Capital Project Delivery
Stages & Gates
Kick-Off

Overview & Processes
Today’s Agenda

1. Introductions
2. Capital Project Delivery Stages & Gates
3. Controls Team Support
4. Next Steps
5. Q&A
Capital Project Delivery Task Force

Engineering Services
Wendy Cawley
Jason Shepard
Brenda Strombo

PPP
Denver Igarta
Mauricio Leclerc
Sheila Parrott
Steven Szigethy
The Path to Today....
Recent Capital Delivery Improvement Activities

Nov ‘16 – Mar ‘18
- First Series of Group Sessions
- Controls Committee Launched

Apr – Jun ‘18
- Process Improvement Begins
- e-Builder Launched

July – Sept ‘18
- Second Series of Group Sessions

Oct – Dec ‘18
- Small Cap Improvement Effort
- Task Force Wraps Up

Jan – Apr ‘19
- Task Force Kicks Off
### Identified Solutions (Summer ‘18)

<table>
<thead>
<tr>
<th>Early engagement of external stakeholders</th>
<th>PM and Engineering Design part of the planning and project development stages</th>
<th>Project scope approved before design phase as part of chartering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear understanding of the project manager role throughout the project lifecycle</td>
<td>Stronger Engineering Services Design role with external contracting</td>
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<tr>
<td>Add’l support to assist with managing business functions</td>
<td>Standard change management process for scope, schedule, and budget changes</td>
<td>Improved communications between PM &amp; EOR/Design Manager</td>
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<tr>
<td>Mutual agreement between PM &amp; EOR/Design Manager on scope, schedule, and budget changes</td>
<td>Consistent performance management process to track if we met expected outcomes</td>
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Stages & Gates
Initial Conversation…..

**Overall Process**

- Inconsistent change management process
- PIP resources are insufficient
- Overall capacity issues, resulting in staff overburdening

**Planning & Project Development**

- Chartering process had no “teeth”
- No shared understanding or commitment on when projects get done across groups
- No set prioritization
- No meaningful metrics established to track performance

**Engineering & Design**

- Need clarification of roles & responsibilities with Engineering groups
- Opportunity to clarify stamping requirements on simpler MO jobs

**Construction**

- Require better coordination with MO on scheduling & work planning
- Evaluate current on-call services to build capacity

**Closeout**

- No retroactive analysis to drive improvements
Resulted in Shared Commitment

Collectively agreed to implement a scalable stage-gate process for all capital projects
The Identified Solution: Stages & Gates

Comprised of unique, predefined activities that are performed cross-functional, concurrently, and iteratively to optimize project scope, design, and impact

- 1 – Program / Project Planning
- 2 – Project Development
- 3 – Engineering & Design
- 4 – Construction
- 5 – Closeout
- 6 – Operationalize

At each Gate, project investment criteria are used to evaluate projects objectively, individually, and cross-functionality to yield effective Go/No-Go decisions
The Stages & Lead Divisions

Overall Project Management (Scope, Schedule, Budget), Lead: Capital Delivery Division

- Planning, Lead: Transportation Planning Division
- Project Development, Lead: Transportation Planning Division
- Engineering and Design, Lead: Engineering Services
- Construction, Lead: Engineering Services
- Closeout, Lead: Capital Delivery Division
- Operationalize, Lead: MO (Asset) & OSIP (Perf. Improvement)

Overall Project Management (Scope, Schedule, Budget), Lead: Capital Delivery Division

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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.

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)

GATE
- Approved Policy Scan
- Project Concept & Alternative
- Approved Project Development Funding & Staffing Resource Plan
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 multidisciplinary 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

GATE
• Approved Project Definition
• Approved Engineer’s Estimate Report
• Approved Design & Construction Funding and Staffing Resource Plans

*E-Builder will auto-generate the Project Charter with content from the approved Project Definition Checklist.
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

9. Obtain required permits & other regulatory approvals

10. Complete ROW process and certification for federally funded projects

11. Complete change management summary

12. Prepare bid package and council docs

13. Obtain Authority to Bid

14. Submit to Procurement

15. Complete bid analysis & issue recommendation to award

16. Transmit necessary plans and design files to Survey

17. Obtain Council approval of Bid Award

**STAGE 3: Engineering & Design**

**LEAD: Engineering Services**

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

**GATE**

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

**LEAD: Engineering Services**

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

**GATE**

- Certification of Substantial Completion Issued
STAGE 5: Closeout
LEAD: Capital Delivery Division

Purpose: Closeout construction activities and complete project documentation.

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

GATE
• As-Builts Completed and Mapped
• Final Project Memo
• Final Financial Accounting Closeout Package to Procurement
STAGE 6: Operationalize
LEADS: MO & OSIP

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

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

GATE
- Performance Evaluation
- Documentation for Ongoing Maintenance Activities and Investments
The initial review process will be managed in e-Builder and vetted by the following reviewers. The Controls Team will also be involved in reviewing and ensuring compliance with PBOT’s delivery standards.

<table>
<thead>
<tr>
<th>Stage Gate</th>
<th>Gate Keepers</th>
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<tbody>
<tr>
<td>Project Development</td>
<td>PPP Division Managers</td>
</tr>
<tr>
<td>Engineering &amp; Design</td>
<td>Engineering Services Managers</td>
</tr>
<tr>
<td>Construction</td>
<td>Engineering Services Managers</td>
</tr>
<tr>
<td>Closeout</td>
<td>Capital Delivery Division Manager</td>
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<tr>
<td>Operationalize</td>
<td>Multiple Division Managers (PPP, MO, and Business Services)</td>
</tr>
</tbody>
</table>
SPIRAL: The new RACI

The Task Force modified the existing engineering roles & responsibility model by adding a “Supportive” role.

They also identified lead & support tasks for each primary role (planner, project manager, supervising engineer, and construction manager).
**Construction Manager – Roles & Responsibilities**

**Planning**
- Conduct policy scan
- Engage and begin coordination with other bureaus to identify leverage opportunities
- Request and identify multi-disciplinary team resources
- 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 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

**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 as-builts, asset mapping, & archiving
- Continue project-specific encouragement work
- Complete as-builts, asset mapping, & archiving
- 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

**Operationalize**
- Complete warranty inspection & plant establishment
- Ensure contractor resolves identified warranty and mitigation of deficiencies issues
- Release warranty bond

**GATE DELIVERABLES**
- Policy Scan
- 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
- Bid Book
- ROW Certification
- Approved Construction Funding
- Council Ordinances
- Signed Construction Contract
- 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
Capital Controls Team
Support & Oversight
Capital Controls Team and Support

Support staff with business functions

Help with Performance Management Tracking

Standard Change Management Process

Data gathering, analytics and reporting

Project Controls is the gathering of data, management of the data and the processes used to predict, understand and influence the time and cost outcomes of a project or program in a constructive manner. This happens through the communication of information in formats that assist effective management and decision making.

What do we do?

- Here to help guide project staff through the stages and gates process and deliverables
- Enforce standards for overall processes and documentation
- Identify areas to be highlighted within the standard project delivery process for improvement
- Provide a place for staff feedback to inform process improvement
- Help create reports and dashboards to facilitate the use of project delivery data
Reminder: Scope, Schedule, Budget Change (SSBC) Requests

Starting now, all SSBCs need to be formally submitted in e-Builder. In mid-June, the Controls Committee will begin to review the SSBC Dashboard biweekly.
What’s Next?
Next Steps: Jump In!

Complete Initial Rollout by June 10th

- Know the stages
- Learn your role
- Check out e-Builder to:
  - Review your projects’ current stages
  - Review the current gate deliverable templates
- Submit SSBC Requests in e-Builder

Summer ‘19: Provide Feedback & Refine Processes

- Participate in feedback surveys
- Review e-Builder communications to learn about improvements
- Attend the update at the CIP Budget Kick-off

Winter ‘20: Review Support Materials & Participate in Retro

- Review the initial project delivery manual & supporting reference materials
- Participate in the retrospective to share findings, showcase improvements, and identify next set of improvements
## Where to go for help

### Group / Division

<table>
<thead>
<tr>
<th>Group / Division</th>
<th>Contact Name</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPP</td>
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<td>Todd Liles</td>
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<td></td>
<td>Jason Shepard</td>
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</tr>
</tbody>
</table>

### Capital Controls & e-BUILDER

**Controls Team**
- PBOT.e-builder@portlandoregon.gov
- Alicia Gruber, Controls Manager
- Aaron Kaufman, Analyst

**How to access e-BUILDER:** Send an email to the address above! The Controls Team will set up your account & can also provide training [www.e-builder.net](http://www.e-builder.net)
## Capital Project Delivery

### STAGES & GATES

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<td>Define project’s purpose, need, public involvement, and relation to the TSP and/or adopted plan</td>
<td>Finalize project scope, schedule, and budget and approve the Project Charter</td>
<td>Finalize Plans, Specifications, &amp; Estimate (PS&amp;E) and project funding and be construction ready</td>
<td>Construct the project per the PS&amp;E</td>
<td>Closeout construction activities and complete project documentation</td>
<td>Complete warranty period, complete knowledge transfer, and conduct performance evaluation</td>
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### GATE DELIVERABLES

- Policy Scan
- Concept Plan / Project Summary
- Project Dev Funding & Staffing Resource Plan
- Change Management Summary
- Bid Book
- ROW Certification
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