forums required in all metropolitan areas with a population greater than 50,000. Metropolitan areas with a population of 200,000 or greater are designated as Transportation Management Areas (TMAs).

MPOs work cooperatively with the area's locally elected officials, involved public agencies, major transportation providers and the general public to provide a coordinated, efficient, and appropriate investment in transportation. Transportation providers are primarily the State and local transportation departments and transit operators. ODOT is an active member in each of the MPOs. There are seven active MPOs in Oregon – Metro, Salem-Keizer Area, Corvallis Area, Central Lane, Bend, Rogue Valley, and Kelso-Longview-Rainier.

3.2 Area Commissions on Transportation

Informational
ACTs
http://egov.oregon.gov/ODOT/TD/TP/resourcelinks.shtml

In rural and small urban, non-metropolitan areas of the State there is no official body designated to do transportation planning as MPOs do in urban areas. Transportation legislation provides for states to consult with and consider concerns of the public and non-metropolitan officials when making transportation decisions. In non-metropolitan areas of the state, ODOT works with Area Commissions on Transportation (ACTs) and County transportation departments to plan transportation projects and cooperatively works to develop lists of specific projects to be advanced. The Area Managers and Region Planning Units consult with rural and small urban area constituents to solicit project proposals. The ACTs are formed from local government and community participants to serve in an advisory role to the OTC. Their primary purpose is to identify and prioritize transportation needs and recommend transportation solutions within a specific geographic area.

3.3 Corridor Planning

A corridor plan is made up of a series of activity-based corridors. A corridor is a transportation pathway that provides for the flow of people and/or goods within and between activity centers. It includes one or more primary transportation facilities and the abutting land uses and supporting street network. The practice of corridor planning can generally be defined as the application of multiple strategies to achieve specific land use and transportation objectives along a transportation corridor. Corridor planning combines capital improvements and management strategies into a unified plan of action for a transportation corridor.

Corridor planning studies identify and analyze long and short term needs of a corridor, develop objectives for projects along the corridor, and identify feasible alternatives for the projects that meet the stated objectives. Stakeholder participation in corridor planning is an integral and ongoing part of the planning process. The studies begin the process of identifying the social, economic, and environmental consequences of alternatives within the study area.

3.4 Local Municipalities Transportation System Plans

Cities, counties, and MPOs are required to have a Transportation System Plan (TSP). The TSP establishes a coordinated network of transportation facilities and services that are adequate to meet the local and regional transportation needs. TSPs serve as the transportation element of local comprehensive plans. Local TSPs must coordinate and be consistent with regional plans and regional TSPs must be consistent with the State Transportation Plan. TSPs integrate transportation and land use, provide for long range direction for transportation of all modes, and provide a link to the STIP process.

3.5 Oregon Transportation Management System

Informational
OTMS
http://egov.oregon.gov/ODOT/TD/TDATA/otms/OTMS_system_descriptions.shtml

The Oregon Transportation Management System (OTMS) is a program designed to manage highway pavement, bridges, highway safety, traffic congestion, public transportation facilities and equipment, intermodal transportation facilities and systems, and traffic monitoring for highways. The management systems provide information to assist state and local decision makers in selecting cost-effective policies, programs and projects to preserve and improve the transportation infrastructure.

The function of the OTMS is to inventory roadway and other transportation features; collect, analyze, and summarize data; identify and track performance measures; identify needs and help determine strategies and actions to address those needs; and monitor and evaluate the effectiveness of strategies and actions that are implemented. The seven management systems are:

1. Integrated Transportation Information System (ITIS): Much of ODOTs roadway transportation system data can be found in the ITIS database. ITIS contains descriptive information about Oregon's transportation infrastructure, and is the official source of mile point information.
2. Bridge Management System: Is for bridges on and off Federal-aid highways. It supplies analyses and summaries of data, uses mathematical models to make forecasts

and recommendations, and provides the means by which alternative policies and programs may be efficiently considered.

3. Congestion Management System: Uses ODOT inventories of the state highway system, traffic volume data, and Highway Performance Monitoring System data to report congestion trends on the state highway system and to identify the severity of congestion on parts of the highway system. This information helps ODOT develop policies for managing congestion to plan projects for alleviating congestion.
4. Intermodal Management System: Provides information about freight and passenger intermodal facilities and connections. The focus is on intermodal in general and freight more specifically. Also included is information about non-intermodal freight movements, including those on highways, main rail lines and marine waterways.
5. Pavement Management System: is a set of tools or methods that can assist decision makers in finding cost effective strategies for providing, evaluating, and maintaining pavements in a serviceable condition.
6. Safety Management System: Is comprised of two major parts: The Information Safety Management System (ISMS) and the Project Safety Management System (PSMS). The ISMS includes a number of sources of data essential for the PSMS as well as the overall monitoring and administration of ODOTs Roadway Safety Program. The PSMS relates directly to processes, procedures and tools needed to address critical safety issues for project scoping, design and construction.
7. Traffic Systems Monitoring for Highways: Is a systematic process for the collection, analysis, summary and retention of highway and transit related person and vehicular traffic data.

Section 4 – Project Scoping

Once projects are selected to be scoped and are assigned to appropriate resources, the following steps are required to meet the deliverables in Operational Notice PD-02:

1. Identify and Assemble the Scoping Team;
2. Assemble and Distribute the Scoping Packets;
3. Schedule Scoping Trips;
4. Develop Scoping and Environmental Report;
5. Develop Prospectus Part 1, 2, and 3;
6. Develop Draft Stakeholder Participation Plan;
7. Develop Draft Resource Recommendation;
8. Develop Draft Project Schedule;
9. Develop Draft Preliminary Engineering and Construction Estimate; and
10. Complete Access Management Deliverables.

4.1 Step 1 – Scoping Team

Reference
ODOT Guidelines for Project Teams
http://www.oregon.gov/ODOT/HWY/OPD/docs/OPnotices/PD02_References/GuidelinesforProjTeams.

Project Delivery Guidebook, Chapter 2 (Key Players in the Business Process)
http://www.oregon.gov/ODOT/HWY/OPD/docs/PDguidebook/PDGB_Chap02.pdf

A broad based inter-disciplinary project team approach is needed so that the product of scoping truly considers all needs, identifies critical issues, and develops solutions. The project team is responsible for completing the necessary scoping and design activities to achieve scope approval and design approval. A project team can provide continuity and consistency in development activities in the scoping and design stage. Staff assignment to the project team should be consistent with regional procedures developed to accomplish these activities, including factors such as a project's scope, scale, complexity, as well as the availability of staff.

Typical Project Scoping Members:

- Project Leader (or Designee)
- Roadway Engineering Representative
- Right of Way Representative
- Environmental Representative
- Region Access Management Engineer
- Utility Specialist
- Construction Project Manager
- Maintenance Representative
- Traffic Representative
- Geo/Hydro Representative
- Bridge Representative
- Survey Representative
- Pavement Services Representative
- Transportation Planning Representative
- Rail Crossing Safety Representative
- Region Local Program Liaison
- Local Representatives (city, county)
- Public Affairs Specialist

Project team responsibilities include but are not limited to:

- Attending scoping meetings and participation in trips to field sites as necessary.
- Identifying work that must be done in order to deliver a product that addresses the purpose and need.
- Completing technical analysis and providing needed technical information.
- Review of scope documentation.
- Provide the necessary liaison with their functional areas and functional managers or groups. In achieving scope consensus, or if scoping issues or problems arise, project team members may need to discuss issues or problems, or explain decisions with their respective functional areas or groups.
- Issue and problem resolution.
- Ensuring that the project requirements can be completed successfully.
- Making an initial recommendation on delivery method.

Where consultant services are employed, the project team will provide input to guide the consultant's work. Full reliance is not placed on the consultant or other outside entities for scope development and documentation. For example, the Scoping Team Leader, with the project team's input, should provide initial project development related guidance (e.g., goals and project objectives; level of technical detail needed for scoping, including alternative development; and social, economic, and environmental requirements, etc.) for the consultant's efforts. Internal project development staff will review and guide all scope development and documentation activities conducted by consultants or others. Internal project development staff is solely responsible for all final scope related decisions.

Following these guidelines ensures that project scoping activities conducted by consultants or others, and scoping decisions and recommendations, accurately consider and reflect ODOT's policies, procedures, and needs.

4.2 Step 2 – Scoping Packets

A scoping packet provides basic information about the project. The packet will provide background information to the scoping team so the team can become familiar with the project and area. Listed below are some elements that could be included in the packet:

1. Initial project identification and vicinity map.
2. Purpose and need statement – what is the problem we are trying to correct?
3. Design standards to be used – does the current alignment meet these standards?
4. Existing pavement condition and preliminary ideas for surfacing treatments.
5. Current and future (build year and design year) traffic volumes.
6. Five year accident history, accident rate and collision diagrams for major intersections (or information from SPIS site file) and analysis of accident "hot spots".
7. Bridge inspection report and recommended action(s).
8. Mile point log, straight-line chart, right-of-way maps, "as-constructed" drawings, USGS quad maps, etc.

4.3 Step 3 – Scoping Trips

The scoping trip is a chance for the team to visit the project site and gather information that might not be available elsewhere. Each scoping team member is expected to attend the trip and to take notes of important discussions, decisions and recommendations that are made. Typical items that are covered during the scoping trips include (but are not limited to):

- Safety concerns and possible solutions.
- Special pavement conditions and surfacing design alternatives.
- Stage construction concerns.
- Determine preliminary right of way needs or impacts.
- Access impacts or issues.
- Utilities that may be impacted or need to be relocated.
- Environmental impacts – wetlands, hazmat, T&E, archaeological, or historic.
- Pedestrian and bicycle travel.
- ADA needs – ramps, sidewalks and driveway approaches.
- Level of effort required for survey.

The Project Leader will have the scoping notes consolidated for each project and copies distributed to scoping team members and appropriate ODOT staff. Any revisions to consolidated notes will then be completed. These scoping notes will then become documents that will be included into the project files.

4.4 Step 4 –Scoping and Environmental Report

Tool
STIP Scoping Summary Report Template
http://www.oregon.gov/ODOT/HWY/OPD/docs/OPnotices/PD02_References/STIP_Scoping_Summary_Report.doc

Environmental Baseline Report Guidance
http://www.oregon.gov/ODOT/HWY/OPD/PD02Deliverables.shtml

After completing the scoping trips and compiling the information the Project Leader will need to complete the STIP Scoping Summary Report. The STIP Scoping Summary Report is broken down into six parts:

1. Part A – Project Scope of Work: This part includes the project purpose, need statement, and description and rational of proposed range of alternatives.
2. Part B – Project Cost Estimate: This part includes summary information for the project costs.
3. Part C – Project Schedule: This part includes summary information for the project schedule.
4. Part D – Project Approval
5. Part E – STIP Supporting Documentation: This part includes summary information based on the observations from the scoping trips (e.g. environmental impacts, ADA needs, utilities, right of way, etc.).
6. Part F – STIP Scoping Team: This part identifies who the members were.

4.5 Step 5 – Project Prospectus

Tool
PDWP
http://intranet.odot.state.or.us/opd/PDWP.htm

The project prospectus is a tool for conveying information about a project, or a proposed project, to various organizations within and outside ODOT. It starts the process of identifying a problem to be solved, presents one or more ideas on how to solve it, and identifies possible ramifications to areas such as right of way and environmental. It also presents estimates on project costs, and proposes sources of funding that can or should be used for the project. The prospectus is a planning tool, not a design tool. The actual project design consists of many documents and drawings that go into far more detail than the Prospectus. As a result, the prospectus is not expected to define the location or content of a project with pinpoint accuracy.

The Project Delivery Work Planning (PDWP) system is the "electronic prospectus", which allows project teams to document the scope of a project, and communicate with each other in real time. The information resides in a database for viewing by anyone with access to the system. Projects in the database can be searched by region, district or county. Selecting any one project will bring up the prospectus for that project.

Region management approval of the prospectus is necessary for the commencement of preliminary engineering work. The prospectus begins the process of prioritizing projects for the STIP.

The project prospectus consists of three parts:

- Part 1 gives the project location, provides an overview of the project, summarizes the problem, the proposed solution, and provides the estimated preliminary engineering, right of way, utility, and construction costs at a high level.
- Part 2 of the prospectus defines who is responsible for completing different categories of the project's design (State, Consultant, or Applicant). Part 2 also includes information on base design requirements, structures that are to be developed or modified, and a diagram showing "before and after" lane widths.
- Part 3 details the environmental impact of the project which is created from the environmental discipline information that is included in the worksheets.

The Project Leader is responsible for creating the project prospectus. The Project Leader will do the following:

1. Complete the project prospectus with help from team members using data from the STIP Scoping Report;
2. Send part 1 and 2 of the project prospectus to the Region Environmental Coordinator and request that part 3 of the prospectus and location map are completed.
3. Send a copy of the final project prospectus parts 1 and 2 to the Region STIP Coordinator.

4.6 Step 6 – Stakeholder Participation Plan

Reference
PD-12 Stakeholder Participation Process
http://www.oregon.gov/ODOT/HWY/OPD/PoliciesGuides.shtml#Operational_Notices

Stakeholder participation is fundamental to the project development process. Obtaining input from a full range of stakeholders affected by a project, and using that input is essential to making transportation decisions that benefit the public. It is the intent that the public and interested parties have a reasonable opportunity to be involved in the project development process. A proactive stakeholder participation process accomplishes the following:

- Provides timely public notice;
- Provides early and continuing participation throughout the life of a project;
- Provides appropriate and accurate information to the project stakeholders (e.g., its proposed scope, anticipated impacts, etc.);
- Builds public trust;
- Provides access to decision making; and
- Ensures project decisions will be made with the full consideration of public input.

Stakeholder participation needs to be well planned to gain the most useful feedback, within the limited project resources available. A Stakeholder Participation Plan is a tool to identify appropriate ways to conduct stakeholder participation, and it serves as a stakeholder participation planning tool. The following outline provides a framework for developing a Stakeholder Participation Plan:

- Identify key stakeholders;
- Identify issues (past, present and potential);
- Develop a list of measurable engagement objectives for each stakeholder group and determine the most effective techniques for engaging each group;
- Develop a project fact sheet and project information paper;
- Identify how the public can and will be involved with the project; and
- Notify Motor Carrier Transportation Division about any planned restriction that will affect the ability to move freight through the project work zone.

Tool
Mobility Restriction Notice & Mobility Considerations Project Checklist
http://intranet.odot.state.or.us/home/mobility.htm

4.7 Step 7 – Resource Recommendation

Reference
PD-14 Guidelines for Determining Project Delivery Method
http://www.oregon.gov/ODOT/HWY/OPD/Operational_Notices

During the scoping process the project team will provide a recommendation for the project delivery method. The delivery method recommended for a specific project can vary by phase (development, design, construction). ODOT uses the following project delivery methods to deliver quality projects on time and within budget:

- In-Source: ODOT staff design projects and administer the construction contracts. Construction contractors bid on and build the projects.
- Alternative Delivery (Out-Source) Program: This program integrates private sector resources into ODOTs project delivery system, which increases the agency's capacity to deliver more projects. The alternative delivery program includes three delivery methods:
  - Design-Bid-Build: Portions of or the entire project are contracted out. Construction is bid and contracted separately.
  - Design-Build: Engineering design and construction are combined into one solicitation and a firm or team of firms work together to deliver the project. Construction activities can proceed concurrent with design activities, thus accelerating project delivery.

- Program Management: A program management firm is used to provide the day-to-day direction, organization, implementation and operational management of a related series of projects. An example is the OTIA III State Bridge Delivery Program.

Reference
Project Scheduling Guidance & Expectations
http://www.oregon.gov/ODOT/HWY/OPD/docs/OPnotices/PD02_References/Scheduling_Expectations.pdf

Tool
Project Scheduling
http://s-salemrev-52/projectserver

4.8 Step 8 – Project Schedule

During the scoping process, ask the team for input on the work tasks and timelines needed to deliver each task for the project. Use one of the schedule templates to create a preliminary "default" schedule, based on the STIP scoping, to help determine which year the project can be delivered.

The required scheduling tool for all project management and reporting functions is MS Project Professional 2003 and MS Project Server 2003 which are components of the Resource Management System. Publishing a project schedule to the server is needed to allow schedule information to be accessed and viewed. A key objective is to publish all schedules as early as possible so that resource managers have a complete portfolio of all activities they are expected to accomplish and can forecast generic resource needs.

Project schedules must be initiated, developed and published to the server at the initial scoping of the project. It is understandable that limited information will be available to develop a project schedule until scoping is complete. However, it is expected that the Project Leaders will adjust the template durations to reflect what is realistic for their region and to build in any specific time-related constraints necessary for the project.

Reference
Estimating
http://www.oregon.gov/ODOT/HWY/ESTIMATING/manuals_forms_etc.shtml

4.9 Step 9 – Preliminary Engineering & Construction Estimate

Two keys to providing a sound estimate up front are identifying all major elements and tasks that will be involved, and assigning reasonable unit prices to all items. It is in the nature of construction work that some unanticipated problems will come up. The objective is to minimize the overall impact of the changes and problems that do occur, through good forethought and consistent estimating practices.

4.10 Step 10 – Access Management

Reference
PD-03 Project Development Access Management Sub-teams
http://www.oregon.gov/ODOT/HWY/OPD/Operational_Notices

Access management is one of the Agency's most effective means of protecting investments in highway improvements, addressing safety problems, and preserving the functionality of highways. Access management considerations often play an important part in the design, stakeholder participation, delivery, and documentation of highway projects. It is important that access management decisions be based on a very deliberate consideration of relevant policy factors, accurate information and appropriate judgment.

For these reasons, it is imperative that the project delivery business line establish expectations and accountabilities for business practices that align with statutes, rules, and policies pertaining to access management. At the same time, managers need flexibility and control in determining how to use the available resources to accomplish work in an effective and efficient manner.

Completion of the deliverables listed below for the Draft STIP milestone are intended to ensure that the scope, schedule and budget of projects programmed in the STIP provide for access management work tasks consistent with the rules, policies, requirements and guidelines of PD-03.

Reference Access Management Manual http://www.oregon.gov/ODOT/HWY/ACCESSMGT/accessmanagementmanual.shtml

- Access Control Report
- Existing Approaches Status Report
- Access Management Worksheet
- Right of Way cost estimate
- Access Management Scoping Report
- Preliminary Engineering (PE) cost estimate
- Stakeholder Participation Plan
- Schedule of Work
- Access Management Plan (AMP), Access Management Plan for an Interchange (AMPI), or an Interchange Area Management Plan (IAMP)

4.11 Other Considerations

There are several other program areas that should be considered when scoping a project.

Planning

Planning provides the link to three important inputs into scoping: long-range plans, land use, and local jurisdictions. All of these provide context to enable us to come up with context-sensitive solutions. The information also helps to assess the likelihood of issues cropping up during project development and construction - in other words, knowing this information up front will help reduce surprises and scope creep later.

- Long-range Planning: This includes the OHP (Highway segment designations, highway classification), Regional Transportation Plan (RTP), local Transportation System Plan (TSP), and any refinement plan that may have been done for the Highway corridor or the area in which the project segment is located. The RTP and TSP include designations of the Highway for all modes (motor vehicle, freight, transit, bike, and pedestrian), as well as a street design designation (this is unique to the Metro area, and provides guidelines for the cross-section and for how to balance multiple modes within a given right-of-way). Finally, the RTP and TSP include lists of improvement projects - all modernization projects must be listed in or be consistent with the local plans. Preservation, safety, bridge and other projects may not be listed in the local plans, but must be consistent with those or at least not preclude or be incompatible with planned future improvements.
- Land Use: The planners can provide information on whether a segment is urban or rural, and existing and planned land uses along the project segment. They will also be able to provide information on any known political, neighborhood, environmental or other issues that surfaced during previous planning efforts.
- Local Jurisdictions: While Public Affairs staff deal with the general public, ODOT planners have long-standing relationships with local transportation planners and public works directors, and therefore are able to provide the link to local jurisdictions during STIP scoping. Planners are calling each of the jurisdictions to ask: does the local jurisdiction wish to add any enhancement to the project? Will they contribute financially?

Where and what are the highest priority enhancements for funding? Are there local projects nearby that we should be aware of so that we may coordinate the timing or other aspects? Are there any political, neighborhood, or other stakeholder issues that we should know about?

Planning seeks to provide information from these three topic areas that may affect the scope, schedule, or budget of the projects to be scoped. They are a vital resource that should be tapped into during the scoping process.

Mobility

Mobility is best defined as the ease with which people and goods move throughout their community, state, and world. Mobility is valuable because it provides access to jobs, services, and markets. Without question, transportation's most essential function is to provide mobility for people and goods.

Traditionally, the concept of mobility has included all modes of travel, encompassing the entire door-to-door trip including transfers between modes (surface, rail, air, pipeline, and marine services). The context of ODOTs focus is primarily on freight mobility where the primary users are freight traffic on the Oregon highway system. Even though the focus is on freight traffic, the principles will provide for greater mobility for buses, passenger cars, recreational vehicles, and other forms of transportation.

The ease with which people and goods move on Oregon's highways is being increasingly challenged by traffic congestion. Congestion on the nation's highways has increased over the past few years. Recent trends suggest that periods of recurring congestion are getting longer, particularly in urban metropolitan areas. In addition, congestion is no longer restricted to peak commuting periods and weekday travel.

Demand for freight transportation is a major contributing factor to congestion. The expected growth in truck travel is being driven by economic and population growth. The most striking growth is expected to be on rural interstate highways, indicating the potential for congestion to spread outside of metropolitan areas. Since 1992, traffic has grown substantially on rural highways and at a faster pace than on metropolitan highways.

Construction work zones represent another obstruction to mobility. Nationally, work zones account for about 10 percent of all delays. FHWA research shows that the traveling public is demanding increased mobility, while showing less tolerance for delays, increased travel times, and inconveniences resulting from construction-related congestion.

Reference
Mobility Manual
http://www.oregon.gov/ODOT/MCT/OD.shtml#Mobility_Operations_Manual

During project scoping the project team needs to consider the impacts on mobility. The Highway Mobility Operations Manual is a guide to how Oregon will tackle an unprecedented amount of construction activity and still keep traffic and freight moving. It's a comprehensive outline of the approach that ODOT and its construction partners will take when planning and executing all road and bridge projects. It sets project standards and minimum requirements regarding communication and coordination, vertical and horizontal clearance, bridge weight restrictions, delays, detours, staging, and design.

Reference
Maintenance Manual
http://www.oregon.gov/ODOT/HWY/OOM/MGuide.shtml

Maintenance

The Project Leader of each scoping team should contact the different Maintenance Sections and Specialty crews. They are considered experts within their program areas and can provide valuable information about a project that is being scoped. They may have information on the politics of the local property owners, access issues, operational issues, accidents and utility issues, planning issues (e.g. local rule changes or existing rules), local or federal government relationships, etc. The different sections and specialty crews can provide information on the following:

- Maintenance crews can provide information on features, maintainability (mowable slopes, cleaning ability, land closures vs. work out of lanes, etc.), drainage issues, right of way issues, property owner issues, operational issues, and other maintenance issues.
- Bridge crews can provide information on bridge issues and input on the correct fix; conditions of decks, rails, joints, etc.; estimated costs; and maintainability of bridge items (joints, transients, rails, etc.).
- Electrical crews can provide information on all electrical issues and input on the correct fix; age of system and conditions (cabinets, poles, wiring, service drops); signal/illumination issues; and placement of new features for maintainability.
- Sign crews can provide information on all sign issues and input on the correct fix and sign data inventory.
- Landscape crews can provide information on all landscape issues and proposed plants.
- Striping crews can provide information on various types of striping options and costs (products, inlayed, enhancement markers, etc.).

Reference
Bicycle and Pedestrian Program
http://www.oregon.gov/ODOT/HWY/BIKEPED/

Bicycle and Pedestrian Program

Oregon law (ORS 366.514) mandates the inclusion of walkways and bikeways on highway construction and reconstruction projects. But most projects in urbanized areas make changes to the roadway that affect the ability of pedestrians and bicyclists to safely use the road. These are also opportunities to make improvements for walking and bicycling as part of projects that otherwise may not address these concerns.

Sidewalks and/or bike lanes/shoulders can be added to existing roadways. Scoping teams should be looking for signs of pedestrian activity along the highway. Most common are footpaths worn into the dirt at the edge of the roadway. Scoping teams should consider the following improvements:

- Sidewalks: on urban highways that are curbed, it is often simply a matter of adding a paved surface behind the curb. On many sections of highway, there are partial sidewalks; filling in the gaps will complete the sidewalk system on these highways at low cost. Other highways are uncurbed, and adding sidewalks may involve adding curb and drainage, a more expensive proposition. If there is sufficient right of way, an uncurbed sidewalk can be placed behind the ditch.
- Bike lanes: on urban highways where the roadway width cannot be changed, bike lanes can often be striped by narrowing the motor vehicle travel lanes.
- Shoulders: on more rural highways, paved shoulders can be added prior to a preservation project, where the shoulder is unpaved but has a good base and subgrade, to increase the safety of all users.

Improve pedestrian crossing opportunities. People need to be able to cross our highways safely, in convenient locations. Not all crossings occur at intersections. Scoping teams should be looking for places where pedestrians need to cross the highway. Most common are transit stops, or convenience stores located across from residential areas. Scoping teams should consider the following improvements:

- Median islands help pedestrians cross a busy highway in two simple steps. They have to be placed carefully when there are many multiple driveway conflicts.
- Curb extensions, on urban highways with on-street parking, reduce the crossing distance, enable pedestrians and motorists to better see each other, and slow right-turning vehicles.
- High visibility crosswalks with an advance stop bar help drivers understand where to stop for pedestrians.
- Illumination helps prevent nighttime crashes, (when many pedestrians get hit). All marked crosswalks should be well lit.

Intersection design impacts pedestrian safety. Intersections have many conflicts and turning movements, and pedestrians are vulnerable when their needs aren't met. Scoping teams should be looking for intersection design concerns that place pedestrians in danger, and consider the following improvements:

- Closed crosswalks force pedestrians to walk around 3 sides of the intersection, or dash across illegally with no signal protection; all legs of the intersection should have a crosswalk. Please contact the Pedestrian and Bicycle Program for ideas on techniques to open closed crosswalks.
- Large radii enable right-turning vehicles to turn at high speed, placing crossing pedestrians in danger; the radius of each corner of every intersection should be no larger than needed to accommodate the design vehicle.
- Painted islands between a right-turn lane and through traffic do not offer pedestrians any protection, create very long crossings and force right-turning drivers to cross two crosswalks. A raised concrete island with a single crosswalk across the right-turn lane solves all these problems.
- Pedestrian push-buttons located in inaccessible places, making it difficult or impossible for disabled pedestrians to trigger a signal. Poorly-placed buttons are confusing to all users, encouraging pedestrians to push all buttons they see, needlessly delaying traffic. The MUTCD shows proper location of push-buttons and pedestrian signal heads.

Preservation

Improvements to extend the service life of existing facilities, and rehabilitative work on roadways are preservation types of projects. Preservation projects add useful life to the road without increasing the capacity, and may include:

- Pavement overlays (including minor safety and bridge improvements);
- Interstate Maintenance (IM) Program (pavement preservation projects on the Interstate system;
- Re-establishing an existing roadway; or
- Resurfacing projects.

Pavement preservation projects on state highways use the ODOT 3R Urban, Rural, or Freeway standard depending upon the highway classification and location. Preservation projects preserve

and extend the service life of existing highway by at least 8 years. Preservation projects may include small portions of modernization activities as part of the project such as affecting sub-grade, re-basing, adding a turn lane, or minor curve modifications. As long as these elements do not account for over 50% of the project length, the appropriate ODOT 3R standard is to be used, otherwise the project is treated as modernization and the appropriate ODOT 4-R/New standard shall be used.

Reference
ODOT Highway Design Manual
http://egov.oregon.gov/ODOT/HWY/ENGSERVICES/hwy_manuals.shtml#2003_English_Manual

The Highway Design Manual Appendix B – Urban Preservation Strategy has a set of criteria for evaluating other design features for possible modifications or improvements. It includes lists of design feature "have to's" and "like to's". The Project Leader and Team should reference to the Manual when trying to keep the scope in line with the intent of the project.