

# Capital Project Delivery Stages & Gates



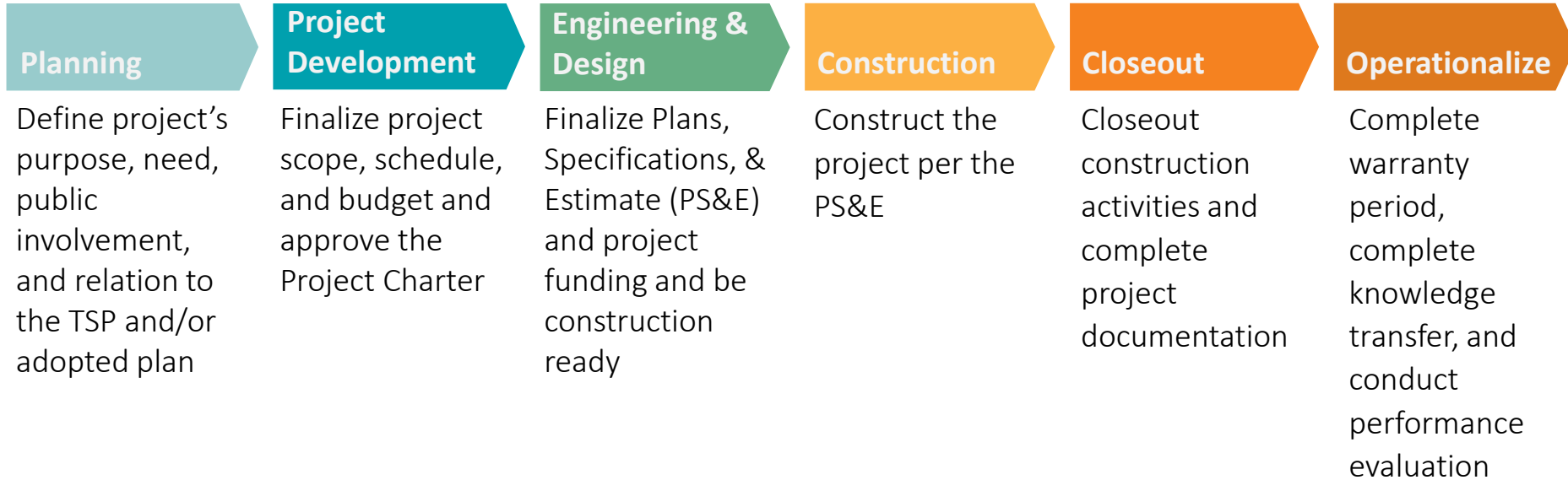
*Quick Reference Guide (June 2019)*



**PBOT**  
PORTLAND BUREAU OF TRANSPORTATION

# Capital Project Delivery

## STAGES & GATES



## GATE DELIVERABLES

- |  |   |  |  |  |   |
|--|---|--|--|--|---|
| <ul style="list-style-type: none"><li>• Complete Streets Checklist</li><li>• Concept Plan / Project Summary</li><li>• Project Dev Funding &amp; Staffing Resource Plan</li></ul> | <ul style="list-style-type: none"><li>• Project Definition</li><li>• Engineer's Estimate Report</li><li>• Design &amp; Construction Funding and Staffing Resource Plans</li></ul> | <ul style="list-style-type: none"><li>• Change Management Summary</li><li>• Bid Book</li><li>• ROW Certification</li><li>• Approved Construction Funding</li><li>• Council Ordinances</li><li>• Signed Construction Contract</li></ul> | <ul style="list-style-type: none"><li>• Certification of Substantial Completion Issued</li></ul> | <ul style="list-style-type: none"><li>• Closeout package</li><li>• As-Builts Completed &amp; Mapped</li><li>• Final Project Memo</li><li>• Final Financial Accounting Closeout Package</li></ul> | <ul style="list-style-type: none"><li>• Performance Evaluation Documentation</li><li>• Documentation for Ongoing Maintenance Activities and Investments</li></ul> |
|--|---|--|--|--|---|

# STAGE 1: Planning

## LEAD: Transportation Planning Division

**Purpose:** Define project's purpose, need, public involvement, and relation to the Transportation Systems Plan (TSP) and/or adopted plan.

### GATE

- *Approved Complete Streets Checklist*
- *Project Concept & Alternative*
- *Approved Project Development Funding & Staffing Resource Plan*

1. Conduct policy scan within PBOT
2. Engage and begin coordination with other bureaus to identify leverage opportunities
3. Request and identify multi-disciplinary team
4. Develop the public involvement plan (e.g., external stakeholders identified and engagement level defined)
5. Conduct the public involvement plan (ongoing)
6. Refine project scope and affirm goals, needs, and criteria
7. Define solution(s) and complete evaluating alternatives (includes identifying and assessing alternatives, feasibility, planning-level cost estimates, and trade-offs)
8. Reach consensus on preferred concept, estimate, and alternative
9. Formal approval of concept and alternative (ex., approval of pre-charter/definition checklist or council approval)

# STAGE 2: Project Development

## LEAD: Transportation Planning Division

**Purpose:** Finalize project scope, schedule, and budget and approve the Project Charter.\*

1. Identify capital project manager and multi-disciplinary team
2. Refine public involvement plan and continue public involvement as necessary
3. Define performance metrics aligned with PBOT strategic plan when the project is operationalized
4. Define project encouragement strategy
5. Conduct preliminary engineering (e.g., develop typical section concept, coordinated with traffic analysis)
6. Confirm proposed scope, schedule, and budget meets stated objective and policy goals
7. Develop engineer's estimate report (e.g., order of magnitude)
8. Identify other closely related projects and continue coordination
9. Develop Design & Construction Funding and Staffing Resource Plans

### GATE

- *Approved Project Definition*
- *Approved Engineer's Estimate Report*
- *Approved Design & Construction Funding and Staffing Resource Plans*

# STAGE 3: Engineering & Design

## LEAD: Engineering Services

**Purpose:** Finalize Plans, Specifications, & Estimate (PS&E) and project funding and be construction ready.

1. Confirm project management, engineering, and design team members
2. Review and confirm approved Project Charter (e.g., review goals, scope, schedule, budget, environmental assessment needs and permit requirements, risk assessment, and identification of cost drivers)
3. Continue public engagement and notifications
4. Complete survey
5. Conduct appropriate level environment impact assessment based on the project type
6. Design engineering (30% - 60% - 95% - Final)
7. Finalize project funding
8. Conduct outreach and notification to utilities and partner agencies

## GATE

- *Change Management Summary*
- *ROW Certification*
- *Approved Construction Funding*
- *Council Ordinance for Authority to Bid*
- *Council Ordinance to Award*
- *Signed Construction Contract*
- *Contract Package Book (100% Plans, Specs, & Estimate, including all required reports and permits)*

9. Obtain required permits & other regulatory approvals
10. Complete Urban Forestry permitting process
11. Complete ROW process and certification for federally funded projects
12. Complete change management summary
13. Prepare bid package and council docs
14. Obtain Authority to Bid
15. Submit to Procurement
16. Complete bid analysis & issue recommendation to award
17. Transmit necessary plans and design files to Survey
18. Obtain Council approval of Bid Award

# STAGE 4: Construction

## LEAD: Engineering Services

### GATE

- *Certification of Substantial Completion Issued*

**Purpose:** Construct the project per the PS&E.

1. Hold transition meeting between Design Team (PM / EOR / CM) and Construction Team
2. Establish construction management roles and responsibilities
3. Review and approve the contractor-required submittals according to City of Portland standard Construction Specifications
4. Hold Pre-Con meeting
5. Issue Notice to Proceed
6. Continue public engagement and notification of upcoming construction activities
7. Start project-specific encouragement work for the promotion of new assets
8. Perform inspections in the field (ongoing)
9. Generate progress payments from inspection reports
10. Document and retain all approved change-related documentation
11. Review and approve additional required contractor submittals
12. Complete final reconciliation of quantities
13. Reach consensus on substantial completion; issue punch list

# STAGE 5: Closeout

## LEAD: Capital Delivery Division

**Purpose:** Closeout construction activities and complete project documentation.

### GATE

- *As-Builts Completed and Mapped*
- *Final Project Memo*
- *Final Financial Accounting Closeout Package to Procurement*

1. Ensure all Quality and Quantity documentation is on file as established by the PBOT Quality Control Plan
2. Request and receive external agency approval as needed (ODOT requirement)
3. Complete punch list inspection and issue resolution
4. Receive documentation from contractor (i.e., ARC, CMOs, warranties)
5. Issue Certificate of Completion
6. Complete closeout package for procurement and notify accounting for capitalization purposes
7. Complete as-builts, asset mapping, and archiving
8. Continue project-based encouragement
9. Complete Final Project Memo
10. Complete new asset transfer to maintenance (e.g., deliver Final Project Report & as-builts to MO)
11. Complete final accounting

# STAGE 6: Operationalize

## LEADS: MO & OSIP

**Purpose:** Complete warranty period, complete knowledge transfer, and conduct performance evaluation.

### GATE

- *Performance Evaluation*
- *Documentation for Ongoing Maintenance Activities and Investments*

1. Complete warranty inspection and plant establishment
2. Ensure contractor resolves identified warranty and mitigation of deficiencies issues
3. Release warranty bond
4. Collect post-project data identified in Data Collection Strategy
5. Mitigation of unanticipated project impacts
6. Complete project performance evaluation
7. Incorporate findings into ongoing project planning activities
8. Inform appropriate ongoing maintenance activities and investments



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# Lead & Support Roles

Planner, Project Manager,  
Lead Sr. Designer, & Construction Manager

# Planner – Roles & Responsibilities

**Bolded & Boxed = Lead Person**  
**Bolded = Supports or Provides Input**

**Red-Boxed = Gate Owner**

## Planning

- Conduct policy scan
- Engage and begin coordination with other bureaus to identify leverage opportunities
- Request multi-disciplinary team
- Develop initial Public Involvement Plan (PIP)
- Conduct the PIP
- Refine project scope and affirm goals, needs, and criteria
- Define solution(s) & complete evaluating alternatives
- Reach consensus on preferred concept, estimate and alternative
- Formal approval of concept and alternative

## Project Development

- Identify capital project manager and multi-disciplinary team
- Refine PIP and continue public involvement as necessary
- Define performance metrics
- Define project encouragement strategy
- Conduct preliminary engineering
- Confirm proposed scope, schedule, and budget meets stated objective and policy goals
- Develop engineer's estimate report
- Identify other closely related projects and continue coordination
- Develop Design & Construction Funding and Staffing Resource Plans

## Engineering & Design

- Confirm PM, engineering, & design team members
- Review & confirm approved Project Charter
- Continue public engagement and notifications
- Complete survey
- Conduct environment impact assessment
- Design engineering (30% - 60% - 95% - Final)
- Finalize project funding
- Conduct outreach and notification to utilities and partner agencies
- Obtain required permits & other regulatory approvals
- Complete Urban Forestry permitting processes
- Complete ROW process and certification
- Prepare Change Management Summary
- Complete council approval & procurement processes
- Transmit necessary plans & design files to Survey

## Construction

- Hold internal transition meeting
- Establish construction management roles and responsibilities
- Review and approve the contractor-required submittals
- Hold pre-con meeting
- Issue Notice to Proceed (NTP)
- Continue PIP and notify impacted public
- Start project-specific encouragement work
- Perform field inspections
- Generate progress payments
- Document & retain change-related documentation
- Review & approve required contractor submittals
- Reach substantial completion; issue punch list

## Closeout

- File all Quality & Quantity documentation
- Request & receive external agency approval
- Complete punch list inspection & issue resolution
- Receive contractor documentation
- Issue Certification of Completion
- Complete closeout package & notify accounting
- Complete as-builts, asset mapping, & archiving
- Continue project-specific encouragement work
- Complete Final Project Memo
- Complete new asset transfer to maintenance
- Complete final accounting

## Operationalize

- Complete warranty inspection & plant establishment
- Ensure contractor resolves identified warranty and mitigation of deficiencies issues
- Release warranty bond
- Collect post-project data identified in Data Collection Strategy
- Mitigation of unanticipated project impacts
- Complete performance evaluation
- **Incorporate findings into ongoing planning activities**
- Inform appropriate ongoing maintenance activities and investments

## GATE DELIVERABLES

- Complete Streets Checklist
- Concept Plan / Project Summary
- Project Dev Funding & Staffing Resource Plan

- **Project Definition**
- Engineer's Estimate Report
- Approved Design & Construction Funding and Staffing Resource Plans

- Change Mgmt. Summary
- ROW Certification
- Approved Construction Funding
- Council Ordinances
- Signed Construction Contract
- Contract Package

- Certification of Substantial Completion Issued

- As-Builts Completed & Mapped
- Final Project Memo
- Final Financial Accounting Closeout Package to Procurement

- Performance Evaluation Documentation
- Documentation for Ongoing Maintenance Activities and Investments

# Project Manager – Roles & Responsibilities

**Bolded & Boxed = Lead Person**  
**Bolded = Supports or Provides Input**

**Red-Boxed = Gate Owner**

## Planning

- Conduct policy scan
- Engage and begin coordination with other bureaus to identify leverage opportunities
- Request and identify multi-disciplinary team
- Develop initial Public Involvement Plan (PIP)
- Conduct the PIP
- Refine project scope and affirm goals, needs, and criteria
- Define solution(s) & complete evaluating alternatives
- Reach consensus on preferred concept, estimate and alternative
- Formal approval of concept and alternative

## Project Development

- **Identify capital project manager and multi-disciplinary team**
- **Refine PIP and continue public involvement as necessary**
- **Define performance metrics**
- **Define project encouragement strategy**
- Conduct preliminary engineering
- **Confirm proposed scope, schedule, and budget meets stated objective and policy goals**
- Develop engineer's estimate report
- **Identify other closely related projects and continue coordination**
- **Develop Design & Construction Funding and Staffing Resource Plans**

## Engineering & Design

- **Confirm PM, engineering, & design team members**
- **Review & confirm approved Project Charter**
- **Continue public engagement and notifications**
- Complete survey
- **Conduct environment impact assessment**
- Design engineering (30% - 60% - 95% - Final)
- **Finalize project funding**
- **Conduct outreach and notification to utilities and partner agencies**
- **Obtain required permits & other regulatory approvals**
- **Complete Urban Forestry permitting processes**
- **Complete ROW process and certification**
- **Prepare Change Management Summary**
- **Complete council approval & procurement processes**
- Transmit necessary plans & design files to Survey

## Construction

- **Hold internal transition meeting**
- **Establish construction management roles and responsibilities**
- Review and approve the contractor-required submittals
- Hold pre-con meeting
- Issue Notice to Proceed (NTP)
- **Continue PIP and notify impacted public**
- **Start project-specific encouragement work**
- Perform field inspections
- Generate progress payments
- Document & retain change-related documentation
- Review & approve required contractor submittals
- Reach substantial completion; issue punch list

## Closeout

- File all Quality & Quantity documentation
- Request & receive external agency approval
- Complete punch list inspection & issue resolution
- Receive contractor documentation
- Issue Certification of Completion
- **Complete closeout package & notify accounting**
- **Complete as-builts, asset mapping, & archiving**
- **Continue project-specific encouragement work**
- **Complete Final Project Memo**
- **Complete new asset transfer to maintenance**
- **Complete final accounting**

## Operationalize

- Complete warranty inspection & plant establishment
- Ensure contractor resolves identified warranty and mitigation of deficiencies issues
- Release warranty bond
- Collect post-project data identified in Data Collection Strategy
- **Mitigation of unanticipated project impacts**
- **Complete performance evaluation**
- **Incorporate findings into ongoing planning activities**
- **Inform appropriate ongoing maintenance activities and investments**

## GATE DELIVERABLES

- Complete Streets Checklist
- Concept Plan / Project Summary
- Project Dev Funding & Staffing Resource Plan

- **Project Definition**
- **Engineer's Estimate Report**
- **Approved Design & Construction Funding and Staffing Resource Plans**

- **Change Mgmt. Summary**
- **ROW Certification**
- **Approved Construction Funding**
- **Council Ordinances**
- **Signed Construction Contract**
- **Contract Package**

- Certification of Substantial Completion Issued

- **As-Builts Completed & Mapped**
- **Final Project Memo**
- **Final Financial Accounting Closeout Package to Procurement**

- **Performance Evaluation Documentation**
- **Documentation for Ongoing Maintenance Activities and Investments**

# Supervising Engineer – Roles & Responsibilities

**Bolded & Boxed = Lead Person**  
**Bolded = Supports or Provides Input**

**Red-Boxed = Gate Owner**

## Planning

- Conduct policy scan
- Engage and begin coordination with other bureaus to identify leverage opportunities
- Request and identify multi-disciplinary team
- Develop initial Public Involvement Plan (PIP)
- Conduct the PIP
- **Refine project scope and affirm goals, needs, and criteria**
- **Define solution(s) & complete evaluating alternatives**
- **Reach consensus on preferred concept, estimate and alternative**
- **Formal approval of concept and alternative (Traffic & Civil; BAS for bridges and CON for paving)**

## Project Development

- Identify capital project manager and multi-disciplinary team
- Refine PIP and continue public involvement as necessary
- **Define performance metrics**
- Define project encouragement strategy
- **Conduct preliminary engineering**
- **Confirm proposed scope, schedule, and budget meets stated objective and policy goals**
- **Develop engineer's estimate report**
- **Identify other closely related projects and continue coordination**
- **Develop Design & Construction Funding and Staffing Resource Plans**

## Engineering & Design

- Confirm PM, engineering, & design team members
- **Review & confirm approved Project Charter**
- Continue public engagement and notifications
- **Complete survey**
- **Conduct environment impact assessment**
- **Design engineering (30% - 60% - 95% - Final)**
- **Finalize project funding**
- **Conduct outreach and notification to utilities and partner agencies**
- **Obtain required permits & other regulatory approvals**
- **Complete Urban Forestry permitting processes**
- **Complete ROW process and certification**
- Prepare Change Management Summary
- Complete council approval & procurement processes
- **Transmit necessary plans & design files to Survey**

## Construction

- **Hold internal transition meeting**
- Establish construction management roles and responsibilities
- Review and approve the contractor-required submittals
- Hold pre-con meeting
- Issue Notice to Proceed (NTP)
- Continue PIP and notify impacted public
- Start project-specific encouragement work
- Perform field inspections
- Generate progress payments
- Document & retain change-related documentation
- Review & approve required contractor submittals
- **Reach substantial completion; issue punch list**

## Closeout

- **File all Quality & Quantity documentation**
- Request & receive external agency approval
- Complete punch list inspection & issue resolution
- Receive contractor documentation
- Issue Certification of Completion
- Complete closeout package & notify accounting
- Complete as-builts, asset mapping, & archiving
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- **Complete Final Project Memo**
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# Construction Manager – Roles & Responsibilities

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## Planning

- Conduct policy scan
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