

ORANGE COUNTY TRANSPORTATION AUTHORITY INTERNAL AUDIT DEPARTMENT



Audit of Toll Lanes Integrator System

Internal Audit Report No. 26-501

May 7, 2026



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Conclusion

The Internal Audit Department (Internal Audit) of the Orange County Transportation Authority (OCTA) has completed an audit of oversight, contract compliance, and invoice review controls related to the contract with Kapsch Trafficom USA, Incorporated (Kapsch) for the design, implementation, operation, and maintenance of the electronic toll and traffic management systems on the 91 and 405 Express Lanes. Based on the audit, management should implement controls to ensure contract terms are enforced, damages and fee adjustments are applied, work is not authorized until applicable amendments are executed, and invoice packages are complete.

Background

Express Lanes Program

The Express Lanes Programs Department (Department) is responsible for overseeing operation of the 91 Express Lanes (EL) and the 405 EL. The Department is managed by a general manager, and each EL program is assigned a project manager and an Information Systems project manager.

The 91 EL is a four-lane, 18-mile tolled facility built in the median of California's Riverside Freeway between the Costa Mesa Freeway (SR-55) in the City of Anaheim and Interstate 15 interchange in the City of Riverside. The 91 EL was built in 1995 and the eight-mile Riverside County Transportation Commission portion of the 91 EL opened in March 2017. The 405 EL spans a four-lane, 16-mile corridor along Interstate 405 (I-405), extending from SR-55 to Interstate 605.

Electronic Toll and Traffic Management (ETTM) System

On June 14, 2018, OCTA entered into Agreement No. C-71911 (contract), with Kapsch to design, implement, install, operate, and maintain an ETTM system on the 405 EL, and the 91 EL for \$42,309,259, with an initial term ending March 30, 2028. The contract includes two, 24-month option terms. Effective with Amendment No. 11, executed on June 24, 2024, the maximum obligation has increased to \$46,813,309.

The contract is divided into two phases, an Implementation Phase and an Operations and Maintenance Phase. The Implementation Phase included the design, testing, and installation of a new ETTM system on both the 91 EL and the 405 EL. After the go-live date of each system, the contract transitions to the Operations and Maintenance Phase, which includes toll operations, system maintenance, and software maintenance.

The contract includes firm-fixed prices for completed and approved milestones during the Implementation Phase. Following implementation, the contract outlines fixed-monthly pricing for operations and maintenance and variable unit pricing for image review

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services. The contract also includes performance standards and penalties to be assessed for failure to meet the operating standards. Penalties are to be assessed against the monthly fee paid to Kapsch. The contract requires Kapsch to develop reports that measure performance against established standards and submit these reports along with monthly invoices.

The contract outlines bond and minimum insurance coverages to be maintained by Kapsch. Bond requirements included both performance and payment bonds to be provided during the Implementation Phase, and an operations and maintenance bond to be provided thereafter. Insurance requirements consist of minimum coverage levels for general liability, automobile liability, workers' compensation, employer's liability, professional liability, completed products coverage, commercial crime, security and privacy liability, technology errors and omissions, and cyber liability insurance. The contract also outlines liquidated damages to be assessed for failure to meet guaranteed completion dates for system implementation.

Project Oversight and Invoice Review

The Department utilizes Parsons Transportation Group, Incorporated (Parsons) to assist with project and contract oversight. These services are provided under Agreement No. C-21513, for program management consultant services for the I-405 Improvement Project. During the Implementation Phase, Parsons assisted management in reviewing milestone submittals, such as the Project Management Plan and Quality Assurance Plan, to ensure compliance with the contract. In addition, Parsons verified on-site installation and performed system acceptance testing. Parsons also provides review of monthly performance measure reports provided by Kapsch and calculates applicable penalty amounts. Invoices are reviewed by the assigned project manager and approved by the general manager. Accounts Payable Department staff processes invoices for payment.

Objectives, Scope, and Methodology

The objectives were to assess and test oversight, contract compliance, and invoice review controls related to the contract with Kapsch for the design, implementation, installation, operation, and maintenance of a toll collection system for the existing 91 EL and the 405 EL.

The methodology consisted of testing a judgmental sample of invoices for compliance with controls, policies and contract provisions, and testing for compliance with selected contract requirements, such as bond, insurance, guaranteed completion date, and performance measure requirements.

The scope is limited to contract compliance and project oversight of Agreement No. C-71911, between OCTA and Kapsch. The scope included invoices paid during calendar years 2023 through 2025, and current bond and insurance certificates on file.

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The scope also included Kapsch performance measure reporting, and related Parsons review services, for the period covering October 2024 through September 2025. The judgmental sample of invoices was selected to provide coverage throughout the scope period and to ensure testing of Implementation Phase and Operations and Maintenance Phase invoices. Since the sample was non-statistical, any conclusions are limited to the sample items tested.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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Audit Comments, Recommendations, and Management Responses

Guaranteed Completion Dates and Liquidated Damages

Kapsch failed to meet guaranteed completion dates for system implementation, and liquidated damages, totaling \$3,150,000, were not assessed.

The contract required the 91 EL system to be fully operational by December 31, 2019; however, the system did not go live until April 1, 2020. According to the contract terms, OCTA was entitled to liquidated damages of \$450,000. The contract required the 405 EL system to be fully operational by March 24, 2023; however, the system did not go live until December 1, 2023. As a result, OCTA was entitled to liquidated damages of \$2,700,000.

Recommendation 1:

Internal Audit recommends management collect liquidated damages due, or document and obtain appropriate approval for waiver of such damages.

Management Response:

Management agrees that better documentation should be provided for all discussions and decisions regarding liquidated damages and the disposition thereof. Additionally, the agreement should have been amended to reflect revised guaranteed completion dates for both express lanes projects.

System implementation delays for the 91 EL were primarily due to the statewide mandate to transition from the legacy Title 21 transponder to the ISO 18000 (6C) sticker transponder. These delays were the causation for the liquidated damages noted in this finding. It was imperative for continuity of operations for OCTA to ensure the new system could accurately read and process both technologies during the transition period, which contributed to the delay.

The decision to open the 405 EL in December 2023 was made late in the calendar year after multiple discussions with OCTA's Board of Directors and contractors. Management coordinated with multiple stakeholders, including contractors, the design-build team, customer service center (CSC) building management, the back-office system and CSC provider, and Kapsch to meet the targeted opening date. In support of this effort and to avoid further project impacts, management worked with Kapsch to determine the best approach to allow the most expedient benefit to motorists, which was to open the 405 EL and not assess liquidated damages. Liquidated damages related to the guaranteed completion date were established to compensate OCTA for the loss of toll revenues associated with delays in the opening date. Kapsch was not responsible for lost revenues related to the opening date of December 2023.

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Performance Measure Reporting and Related Penalties

Kapsch failed to provide complete performance measure reports, and to date, OCTA has not imposed contractually outlined fee adjustments against invoiced amounts.

Monthly performance measure reports were required to be provided under the contract upon commencement of the Operations and Maintenance Phase, which began on April 1, 2020, for the 91 EL, and December 1, 2023, for the 405 EL. Kapsch did not begin providing these reports until August 2024. The reports provided were largely insufficient to determine Kapsch's performance against standards and calculate applicable fee adjustment penalties. OCTA utilized a consultant, Parsons, to review the performance measure data provided, estimate penalties due, and consult with Kapsch to improve performance reporting.

Internal Audit reviewed reports provided by Kapsch for the 12-month period from October 2024 through September 2025, along with estimated penalties as calculated by Kapsch and Parsons. There were significant variances in the estimates due to the lack of complete system data that is required for the calculation of such fee adjustment penalties. During this period, Kapsch calculated penalties of \$634,867, while Parsons calculated potential penalties of \$2,155,987. Services provided by Parsons to consult on system integration, review Kapsch performance data, and calculate potential penalties, amounted to approximately \$350,000 during the same 12-month period.

Recommendation 2:

Internal Audit recommends management collect penalties not assessed and implement procedures to ensure future penalties are collected through fee adjustments against invoice payments, in accordance with contract terms.

Internal Audit also recommends management develop processes and procedures for enforcement of contract requirements related to performance measure reporting. These procedures should include assessment of liquidated or actual damages and/or withholding payments to the contractor until contract requirements are met.

Management Response:

Management agrees to collect penalties associated with the Operations and Maintenance Phase and is currently working with Kapsch to determine the correct amounts for both current and prior invoices.

The Key Performance Indicators (KPI) Reporting and Management Plan (RAMP) outlines the evaluation methodology, including the data to be measured and sampled, calculation formulas, and applicable data exclusions. While the RAMP was conceptually approved

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during the 405 EL implementation phase, it was expected to be refined using live traffic conditions and system data following the December 2023 go-live date. Therefore, staff directed Kapsch hold off on providing performance measurement reports until system acceptance.

After system acceptance in August 2024, OCTA staff, in coordination with Parsons, worked with Kapsch to finalize KPI reporting elements, including data sources, interpretations, report development, and calculation methodologies. Following agreement on these components, Kapsch and Parsons were directed to revisit and recalculate previously submitted monthly maintenance reports.

To account for this ongoing process, the retention amounts for the Operations and Maintenance Phase have been held by OCTA. Penalties owed will be applied against the withheld amounts and any subsequent invoices, if applicable.

Management has also developed policies and procedures defining parameters and thresholds for assessing liquidated damages.

Approval of Work Prior to Contract Amendment

Management directed Kapsch to perform additional work prior to obtaining contract authorization for the work through amendment.

Amendment No. 11, authorizing additional work valued at \$3,965,452, was executed on June 24, 2024, with an effective date of May 28, 2024. Based on invoice documentation, the work performed for this amendment occurred prior to December 2023, more than six months before execution of the amendment that authorized the work.

Recommendation 3:

Internal Audit recommends management not direct extra work prior to execution of an amendment authorizing such work. Management should improve its process to ensure requests for amendment are timely requested and processed.

Management Response:

Management agrees that additional work should not be performed prior to the execution of an amendment authorizing such work. For the I-405 Improvement Project, it was determined that additional cameras were needed along certain segments of the I-405 corridor to support safety operations. A review of the ready-for-construction drawings and field conditions identified the need for more closed-circuit television cameras and traffic detectors to provide the traffic operations center staff with adequate visibility and detection to monitor the express lanes and respond to incidents in coordination with the Freeway Service Patrol and the California Highway Patrol. Initially, it was believed these

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additional cameras could be accommodated within the scope of the original agreement through cost savings elsewhere; however, when this proved unfeasible, staff initiated the amendment process by submitting a requisition in October 2023.

Invoice Review and Payment Compliance

Invoice packages lacked adequate supporting documentation.

The contract requires invoices to be accompanied by a monthly progress report, an updated baseline implementation schedule (for milestone payments), and system generated reports to support charges for image review services. Of the 23 invoices tested, all lacked a monthly progress report as well as a system report supporting image review services, and four of the six invoices for milestone payments lacked an updated baseline implementation schedule.

Recommendation 4:

Internal Audit recommends management develop and implement an invoice review checklist to ensure all invoice requirements are met. Management should also develop a method to independently obtain system data supporting image review service charges.

Management Response:

Management agrees and has implemented an invoice checklist, and a process has been set up for verifying the number of image reviews. Monthly progress reports have been provided by Kapsch as part of monthly status meetings; however, these reports were not included with the invoices. Commencing with the January 2026 invoice, the progress report and baseline implementation schedule have been included with the monthly invoice submittals.