



King County

Metropolitan King County Council
Committee of the Whole

Agenda Item No.: 5
Proposed No.: 2009-0523

Date: October 12, 2009
Prepared By: Amy Tsai

STAFF REPORT

SUBJECT:

This briefing is an overview of Proposed Ordinance 2009-0523, which would require appropriation by phases for high-risk capital projects and standardized requirements for capital project appropriation requests and cost estimating.

BACKGROUND:

In June 2009, the state auditor released an accountability audit of King County, wherein the state auditor expressed concerns about oversight of capital projects. In July 2009, the Council passed Motion 13026 which included a requirement that the council consider legislation that would provide greater oversight of capital projects, high risk projects in particular. Proposed Ordinance 2009-0523 was drafted in response to Motion 13026.

Inadequate Cost Controls

The state auditor's audit of King County found issues with how King County tracks and controls costs of projects. For example, the state auditor began a performance audit of King County's construction management practices that was terminated in January 2009 due to records access issues. In that audit, the state auditor found that actual costs exceeded initial authorized costs. The state auditor believed that some of the variances might be attributed to "poor budget estimation, inaccurate or incomplete project specifications and/or inadequate cost controls." (State Audit, p. 10)

The auditor found that actual costs of 20 of 36 Roads Services Division projects exceeded the initial authorized costs of \$30 million by \$26.6 million, or 89 percent. This included the South 277th Street project that had initial authorized costs of \$2.6 million and final project costs of \$16.6 million. The county asserted that the South 277th Street project's initial authorized costs did not include the entire anticipated cost of the project.

Timely Information and Corrective Actions

The state auditor noted in his accountability audit of King County that "The difficulties that counties experience in providing complete and timely information impairs the ability of higher-level county management to effectively monitor projects to ensure they are on budget and are completed on schedule." (State Audit, p. 19) The state auditor thought that a reporting system that captured progress of all activities at all phases would provide accountability and

transparency to the Council and the public, allow tracking of performance against budgets and schedules, allow prompt corrective actions, and help keep tabs on the progress of the entire project compared to the total budget appropriations. (State Audit, p. 20)

The Council and the Executive have taken and are taking various steps that address the state auditor's concerns. For example, in 2006 the Council created a Capital Projects Oversight pilot program to oversee the county's largest capital construction projects.

Proposed Ordinance 2009-0523 provides a means by which the Council, via exertion of its appropriation powers and in its capacity as the oversight body of the county, could regularly receive the types of information recommended by the state auditor for all capital projects, and exert greater control over project costs at the various phases of a project for high-risk capital projects.

Many of the strategies for improved oversight incorporated into the proposed ordinance come from a PMA Consultants report on capital projects oversight that was commissioned by the county in 2007.

SUMMARY OF PROPOSED ORDINANCE 2009-0523:

Proposed Ordinance 2009-0523 has appropriation requirements that would apply to all capital projects, and more rigorous appropriation requirements that would apply to high-risk projects.

All Capital Projects

All capital project appropriation requests would submit a standard set of information as set forth in the proposed ordinance, and use standard cost estimating guidelines. The information required would include elements adopted from the Executive's Capital Appropriation Proposal form used for 2010 budget requests (project description, total cost, appropriations to date, etc.), and reporting on performance relative to baseline scope, schedule and budget.

"Capital projects" include everything that is currently a capital project as defined in Title 4 of the King County code, including, for example, construction, major equipment acquisition, reconstruction, demolition, or major alteration.

High-Risk Projects

All high-risk capital projects would have appropriation requests for each of their conceptual design, preliminary design, design and construction phases. High risk capital projects would also maintain a risk register, conduct a formal risk assessment, and employ earned value analysis. These elements are described in further detail below.

"High-risk projects" would be a small number of projects selected each year by the Joint Advisory Group (JAG), which is a group that was formed to facilitate communication between the Executive and Legislative branches on significant county projects. The selection process would run as follows:

- Projects over \$100 million would be presumed to be high-risk.
- Projects over \$10 million would be scored on riskiness criteria using a tool to be developed by the Capital Projects Oversight program; the score would guide JAG decision-making.

- Any department having at least one \$10 million project would have a project designated as high risk.
- The Executive and Council would have the ability to add additional projects to the high-risk list.
- Information technology, which has its own phased release of funding process, would not be included.

High risk projects would request an appropriation for each phase of the project and submit the following information with the request:

For the conceptual phase: Provide a cost estimate for the conceptual design phase.

For the preliminary design phase (these are items that would have been completed in the conceptual design phase): Identify design criteria, cost estimates, alternatives, planned schedule, risks identified on a risk register, stakeholders, regulatory requirements, and how performance in the conceptual phase compared to the original estimate.

For the design phase (these are items that would have been completed in the preliminary design phase): Analyze alternatives and recommended alternative, conduct a formal risk assessment, estimate costs, establish baseline scope, schedule and budget based on 30 percent design completion, show significant progress in environmental review, identify permits, acquisitions, relocations and mitigations needed, potential sources of funding, risks, procurement and delivery method, cost/benefit analysis of the preferred alternative; and how performance in the preliminary phase compared to the original estimate. Beginning with the design phase, high-risk projects would need to conduct earned value analysis, which is a measure of how much work has been accomplished on a project's list of tasks to date compared to the planned scope, schedule, and cost.

For the construction phase (these are items that would have been completed in the design phase): Updated scope, schedule, and cost estimates and explain variances from baseline, design at least ninety percent complete, permits in place, land and lease agreements in place, source and availability of project funding, and how performance in the design phase compared to baseline. There would also be quarterly reports during the construction phase on scope, schedule and budget compared to baseline.

ANALYSIS:

Number of Projects

Under the high-risk definition as proposed, according to data gleaned from the Executive's August 1, 2008 report, the departments that would have high-risk projects include Wastewater (at least five), and at least one project in Transit, Roads, Solid Waste, Facilities, and Housing and Community Development. The process of determining high-risk projects is still under development, but should identify a select few projects. Ultimately, the Joint Advisory Group would have the final control over how many projects are designated as high risk each year.

Training and Resources

Wastewater estimates that in the first year, over 40 projects valued at over \$10 million would be subject to the risk scoring process. To lend impartiality to the process, the project control officer for the department in which the project resides would be responsible for conducting the scoring.

This would entail significant start-up time, effort, and training in the first year the ordinance is in effect in order to score existing projects. In subsequent years, the number of new projects would be much smaller, and the rescoring of existing projects would be easier.

Phased Appropriation Delay

There have been concerns expressed by the Executive branch that phased appropriations could introduce costly delays for high-risk capital projects. For example, there are specific concerns regarding the willingness of design consultants to engage in an RFP process if appropriations are only available for the first phase with a potential delay adding costs as appropriations are sought for the next phase. Staff continue to work with the Executive branch to identify potential sources of delay and how the requirements might affect different types of capital projects.

The proposed ordinance allows requirements for each of the phases to be modified by motion. This is one method of providing flexibility for projects. Other options are being explored.

Alternative Project Types

There are some types of projects that do not fit a design-bid-build model, such as acquisitions, lease-leaseback arrangements, and projects receiving county grant funding that are managed by entities other than the county.

In situations where a requirement of the proposed ordinance does not apply to a project because it is not a construction project, the proposed ordinance allows the executive to either provide a comparable substitute or certify that the requirement is inapplicable.

Staff continue to analyze how projects that are not design-bid-build should relate to the proposed ordinance.

Summary

Proposed Ordinance 2009-0523 responds to the state auditor's concerns of inadequate cost controls by requiring that all capital projects submit a standard set of scope, schedule, and budget information when requesting appropriations, and by requiring that projects that pose the highest risk to the county come back to the council for an appropriation for each phase of the project.

INVITED:

1. Beth Goldberg, Deputy Director, Office of Management and Budget
2. Sid Bender, Budget Supervisor, Office of Management and Budget
3. Theresa Jennings, Director, Department of Natural Resources and Parks
4. Megan Smith, Government Relations Officer, Department of Natural Resources and Parks
5. Susan Peterson, Construction Project Control Officer, Wastewater Treatment Division

ATTACHMENT:

1. Proposed Ordinance 2009-0523



KING COUNTY
Signature Report

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

October 9, 2009

Ordinance

Proposed No. 2009-0523.1

Sponsors Ferguson and Dunn

1 AN ORDINANCE to require appropriation by phases for
2 high-risk capital projects and standardize requirements for
3 capital project reporting and cost-estimating; and adding a
4 new section to K.C.C. chapter 4.04.

5
6 **PREAMBLE:**

7 On June 22, 2009, the state Auditor released an Accountability Audit
8 Report of King County, wherein the state Auditor expressed concerns
9 about oversight of capital projects.

10 The council has previously taken significant steps to provide capital
11 project oversight. For example, in 2006, the council created a capital
12 projects oversight office in the county auditor's office that oversees the
13 county's large capital construction projects. In 2008 the council required
14 the Executive to transmit a critical analysis report for all current capital
15 improvement projects over seven hundred fifty thousand dollars. These
16 are just two of many capital projects oversight actions that the council has
17 taken.

18 The state Auditor found that "lack of adequate performance measures and
19 expectations prevent the King County Executive and Council from
20 providing adequate oversight of construction activity." The state Auditor
21 noted, "We believe some of the variances [between initial budget and final
22 project cost] may be attributed to poor budget estimation, inaccurate or
23 incomplete project specifications and/or inadequate cost controls."

24 On July 13, 2009, the council passed Motion 13026, directing that the
25 council consider legislation by September 15, 2009, that would require
26 phased appropriation of funding for high-risk capital projects and create
27 standard reporting and cost-estimating requirements for all capital
28 projects. This proposed ordinance is in response to that directive.

29 The proposed legislation incorporates recommendations from the King
30 County Capital Project Oversight – Phase 1 Report A produced by PMA
31 Consultants in August 2007, "Design of a Model for the Auditor's Office
32 Capital Project Oversight Reporting." It also builds from estimating
33 guidelines developed in 2004 by URS Construction Services for King
34 County's Wastewater Treatment Division, and input from various
35 executive agencies.

36 In the fall of 2009, the executive will review all sections of the King
37 County code that pertain to capital projects, with the goal of clarifying,
38 updating, and removing duplicative sections.

39 This proposed ordinance is not intended to apply to information
40 technology projects. Information technology projects have their own
41 funding approval and review process.

42 BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

43 NEW SECTION. SECTION 1. There is hereby added to K.C.C. chapter 4.04 a
44 new section to read as follows:

45 A. For the purposes of this section:

46 1. "Baseline scope" means a quantifiable description of major design elements
47 of the project that takes into account finalized design criteria.

48 2. "Baseline budget" means an estimate of anticipated costs for each major task
49 to complete each of the phases of a capital project, including an appropriate overall
50 allowance for contingency and inflation.

51 3. "Baseline schedule" means the anticipated start and finish dates and inter-
52 relationships for each required task, consistent with the estimate for the design phase, and
53 major work for the construction phase such that the entire project schedule is represented
54 through completion with a reasonable allowance for schedule contingency.

55 4. "Capital project" means "capital project" as defined in K.C.C. 4.04.020,
56 except that it does not include information technology projects;

57 5. "High-risk project" means a capital project with characteristics that increase
58 the likelihood of being completed late or over budget at a potentially significant financial
59 cost or other significant impact to the county, which shall be determined by the process in
60 subsection B. of this section; and

61 6. "Joint advisory group" means the real estate and major capital project review
62 joint advisory committee formed to facilitate coordination and early communication
63 between the executive and legislative branches on significant county projects, including
64 capital projects of more than ten million dollars.

65 B.1. A capital project with a total project cost estimate of over one hundred
66 million dollars is a high-risk project.

67 2. Every agency performing a capital project with a total project cost estimate of
68 over ten million dollars and under one hundred million dollars that has not been
69 categorized as a high-risk project must conduct a risk categorization assessment to
70 determine whether the project is a high-risk project before funds for the project are
71 appropriated and, unless it has been categorized as a high-risk project, by June 1 of each
72 year thereafter. All capital projects with appropriation authority that have a total project
73 cost estimate of over ten million dollars and under one hundred million dollars as of the
74 effective date of this ordinance, must have a risk categorization assessment completed by
75 January 31, 2010.

76 a. The implementing agency shall provide information for the risk
77 categorization assessment to the project control officer for the agency on a standard form
78 provided by the executive. The information to be included shall incorporate the
79 following:

- 80 (1) funding source options and availability;
- 81 (2) regulatory requirements;
- 82 (3) interdependencies with other county projects and programs or other
83 agencies;

- 84 (4) schedule constraints;
- 85 (5) implementing agency resources and expertise to manage the project,
86 including experience completing projects of similar scope and complexity;
- 87 (6) project delivery method;
- 88 (7) property acquisition issues;
- 89 (8) public impact;
- 90 (9) any new technology;
- 91 (10) any issue making the project more complex for the agency, such as
92 number of contracts and trades involved;
- 93 (11) any changes in scope and variance of project delivery performance, by
94 phase, from baseline, if available; and
- 95 (12) any other issues that could have a significant impact on the ability of the
96 project to meet baseline scope, schedule or budget.
- 97 b. The project control officer for that agency shall generate a risk assessment
98 score for the project using a standard scoring instrument approved by the council. The
99 project control officer shall forward the scoring results to the joint advisory group.
- 100 c. By March 1 of each year, the joint advisory group, in consultation with the
101 capital projects oversight program, shall identify the cut-off risk score above which a
102 project shall be categorized as a high-risk project. Regardless of the cut-off score, each
103 agency or department that has at least one capital project with a total project cost estimate
104 of over ten million dollars shall have at least one project categorized as a high-risk
105 project per year. A project receiving a risk score higher than the most recent cut-off
106 score identified by the joint advisory group is a high-risk project.

107 d. The chair of the council or the executive may designate any project as a
108 high-risk project by letter, filed with the clerk of the council for distribution to all
109 councilmembers and the executive, within thirty days after establishment of the cut-off
110 score by the joint advisory group, or when a capital project experiences a change in
111 events that represents a significant departure from baseline scope, schedule or budget.

112 D. The phases of a capital project are the conceptual design, preliminary design,
113 design and construction phases. When a project is categorized as a high-risk project, any
114 future appropriation shall be subject to the requirements of subsections E. through H. of
115 this section.

116 1. The conceptual design phase is the time during which justification of project
117 need, identification of potential alternatives, and evaluation of technical and economic
118 feasibility occurs.

119 2. The preliminary design phase is the time during which evaluation and
120 analysis of the potential project alternatives identified during conceptual design phase
121 occurs. Based on the analysis, a preferred alternative is selected and engineered to
122 approximately 30 percent design. Baseline scope, schedule and cost of the project are
123 established at the completion of preliminary design. Activities to seek permits that
124 require long lead times may be initiated during this phase.

125 3. The design phase is the time during which final design work, permitting, land
126 acquisition or other agreements are completed such that the project can proceed to
127 construction. Activities to procure materials and equipment that require long lead times
128 may be initiated during this phase.

129 4. The construction phase is the time during which the final design plans and
130 specifications are built into physical structures and facilities. This phase may also include
131 testing, adjusting, and correcting systems so that they perform at an optimum level. Close
132 out activities are processed during the construction phase. For capital acquisition or other
133 projects that do not involve construction, the construction phase begins when planning is
134 completed and implementation activities begin.

135 E. When requesting an appropriation for a phase of a high-risk project, the
136 executive shall provide all components of the standard reporting format identified in
137 subsection M. of this section and the additional items identified for specific phases in
138 subsection F. through I. of this section.

139 1. If a requirement under subsection F. through I. of this section is inapplicable
140 to projects that are not construction projects, the executive shall provide the closest
141 approximation to what is required, or shall certify that the requirement is inapplicable if
142 there is no comparable substitute.

143 2. Modifications to the requirements of subsection F. through I. of this section
144 for a specific high-risk project or class of high-risk projects may be approved by the
145 council by motion.

146 F. When requesting an appropriation for the conceptual design phase of a high-
147 risk project, the executive shall provide a cost estimate that details the anticipated cost for
148 each major task required to complete the conceptual design phase.

149 G. When requesting an appropriation for the preliminary design phase of a high-
150 risk project, the executive shall:

151 1. Identify design criteria;

152 2. Provide an estimate of preliminary design costs that details the anticipated
153 cost for each major task required to complete the preliminary design phase and a rough
154 order of magnitude planning level cost estimate, which may be expressed as a range, for
155 design and construction phases;

156 3. Provide a description of all alternatives considered;

157 4. Provide a planned schedule that shows the anticipated start and finish dates
158 for each major task, consistent with the cost estimate for the preliminary design phase;
159 and for the design and construction phases, provide the anticipated start and finish dates
160 for major work through completion;

161 5. Provide a summary of the top ten risks in the current project risk register;

162 6. Identify stakeholders;

163 7. Identify regulatory requirements;

164 8. Report variance of actual performance of conceptual design phase activities
165 as compared to the schedule and cost estimate provided for the conceptual design phase
166 appropriation request; and

167 9. For projects that are not construction projects, describe the logical milestones
168 distinguishing the phase delineations upon which schedule and cost estimates will be
169 developed.

170 H. When requesting an appropriation for the design phase of a high-risk project,
171 the executive shall:

172 1. Provide an analysis of all alternatives considered and a recommended
173 alternative with detailed scope description;

174 2. Provide a summary of the results of a formal schedule and cost risk
175 assessment conducted by an independent risk assessment specialist who may be someone
176 in the same agency as the project manager but must not report to the same person or have
177 involvement with the project;

178 3. Develop baseline scope, schedule and budget in accordance with industry
179 best practices, including, but not limited to, those published by the Project Management
180 Institute, and establish baseline scope, schedule and budget based on thirty percent design
181 completion;

182 4. Certify that significant progress has been made in environmental review and
183 public outreach, and identify steps remaining in the environmental review process;

184 5. Identify permits, acquisitions, relocations and mitigations likely to be needed;

185 6. Identify potential sources of funding and certify that application for external
186 funding has begun, if applicable;

187 7. Provide a summary of the top ten risks in the current project risk register;

188 8. Identify selected procurement and contracting delivery method;

189 9. Provide a cost/benefit analysis of the preferred alternative, including lifetime
190 operating cost assumptions; and

191 10. Report variance of actual performance of preliminary design phase activities
192 as compared to appropriation request schedule and cost estimate for the preliminary
193 design phase.

194 I.1. When requesting an appropriation for the construction phase of a high-risk
195 project, the executive shall:

196 a. provide updated scope, schedule and cost estimates and justify any variance
197 from baseline based on at least ninety percent of design completion;

198 b. certify that plans, specifications, estimates and contract documents reflect at
199 least ninety percent design completion and specify the ready date for proceeding with the
200 selected procurement or contract delivery method;

201 c. certify that all required permits are in place or provide status of pending
202 approvals and the expected date of receipt;

203 d. certify that all land acquisition, lease documents, and partnership
204 agreements are in place or provide status of pending actions and expected date of receipt;

205 e. identify source and certify availability of all project funding; and

206 f. report variance of actual performance of design phase activities as compared
207 to appropriation request baseline schedule and cost estimate for the phase.

208 2. Funding appropriated for the construction phase of a high-risk capital project
209 shall not be expended or encumbered until the executive has certified that all permits,
210 land acquisitions, lease documents and partnership agreements necessary for substantial
211 completion of the project are in place.

212 3. The executive shall provide quarterly reports during the construction phase of
213 a high-risk capital project on scope, schedule and budget compared to baseline to the
214 clerk of the council, with eleven copies, for distribution to councilmembers.

215 J. When the executive determines or proclaims an emergency for a capital high-
216 risk project, the project is exempt from the phased appropriation requirements of
217 subsections F. through H. of this section for the duration of when the emergency is in
218 effect.

219 K.1. The implementing agency shall establish and maintain a risk register for
220 each high-risk project. The risk register shall be developed consistent with industry
221 standards, including, but not limited to, those published by the Project Management
222 Institute. The risk register shall include, at a minimum:

- 223 a. identification of potential events that could impact scope, schedule, or cost;
- 224 b. description of the risk;
- 225 c. an outline of risk response plans for addressing potential risks should they
226 occur;
- 227 d. identification of events that would trigger implementation of the risk
228 response plans; and
- 229 e. a statement of the probability of occurrence of the events.

230 2. The implementing agency shall update the risk register at least quarterly, or
231 more frequently should significant changes or additions be identified by the
232 implementing agency.

233 L. The implementing agency shall conduct earned value analyses on all high- risk
234 projects to forecast the likelihood of potential schedule delays or cost overruns, or both,
235 based on the actual progress to date. The analysis shall be updated at least monthly. The
236 analyses shall be conducted starting with the design phase.

237 M. When transmitting a capital project appropriation or supplemental
238 appropriation request to the council, the executive shall submit the following information
239 using a standard reporting format:

- 240 1. Project number, project title, program, department, division, council district,
241 fund number and fund name;

- 242 2. Baseline scope, or, if not yet complete, certification that baseline scope will
243 be established in accordance with executive policy;
- 244 3. A brief description of the project and its purpose, including importance with
245 respect to priorities and goals and consequences of deferral or disapproval;
- 246 4. A description of alternatives considered;
- 247 5. The baseline budget, or, if not yet complete, certification that baseline budget
248 will be established in accordance with executive policy;
- 249 6. Appropriation and expenditure amounts to date;
- 250 7. Current-year appropriation requested amount;
- 251 8. Estimated cost through project closeout;
- 252 9. Description of cost estimate methodology, who performed the estimate and
253 on what date the estimate was completed;
- 254 10. Explanation of how contingency amounts were determined;
- 255 11. Explanation of how inflation is incorporated;
- 256 12. Identification of funding sources, funding status, and funding risks;
- 257 13. A baseline schedule, or, if not yet complete, certification that baseline
258 schedule will be established in accordance with executive policy;
- 259 14. Current status of project, last year's accomplishments, present year's
260 accomplishments and next year's planned accomplishments;
- 261 15. Any changes in schedule, scope or cost since the last appropriation request;
- 262 16. Description of project risks;
- 263 17. Description of any impact on other agencies;
- 264 18. A description of how the project will be managed; and

265 19. Certification that risk assessment scoring for high-risk categorization has
266 been completed, if required.

267 N.1. Capital projects cost estimates shall identify all known costs and
268 consideration of risks at each phase of the project. The level of detail incorporated within
269 each estimate shall be commensurate with the information available at each phase. Cost
270 estimates for high-risk projects with a baseline budget of over one hundred million
271 dollars shall include an independent evaluation of the estimate. Cost estimates for all
272 capital projects shall include the following:

- 273 a. documented methodology and assumptions and date of preparation;
- 274 b. estimate line item descriptions, pricing and quantities;
- 275 c. estimate accuracies, explaining methodology and level of contingency
276 included for uncertainty.

277 2. Notwithstanding subsection N.1. of this section, where an external funding
278 source mandates a particular cost estimating methodology, that methodology shall be

279

280 used.

281 SECTION 2. This ordinance takes effect December 31, 2009.

282

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

ATTEST:

APPROVED this ____ day of _____, _____.

Attachments None