Follow-up on Transit IT: Improved project planning and delivery needed to support expanding service

Transit completed or made progress on most of our recommendations to address issues with project schedule delays and cost overruns. Transit completed six of the 12 recommendations we made in 2017 to resolve issues with information technology (IT) projects taking longer and costing more than expected, and made progress on five others. IT projects play a critical role in the planning and deployment of bus services, and if Transit can keep these projects on track, it helps ensure that buses are on the road and riders are getting to where they need to go. Transit has established new processes and tools for all of its capital projects—including internal dashboards, assessment templates, and governance structures. It is now collecting information on what went right and wrong on its projects, and is building a knowledge base to learn from past successes. Transit also completed our recommendation to establish budget baselines for its IT projects, setting an important metric that decision-makers can use to gauge progress and hold project teams accountable.

Continued progress on the remaining recommendations will increase Transit's ability to effectively manage IT projects. Transit is still missing key information about how ongoing projects are interrelated. Until it updates its Strategic Technology Roadmap, project relationships may not be fully understood and decisions may be made that have unintended consequences—such as delaying one project and inadvertently setting back the schedule of others. Transit is also lacking an important financial indicator in its internal performance reports, and not collecting information that could improve budget estimates. Until such issues are addressed, important projects which cost millions of dollars, such as a new fare payment system, improved safety and security systems, and bus route planning tools, could take longer or cost more than they should.

Of the 12 audit recommendations:

✓ 6 DONE	⋯ 5 PROGRESS	! 1 OPEN
Fully implemented Auditor will no longer monitor.	**Partially implemented** Auditor will continue to monitor.	**Remain unresolved** Auditor will continue to monitor.

Please see below for details on the implementation status of these recommendations.

Recommendation 1 — DONE ✓

Transit should standardize its lessons learned processes in alignment with best practices and create a lessons learned knowledge base that is accessible to relevant users, including project planners and management.

STATUS UPDATE: Transit created a template for capturing lessons learned on individual IT projects and requires teams to complete this form at the closeout of IT projects. The template documents lessons learned and the level of impact during key stages of the project cycle, and includes areas for teams to add information that can improve the outcomes of future projects. Lessons learned on individual projects are also included in a specific section of a project's close-out report, which documents the formal completion of an IT project. Transit staff access lessons learned information through a SharePoint site, and staff told us that the information will be integrated into the department's future Capital Management and Reporting System (CMRS).

IMPACT: Implementing this recommendation will help Transit avoid costly mistakes, identify ways to improve project outcomes, and help its IT projects meet their scope, schedule, and budget.

Recommendation 2 — DONE ✓

Transit should incorporate a formal review of lessons learned from relevant projects when initiating new information technology projects.

STATUS UPDATE: Transit incorporated a formal lessons learned step in the first stage of the IT project cycle. This means that Transit is using information collected in the lessons learned template mentioned in Recommendation 1. This information is necessary for teams to understand the factors leading to success and failure when it is developing the initial project requirements.

IMPACT: By building this lessons learned exercise into an early stage of the project, Transit can avoid costly mistakes, identify ways to improve project outcomes, and help its IT projects meet their scope, schedule, and budget.

Recommendation 3 — PROGRESS ⋯

Transit should track and record the duration, project phase, and cause of delays for active and future projects in the lessons learned knowledge base.

STATUS UPDATE: Transit's lessons learned template is designed to show when delays occurred during a project and why. Although the lessons learned template does not contain a field to record the duration of delays, Transit records the duration of delays in recent IT project closeout reports. This means that relevant information is difficult to access and review, limiting its usefulness in improving performance on future projects.

WHAT REMAINS: To complete this recommendation, Transit should add a field to its lessons learned template to record the duration of schedule delays.

Recommendation 4　　　　　　　　　　　　　PROGRESS ⬤

Transit should use information in the lessons learned knowledge base to inform schedule estimates for future projects.

STATUS UPDATE: Transit is beginning to collect information that could be used to inform schedule estimates for future projects in its lessons learned template. However, a key limitation of the template is that it does not capture the duration of a delays. Information on project delay is recorded in project closeout reports. This means that while relevant information is available, it is difficult to access and review, limiting its usefulness in improving performance on future projects.

WHAT REMAINS: To complete this recommendation, Transit should add a field to its lessons learned template to record the duration of schedule delays.

Recommendation 5　　　　　　　　　　　　　DONE ✓

Transit should establish and record baseline budgets in documents accessible to the Performance Review Board and the County Council.

STATUS UPDATE: The baseline budgets of Transit IT projects are recorded in the Performance Review Board's (PRB) tool of record, called PPM Pro. All project materials provided for PRB reviews for funding releases and briefings, monthly status reports, PRB decisions and actions are available to King County Council through the intranet.

IMPACT: By recording baseline budgets, Transit has information that can be used to better monitor projects, and help them keep on schedule and budget.

Recommendation 6　　　　　　　　　　　　　PROGRESS ⬤

Transit should include the variance between baseline budgets and actual spending in its internal performance reports

STATUS UPDATE: Transit established an internal capital project performance dashboard that tracks spending against annual expenditure plans. However, Transit does not include the variance between baseline budgets and actual spending in its internal performance reports. This measure would show the difference between what was budgeted for that project and what was spent on the project over its lifetime. Transit's IT projects usually last several years, and comparing what was budgeted years in the past with what was actually spent can help management make better predictions for future projects. Transit does track the cashflow variance of its IT projects in its internal reports, which compares an annual expenditure estimate with actual expenditures during a given year. This is an important measure as well, but does not provide the type of information that helps improve overall project estimates.

WHAT REMAINS: Transit should establish a mechanism for tracking expenditures against the baseline budgets and include this information in its internal reports.

Recommendation 7 — DONE ✓

Transit should document reasons for variance between project expenditures and baseline budget estimates in the lessons learned knowledge base.

STATUS UPDATE: Transit updated its lessons learned template to include more information on scope, schedule, and budget changes. Understanding why estimates were incorrect can help improve future estimates, ensuring that projects are appropriately resourced.

WHAT REMAINS: Transit should show that it is systematically collecting information about the reasons for variance between expenditures and baseline budget estimates.

Recommendation 8 — PROGRESS ⋯

Transit should use information about variances to evaluate and improve the methods it uses to estimate information technology project budgets.

STATUS UPDATE: Transit is making changes to its capital project decision-making process and beginning to collect more useful information to better inform projects budgets. As these processes mature, Transit will have the information necessary to ensure that new projects are adequately resourced.

WHAT REMAINS: Transit should use the information about variance when developing the baseline budgets of new information technology projects.

Recommendation 9 — PROGRESS ⋯

Transit should develop an ongoing process for identifying, assessing, and reporting interrelationships and dependencies across project schedules.

STATUS UPDATE: Transit collects some data regarding dependencies and uses dependencies as one of multiple criteria to prioritize projects in its budget proposals. Understanding that interdependencies exist is a positive step. However, Transit still lacks a mechanism for tracking interrelationships across project schedules. As a result, stakeholders cannot tell how one project's delay impacts other projects, or how a delay impacts the portfolio of projects as a whole.

WHAT REMAINS: Using information collected during the project prioritization process, Transit should establish a means for assessing and reporting interrelationships and dependencies during later stages of the project cycle.

Recommendation 10 — DONE ✓

Transit should develop and document its process and criteria for selecting, advancing, and prioritizing information technology projects based on its strategic needs. The process should include Transit's ranking or prioritization of projects within the Transit information technology project portfolio.

STATUS UPDATE: Transit developed a tool for ranking and prioritizing the proposed projects within its information technology project portfolio. Each project is assessed against 12 criteria,

including safety, mobility, and the degree to which the project resolves or mitigates risk. Each project is scored, which allows Transit to see how projects stack up against each other and how they relate to the goals of the department as a whole.

IMPACT: By transparently ranking and prioritizing projects, Transit helps ensure that it is investing in projects that contribute to furthering its mission of providing the best possible transportation services and improving regional mobility and quality of life in King County.

Recommendation 11   DONE ✓

Transit should define and document its enterprise architecture target state, and a process for evaluating and selecting projects to implement it.

STATUS UPDATE: Transit maintains a 'to be' state of its enterprise architecture in the ABACUS system, and its most recent update at the time of this writing was May 2019. Transit also has a tool for ranking and prioritizing projects which includes several criteria related to a future target state, such as replacing obsolete systems, lifecycle upgrades, and interrelationships with other projects.

IMPACT: Having a vision for the IT systems that need to be in place in the future provides direction for the development and selection of IT projects.

Recommendation 12   OPEN ⊘

Transit should use the Strategic Technology Roadmap for Transit updates in 2017 and future biennia to document its framework for information technology project portfolio development and any changes to it.

STATUS UPDATE: Transit told us that it was planning to update the Strategic Technology Roadmap for Transit (STRT), which was created in 2015. To be relevant, the STRT must be revisited and updated on an ongoing basis. However, Transit has not completed an update to the STRT because it is waiting for the county's IT department to complete its own strategic plan. Although Transit does not have an updated strategy, IT projects are reviewed through the budgeting process, and changes are being made to all of its capital program processes. These changes include structures for reviewing technology requests, providing oversight during project implementation, and a new capital planning process. Updating its strategic plan can help ensure that these efforts are aligned with operational goals.

WHAT REMAINS: Transit should complete an updated STRT, and establish a mechanism for ensuring that future updates occur on a regular basis.

Sean DeBlieck, Principal Management Auditor, conducted this review. If you have any questions or would like more information, please contact the King County Auditor's Office at KCAO@KingCounty.gov or 206-477-1033.