Approach

• Focused on a subset of ST3 candidate projects (19)
• Multi-disciplinary teams: design, permitting, construction management, property acquisition, cost and scheduling, planning, and operations
• Phases of Risk Assessment:
  – Part I – Workshop Focused on Individual Project Scopes/Budgets (February 1-5)
  – Part II – Workshop Focused on Individual Project Schedules (February 24-25)
• Very early level of design; wide range of uncertainties or risks identified
• Potential risks to cost and schedule were identified
• Scales identified to assess relative magnitude of severity:
  – Relative severity of risk exposure = (likelihood of risk) x (expected impact)
• Recorded initial mitigation ideas, but generally not mitigation focused
Risks/Uncertainties by Type – All Projects
(275 Total Risks/Uncertainties)

- Design: 25%
- Construction: 14%
- Right-of-Way / Utilities: 23%
- Environmental / Permitting: 10%
- Public / Stakeholders: 28%
Examples of More Severe Risks/Uncertainties

• C-10 Sounder Infill Station at Boeing Access Road
  – Station location disagreement with BNSF (Risk Severity = 1.0)
  – Sounder station operations negotiations with BNSF (Risk Severity = 1.0)

• S-04 Federal Way Transit Center to S. Federal Way Via SR 99
  – Horizontal clearance between powerlines and tank (Risk Severity = .64)
  – Powerline relocation south of Commons Mall along 324th St. (Risk Severity = 1.0)

• N-02 Lynnwood to Everett Light Rail Via SW Everett Industrial Center
  – Temporary construction easements and additional parcel takes (Risk Severity = .40)
  – OMSF site selection and suitability (Risk Severity = .40)

• C-01b: Downtown Seattle to Ballard
  – Third party agreement for needed parcels (Risk Severity = .40)
  – Permitting issues (Risk Severity = .30)

Total Individual Risk Severity Ranged from 0 to 1.0;
1.0 = very high probability, very high cost impact, and very high schedule impact
Other Examples of Project Changes

- **Lynnwood to Everett Light Rail**
  - Changed profile to elevated over Ash Way HOV direct access ramp (elevated station at Ash Way whereas previously at grade; short length of additional elevated guideway).
  - Increased the number of assumed acquisitions in multiple locations.
  - Shifted the alignment south of 196th Street to the west to avoid potential complications with transmission wires, the interurban trail, and a future extension of Poplar Way across I-5.

- **Bellevue to Issaquah Light Rail**
  - Opportunity: Modified the alignment in portions of the I-90 right-of-way from Eastgate to Issaquah to be at-grade, including retained cut and fill, in the freeway median rather than elevated.
  - Adjusted the number of full residential property acquisitions in the City of Bellevue, consistent with Bellevue requirements.

- **Ballard to Downtown Seattle Light Rail**
  - Changed the cost estimate for maintenance of traffic activities, particularly with respect to the locations of underground station construction.
Other Outcomes of ST3 Risk Assessment

• A benefit to future project development:
  – Fostered more comprehensive, early, multi-disciplinary review of ST3 candidate projects
  – Once system plan approved, will use risks and uncertainties identified to manage risks throughout project development.
    • Quarterly review of list of risks and uncertainties identified
    • Full risk assessment at 10%, 30%, 60%, 90% design, and at various points during construction.
  – Identifies opportunities for early proactive risk management:
    • Will result in some earlier outreach/coordination for some projects
    • Earlier start on some federal regularly permitting issues
    • Early careful consideration of potential utility relocations needed
    • Potential early acquisition of some properties needed
Next Steps

• Finalize risk assessment report (under internal review)
• Continuing to review some projects to assess if changes needed
• Document the catalogue of identified uncertainties and risks as starting point for risk management for each project
Thank you.
## Candidate Projects Included in Risk Assessment

### Central Candidate Projects
- C-01b - LRT Downtown Seattle to Ballard
- C-01c - LRT Downtown Seattle to Ballard
- C-03a - LRT Downtown Seattle to West Seattle
- C-08 - Infill Light Rail Station: Graham Street
- C-09 - Infill Light Rail Station: Boeing Access Road
- C-10 - Infill Sounder Station: Boeing Access Road

### East Candidate Projects
- E-01 - LRT Redmond Technology Center to Downtown Redmond
- E-02a – BRT Lynnwood TC to Burien TC
- E-03 - LRT Kirkland/Totem Lake to Issaquah via Bellevue

### North Candidate Projects
- N-02aMod- LRT Lynnwood Transit Center to Everett Station via Southwest Everett Industrial Center
- N-04 - Infill Light Rail Station: 130th Street
- N-05 - Infill Light Rail Station: 220th Street
- N-09b - BRT on SR 523/145th
- N-10 - BRT on SR 522 to the Vicinity of UW Bothell

### South Candidate Projects
- S-03 - LRT Federal Way TC to Tacoma Dome via I-5
- S-04 – LRT Federal Way TC to Tacoma Dome via SR 99
- S-06 - Expand Sounder South Train Platforms to 8 cars
- S-11a - Tacoma Link extension to Tacoma Comm. College
- S-17 - Sounder expansion to DuPont