

MEMORANDUM

TO: COLORADO TRANSPORTATION INVESTMENT OFFICE BOARD (CTIO) OF DIRECTORS and COLORADO TRANSPORTATION COMMISSION
FROM: KELLY BROWN, CTIO CHIEF TOLL OPERATIONS OFFICER
SUBJECT: PROPOSED CTIO STAFFING AND NEW TOLLING OPERATIONS BRANCH AND DIVISIONS
DATE: JANUARY 18, 2023

Purpose

To present the CTIO Board and the Colorado Transportation Commission (TC) with key details regarding CTIO's request for seven (7) Full-Time Equivalent (FTE) positions to increase the CTIO Express Lanes tolling operations staff in fiscal year 2022-23. Twelve (12) additional FTE positions are expected to be requested between fiscal years (FY) 2023-24 and 2024-25 are also included in this memo as reference to CTIO's future growth plans.

Action

No action is requested, and the purpose of the materials is informational only. TC approval of the overall increase to CDOT's FTE cap related to the seven (7) tolling operations positions will be requested in February. If approved, CTIO will include budget for the new positions in its upcoming FY 2023-24 annual budget for approval in March by the CTIO Board.

Background: Key Tolling Operations Details

Below is a summary of key drivers behind CTIO's request for current and future FTE's:

- **Network Growth.** Express Lanes currently in construction are beginning to transition to live tolling operations. The network has increased from two Express Lanes in operation in 2019 to five Express Lanes in operation as of 2022. By mid-2023, there will be seven Express Lanes in operation and by 2025, there will be 10 Express Lanes in operation.
- **New System Functionality.** CTIO procured a Next Generation Lane Toll System (NGLTS) in 2020. With this new system, CTIO now has access to new roadside functionality including additional data availability and reports as well as Service Level Agreements (SLA's) that require the vendor to meet twenty-seven (27) key performance indicators (KPIs) for each Express Lane corridor. CTIO must monitor and track these KPIs and calculate liquidated damages (when necessary) if those KPIs are not met.
- **Legislative Mandates.** CTIO is implementing House Bill 22-1074 which was signed into law on March 15, 2022, by Governor Jared Polis. HB 22-1074 allows CTIO to use tolling equipment on the I-70 Mountain Express Lanes to issue Civil Penalties to drivers committing the following unsafe behavior: (1) driving in the I-70 Mountain Express Lanes when the Express Lane is closed, (2) driving a vehicle a vehicle with more than 2 axles or pulling a trailer, (3) entering or exiting the Express Lanes when not in an ingress or egress zone and/or (4) driving a vehicle greater than 25 feet in length. CTIO anticipates expanding the program across the Express Lanes network in 2023.
- **Implementation of a New Commercial Tolling Back Office System.** CTIO is in the process of procuring a new commercial back-office system with customer service center operations (CBOS). This new CBOS will bring all back office and customer service center operations, currently provided by the E-470 Public Highway Authority, under CTIO's direct responsibility and control. The CBOS is the nerve center of the tolling system, and the scope of this new back office includes a call center, image review operations, collections, an administrative law court, transponder inventory and fulfillment, creating new accounts, generating invoices for customers, miscellaneous support staff, marketing and financial, accounting and auditing functions. CTIO is requesting FTEs to cover the functionality that E-470, as our back-office provider, currently provides on behalf of CTIO.

Current Details:

Proposed Organizational Changes

In response to the factors listed above, CTIO staff proposes that a new Tolling Operations Branch and five related offices to be created under CTIO:

1. Tolling Traffic Operations Center
2. Tolling Maintenance Operations,
3. Tolling Back Office (CBOS) Operations,
4. Toll Data Analysis and Reporting, and
5. Toll Accounting

Please see attachment B for proposed CTIO org chart with new Tolling Operating Branch and five (5) new proposed offices. The nineteen (19) Full-Time Equivalent (FTE) positions that will be requested over the next four fiscal years will be performing the tasks related to the increased functionality, workload, and additional vendor oversight within the new branch.

Fiscal Year 2022-23 High Priority Staffing and FTE Request

Express Lanes currently in construction are beginning to transition to live tolling operations. The network has increased from two Express Lanes in operation in 2019 to five Express Lanes in operation as of 2022. By mid-2023, there will be seven Express Lanes in operation and by 2025, there will be 10 Express Lanes in operation. CTIO currently uses contractor labor to staff the Traffic Operations Center (TOC) with operators assigned to monitor the Express Lanes network. CTIO would like to transition the existing contractor operators to FTE positions. As each Express Lanes project goes “live,” additional operators will be brought on to meet the increased workload. CTIO is currently requesting (6) FTE positions so CTIO can transition the following six (6) contractor operator positions:

- **Two (2) Senior Tolling Traffic Operations Lead**
- **Four (4) Tolling Traffic Operators**

In addition to the increase in Express Lane miles, it is anticipated that CTIO will be selecting the new CBOS vendor in 2023, with Notice to Proceed (NTP) and system implementation activities starting in calendar year 2024 and transition of operations from the current CBOS with E-470 Public Highway Authority to the new CTIO CBOS in 2025/2026. Due to the critical nature of this role, this position needs to be filled with a CTIO FTE instead of a consultant. To assist in this process, CTIO is requesting:

- **One (1) New Toll System Project Manager**

See Attachment B: Proposed CTIO Staffing Plan org charts for new CTIO Tolling Operations Branch and Offices for details on duties that will be performed by these roles.

Key Benefits of Approving CTIO’s Request for Additional FTEs

- Approval of CTIO’s request for seven (7) new FTEs for FY 2022-23 and approvals for the remaining twelve (12) FTE positions (detailed in Attachment A: Future FTE Descriptions) over the next four fiscal years will prepare CTIO for the future by ensuring that adequate and proper staffing is in place to handle the growth of the Express Lanes network and new NGLTS and CBOS functionality.
- CTIO will pay for these nineteen (19) positions from toll revenue, **not out of the CDOT budget**.
- CTIO will realize cost savings by transitioning existing roles from contractors to FTE as well as new roles.
- The benefits of having FTEs in place versus having a contracted staff include higher retention of staff, knowledge and historical experience and the ability to pass along this valuable information to new trainees, increasing the possibility of having a long-term team that desires to continue to grow with the program. By converting them from contractor to FTE positions, CTIO would be able to grow the traffic operator count without increasing the cost for the operators as FTE positions traditionally are more cost-effective than contractor labor.

Detriments to CTIO's FTEs Request Being Denied

- CTIO Express Lanes responsibilities can't be postponed or ignored and CTIO has the statutory responsibility to perform them. Failure to act will lead to diminished level of service in the Express Lanes and increased scrutiny by the legislature and the public. Ensuring a high level of public trust is critical to the success of the Express Lanes.
- The current number of CTIO FTEs working in the Express Lanes operations "side of the house" is **three (3)**, the Chief Toll Operations Officer, the Tolling Operations Supervisor, and the Tolling Maintenance Supervisor. These CTIO staffers are overextended, and they are each working 10 to 13 hours a day, six or seven days a week. Despite working long hours, they are not able to keep up with all the responsibilities and tasks involved in running a growing Express Lanes agency. Please see Attachment C: Current Staffing Challenges for details on impact to the current CTIO team.
- The FTE positions that are requested are needed to perform the tasks and activities that will ensure that the maximum amount of toll revenue is collected without raising toll rates. Certain activities are involved in running an efficient tolling agency to ensure that "leakage" (uncollectable toll revenue due to multiple factors) is minimized. Without the manpower to perform those activities, leakage can be as high as 30 percent to 50 percent of the expected toll revenue (number of toll transactions x toll rate). Without sufficient toll revenue, CTIO will not be able to meet its obligation to repay the debt on the Express Lanes.
- It's not a matter of doing more with less or working smarter.
 - CTIO doesn't have any staff with the skillset(s) needed to perform some of the tasks that the requested FTEs will be performing.
 - Without additional FTEs to work in the Traffic Operations Center, CTIO will not be able to increase their coverage of Express Lanes, monitoring to 24/7/365. CTIO currently monitors the Express Lanes from 6:00 am to 8:00 pm seven days a week. CTIO relies on the CDOT Traffic Operators to provide overnight coverage, monitoring the Express Lanes in addition to their regular CDOT workload, monitoring the roadways in the rest of the state.
 - The current number of CTIO Tolling Traffic Operators does not allow for the operators to take time off (sick time, annual leave) without impacting the level of Express Lanes monitoring and impacting the work schedule of the CDOT Tolling Traffic Operators. CTIO is working with a skeleton crew of contractors to minimize the costs, but that is not a sustainable long-term solution.
 - With the new functionality provided by the NGLTS system, CTIO staff does not have the skillset and time to learn how to use the reporting module to run reports and analyze the data, manually audit the toll system to verify that toll lane equipment is accurately recording toll transactions or independently verify SLAs and KPIs are being met.

Board and TC Options/Decision Matrix

- Staff Recommendation: Approve CTIO's request for seven (7) new FTEs for FY 2022-23. Note: Approvals for the remaining twelve (12) FTE positions detailed in this memo are expected to be requested from the TC at a future time.
- Approve a reduced number of FTEs and/or delay CTIO's request for seven (7) new FTEs, explaining that CTIO must continue to use contractor labor to fill some or all the requested above for FY 2022-23.
- Reject CTIO's request for seven (7) new FTEs, explaining that CTIO must continue to use contractor labor to fill the seven (7) positions requested above for FY 2022-23.

Next Steps

- If approved, CTIO Staff will continue the process of creating the PDQs for the seven (7) FTE positions referenced above for FY 2022-23 and commencing the hiring process.
- CTIO Staff will work with CDOT executive management to determine an appropriate timeline for bringing the request for the remaining (12) FTE before the TC for consideration.

Attachments

Attachment A: Future FTE Descriptions

Attachment B: Proposed CTIO Staffing Plan org charts for new CTIO Tolling Operations branch and divisions

Attachment C: Current Staffing Challenges



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ATTACHMENT A
Future FTE Descriptions

Attachment A: Future FTE Descriptions

Details for twelve (12) additional FTE positions will be requested between in the next three fiscal years are provided below:

Fiscal Year 2023-24

- (2) FTE Tolling Traffic Operators. See above memo for description of duties**
- (2) Tolling Traffic Operations Leads. See above memo for description of duties**
- (1) Project Coordinator. This position is requested to provide support the new Tolling Operations branch.**

Fiscal Year 2024-25

- (2) FTE- Tolling Traffic Operators. See above memo for description of duties**

(1) FTE- Data Analyst/Reports Writer. This position is requested to help CTIO take full advantage of these new, increased data and reporting capabilities. The Data Analyst will also be able to run ad hoc reports in response to the data requests that CTIO receives from the media, the public, legislators and T&R consultants regarding the operations and revenue of the Express Lanes. This new Data Analyst position will support the Tolling Maintenance Supervisor, the Toll Auditor, the Tolling Traffic Engineer, the Toll Accountant, the Toll System Project Manager, the Tolling Operations Manager, and the Chief Toll Operations Officer.

(1) FTE- Quality Assurance/ Business Analyst (QA/BA). This position is requested so that CTIO will be able to ensure the quality of both the new NGLTS (referenced above) and the new CBOS (referenced below), which are being delivered as Commercial-Off-the-Shelf (COTS) systems that have been modified to CTIO's functional and business requirements. The QA/BA Analyst position will verify that the modifications to both systems have been delivered as expected when the systems go live, future modifications are scoped and delivered properly, and that the systems are operating as designed throughout the life of the systems. The QA/BA Analyst position will support the Tolling Maintenance Supervisor, the Toll Auditor, the Tolling Traffic Engineer, the Toll Accountant, the Toll System Project Manager, the Tolling Operations Manager, and the Chief Toll Operations Officer.

(1) FTE- Toll Accountant. This position is requested to provide all financial and accounting tasks related to oversight of the daily and monthly reconciliation of toll activities: the preparation of monthly budget versus actual revenue analysis for toll, fee, and fine revenue; the preparation of quarterly financial statements; the maintenance and review of general ledger accounts; and cash flow projections that are being performed by the current back office provider, E-470 Public Highway Authority, because it will become the responsibility of CTIO to perform those tasks. The Toll Accountant will support the Tolling Operations Manager, the Tolling Maintenance Supervisor, and the Chief Toll Operations Officer. CTIO is still in discussions with the CDOT Division of Accounting and Finance (DAF) regarding details of the Toll Auditor position.

Fiscal Year 2025-26

(1) FTE- Express Lanes Marketing Manager. This position is requested and will be responsible for identifying opportunities to leverage marketing and outreach campaigns to build a customer base for CTIO's transponder brand with immediate regional recognition. This position will oversee the CBOS vendor's marketing staff and any CTIO contracted marketing staff. CTIO is in discussions with the CDOT Communications Office regarding details of the Marketing Manager position.

(1) FTE Toll Auditor. This position is requested so that CTIO will be able to audit a toll transaction from its origin at the roadside toll equipment to its posting on a customer's account until its paid or written off as uncollectable debt. The Toll Auditor will establish audit procedures to identify variances between tolls collected, expected revenue, and cash deposited. The Toll Auditor will support the Tolling Operations Manager, the Tolling Maintenance Supervisor, and the Chief Toll Operations Officer. CTIO is still in discussions with the CDOT Division of Audit (DOA) regarding details of the Toll Auditor position.



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ATTACHMENT B

Proposed CTIO Staffing Plan Org Charts for New CTIO Tolling Operations Branch and Offices



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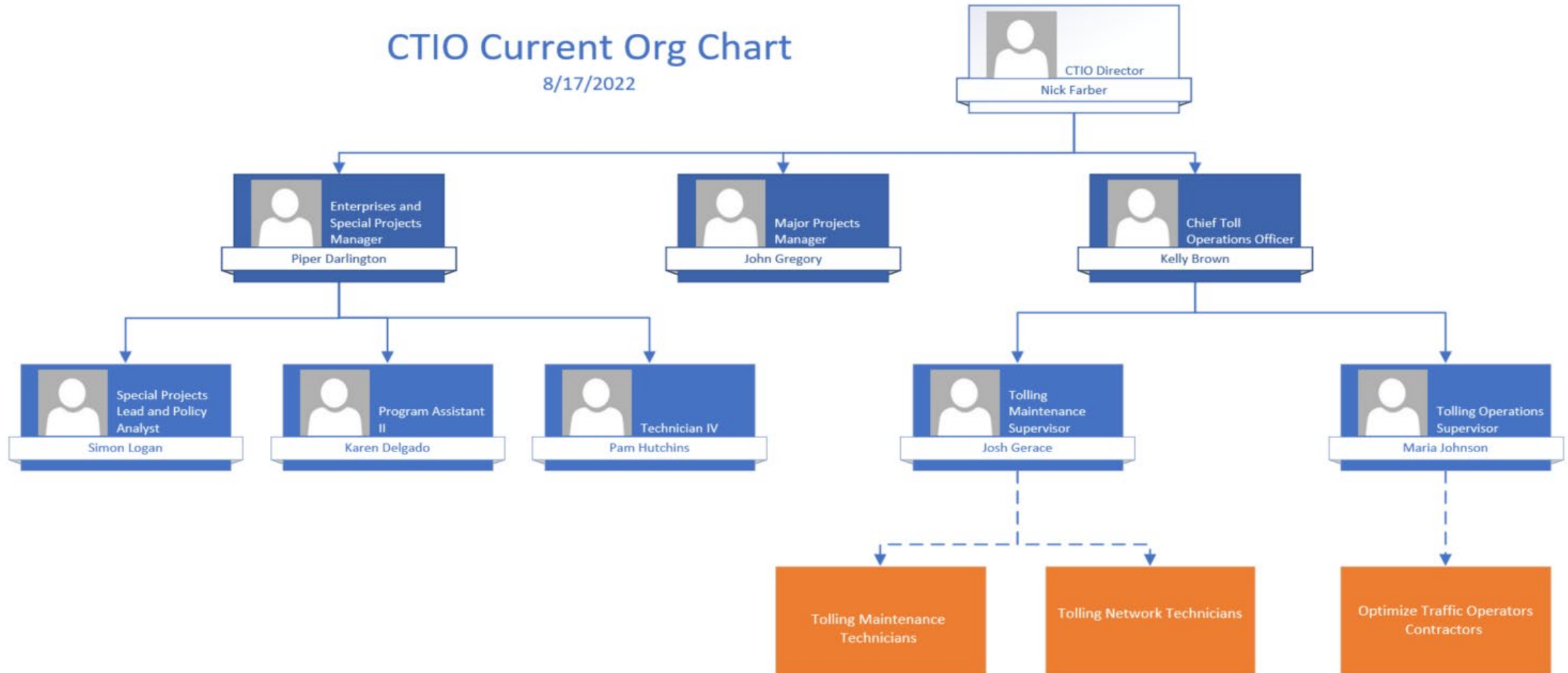
PROPOSED CTIO STAFFING AND NEW TOLLING OPERATIONS BRANCH AND OFFICES

Key Factors

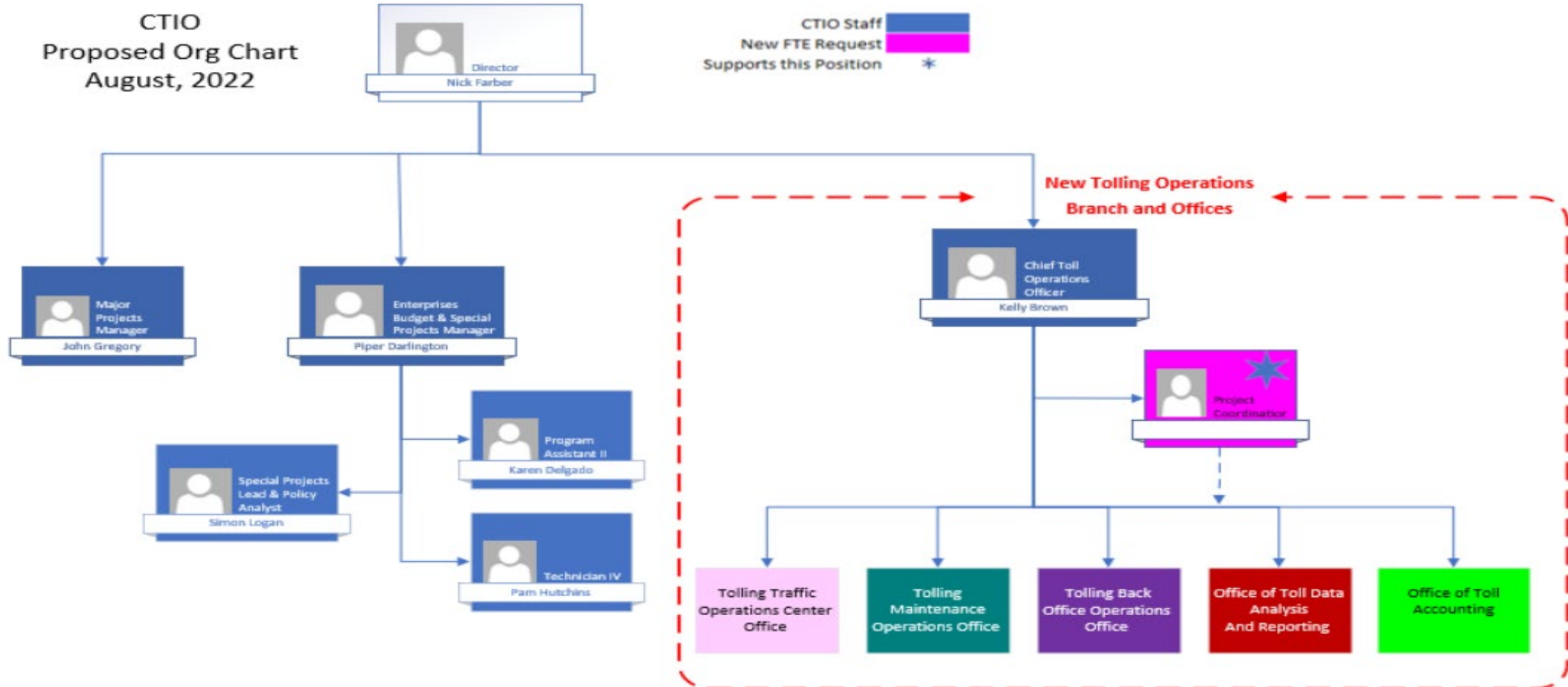
- Doubling of the Express Lanes Miles on its network in FY 2022-23 with the opening of I-70 MEXL WB, Central 70 and I-25 South GAP for a total of 132 lane miles.
- Implementation of the I-70 MEXL Safety Enforcement Program in early 2023 and expanding it across the network by summer 2023
- Increased functionality as a result of the Next Generation Lane Toll System
- Procurement of a new Commercial Tolling Back-Office (CBOS), shifting duties from E-470 to CTIO

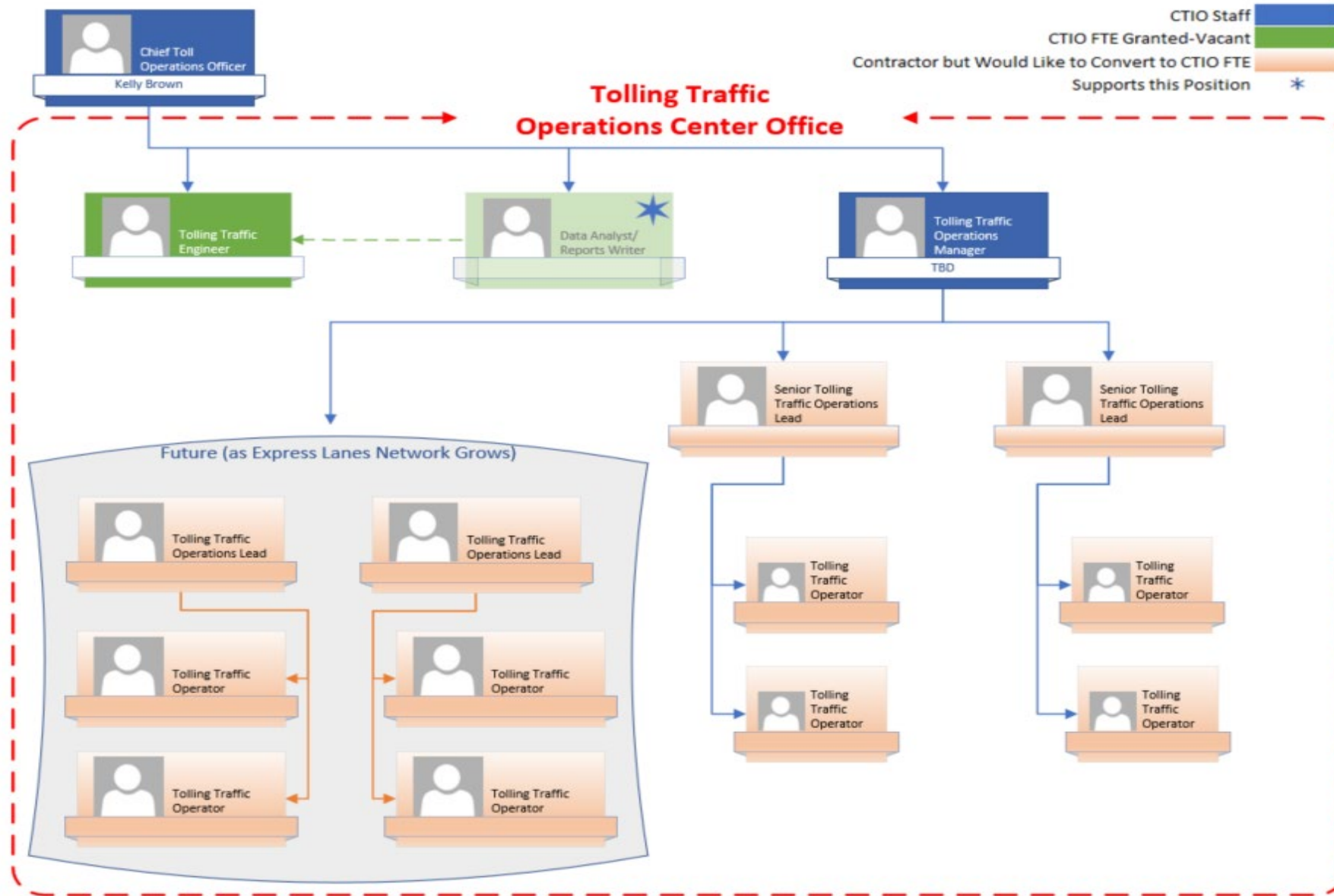
Current CTIO Org Chart

CTIO Current Org Chart
8/17/2022



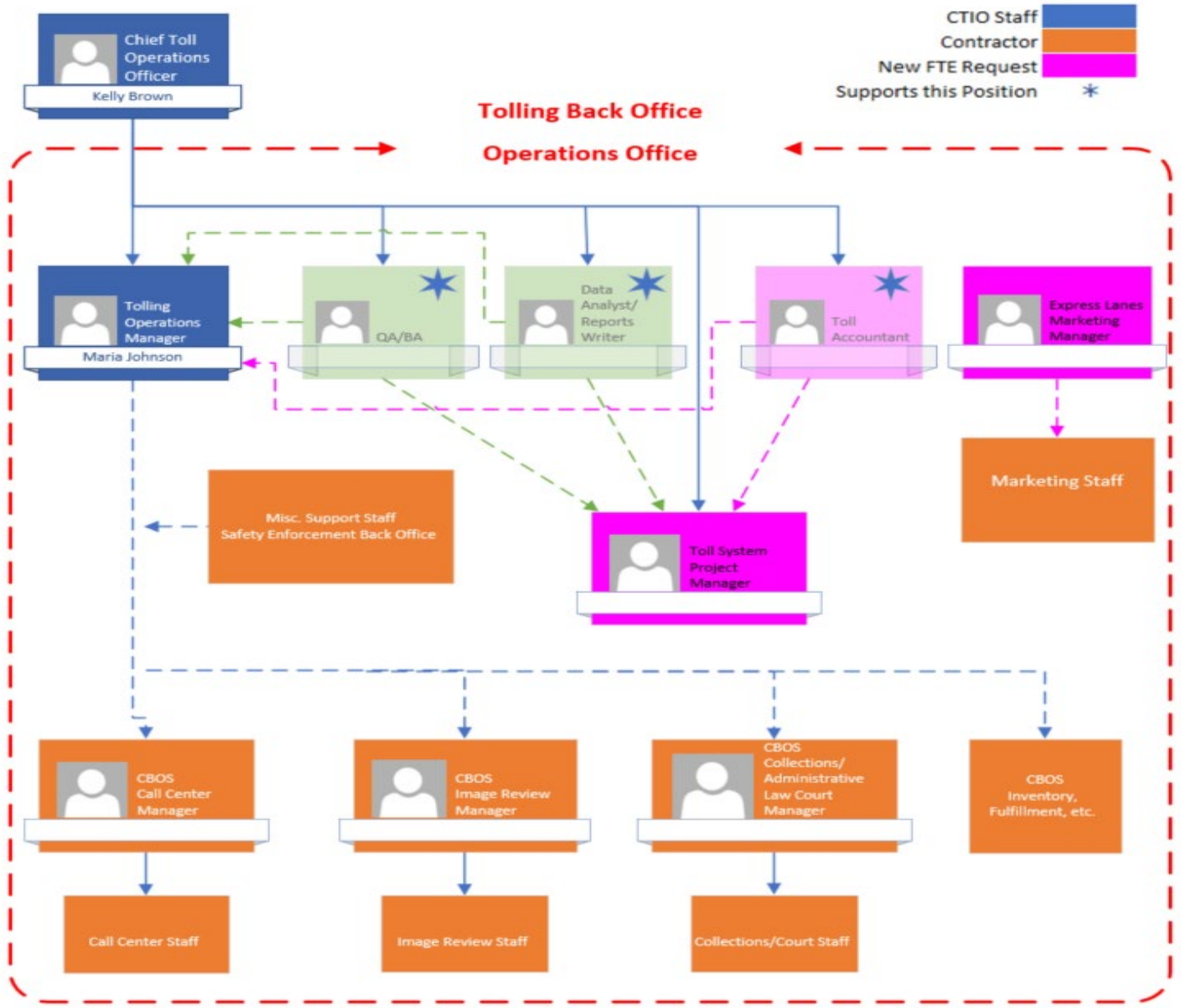
Proposed CTIO Org Chart





Traffic Operator Duties

- Monitor a complex network of dashboards and react to failures and discrepancies with tolling equipment and the tolling network.
 - Monitoring includes using the Closed Caption TV (CCTV) and cameras to confirm the status of Variable Toll Message Signs (VTMS) and the tolling equipment found at each toll point (signs, ALPR Cameras, Readers, Loops etc.)
 - Proactively notify the correct team, including ETC Toll Operations Command Center, the CDOT Network Operations Center (NOC) and E470, when issues or failures arise.
 - Support the CDOT Traffic Operations Center (TOC) Operators during events and incident recovery.
 - Actively participate in testing of use cases when new Express Lanes corridors come online.
 - Test the signs and document the outcomes, assists the maintenance team(s) with troubleshooting.
 - Void tolls (as needed) and schedule tolls weekly.
- *The timely acknowledgement of tolling system failure notifications is a key contributor to maintaining safety, reducing leakage and ensuring revenue is being collected.*



Toll Project Manager Duties

- Help select the new CBOS vendor and then will oversee the development and implementation of the CBOS system.
 - Once the system is implemented, this position will continue to oversee the system in live operations.
 - Oversee the design, development, and implementation of system enhancements and bug fixes by the system vendor's team.
- *This is a highly technical position, working with the future vendors development team, not the operations staff. CTIO does not currently have any staff with the skillset required to perform these duties.*

| Full Time Equivalent Request Summary by Fiscal Year | | | | | | | | | |
|---|---|----------|---------------|-----------|-------------------|-----------|---------------------|-----------|---------------------|
| Tolling Operations Branch Position | Area of Support | FY 22/23 | | FY 23/24 | | FY 24/25 | | FY 25/26 | |
| | | FTE | Compensation* | FTE | Compensation | FTE | Compensation | FTE | Compensation |
| Snr. Tolling Traffic Operations Lead | Express Lane Operations/Revenue Collection | 2 | | | \$ 204,630 | | | | |
| Tolling Traffic Operator II | Express Lane Operations/Revenue Collection | 4 | | | \$ 285,120 | | | | |
| Toll System Project Manager | New Tolling Backoffice | 1 | | | \$ 102,315 | | | | |
| <i>Tolling Traffic Operations Lead</i> | <i>Express Lane Operations/Revenue Collection</i> | | | 2 | \$ 164,700 | | | | |
| <i>Tolling Traffic Operator I</i> | <i>Express Lane Operations/Revenue Collection</i> | | | 2 | \$ 132,630 | 2 | \$ 132,630 | | |
| <i>Project Coordinator</i> | <i>Tolling Branch Administration</i> | | | 1 | \$ 66,855 | | | | |
| <i>QA/BA Analyst</i> | <i>New Tolling Backoffice</i> | | | | | 1 | \$ 82,350 | | |
| <i>Data Analyst/Reports Writer</i> | <i>New Tolling Backoffice</i> | | | | | 1 | \$ 71,280 | | |
| <i>Toll Accountant</i> | <i>New Tolling Backoffice</i> | | | | | 1 | \$ 60,203 | | |
| <i>Toll Auditor</i> | <i>New Tolling Backoffice</i> | | | | | | | 1 | \$ 76,620 |
| <i>Express Lanes Marketing Manager</i> | <i>New Tolling Backoffice</i> | | | | | | | 1 | \$ 102,315 |
| Total FTE by Fiscal Year | | 7 | | 5 | | 5 | | 2 | |
| Estimated Compensation by Fiscal Year | | | | | \$ 956,250 | | \$ 346,463 | | \$ 178,935 |
| Cummulative Total | | 7 | | 12 | \$ 956,250 | 17 | \$ 1,302,713 | 19 | \$ 1,481,648 |

* Based on proposed state classification and mid-point salary plus benefits, compensation for the 7 FTE requested in FY 2022-23 will take effect in the following fiscal year



Key Points

- Costs savings of \$120,000 by converting 6 contractors to FTE
- All staffing costs will be paid for out of toll revenue
- Retain knowledge in house and grow the tolling operations team
- Allow CTIO to fulfill its statutory obligations
- Ensures that CTIO can continue to collect revenue and meet its debt obligations on current and future projects

Peer Toll Agencies Staffing Comparison

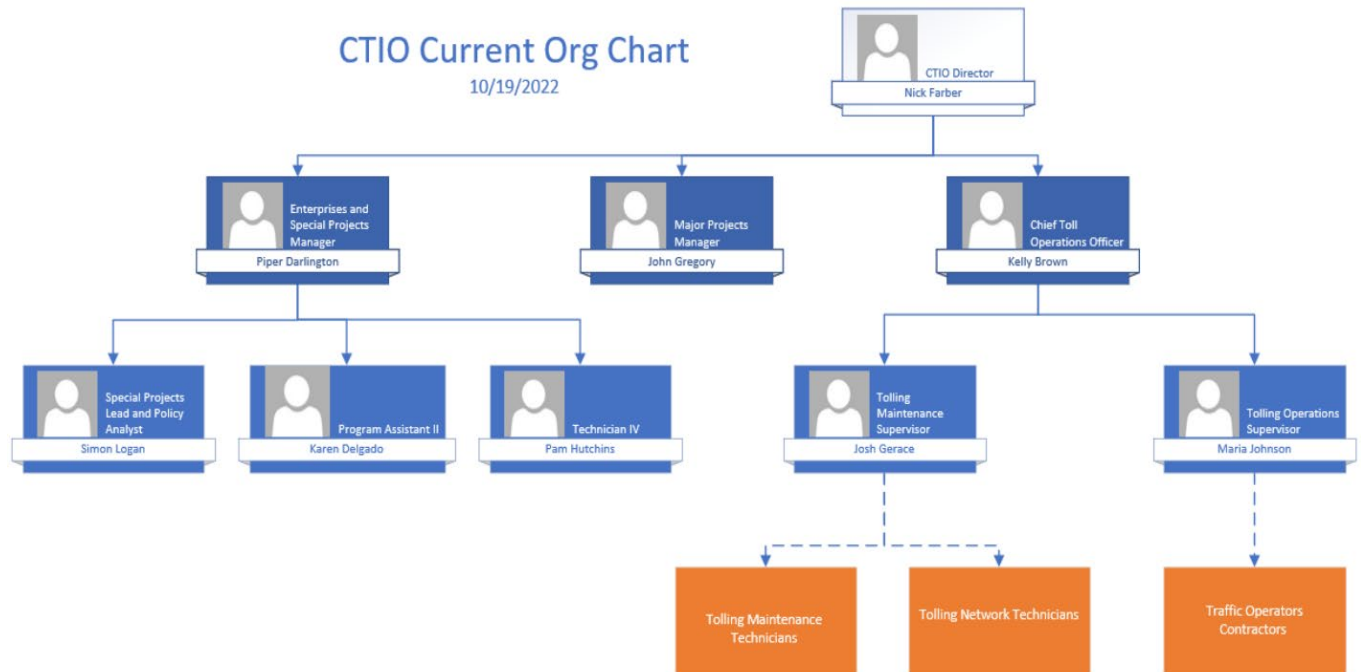
| | CTIO | Utah Department of Transportation (UDOT) | Georgia State Roads and Tollway Authority (SRTA) | North Carolina Turnpike Authority (NCTA) | Central Texas Regional Mobility Authority (CTRMA) | Washington Department of Transportation (WSDOT) | Metropolitan Transportation Commission / Bay Area Toll Authority (MTC/BATA) |
|---|---|--|--|---|---|--|---|
| STAFF | | | | | | | |
| <i>Executive Staff</i> | 1 | 15 | 7 | 11 | 10 | 16 | 11 |
| <i>Operations, Engineering and CSC</i> | 4 | 25 | 8 | 7 | 4 | 6 | 60 |
| <i>Support Staff (Fiscal, Legal, Planning, Finance)</i> | 9 | 110 | 21 | 10 | 13 | 34 | 207 |
| <i>Consultant Staff</i> | 25 (Operations, QA, TOC, Maintenance, Project Management, Data Analysis and Reporting) | 15 | 30 | 25 | 20 (Tolls/CSC) | Unknown | 30 (CSC) |
| REVENUE | \$46,100,932 (2022) \$60,588,480 (est 2023) | \$4,475,040 | \$27,506,000 | \$77,676,144 | \$115,320,643 | \$147,804,389 | \$756,197,028 |
| EXPRESS LANES MILES | 120 (2022) 176 (2023) 223 (2024) | 82 | 67 | 37 | 11 | 56 | 47 |
| FACILITIES | I-25 N Seg 2 I-25 N Seg 3 I-25 Central (P3) US 36 (P3) MEXL (EB) MEXL (WB) C-470 C70 (2023) I-25 S Gap (2023) I-25 N Seg 6 (2024) I-25 N Seg 7 & 8 (2024) | I-15 Express Toll Lanes | I-75 South Express Lanes I-85 Express Lanes Northwest Corridor Express Lanes I-85 Express Lanes Extension | Triangle Expressway Monroe Expressway I-77 Express (P3) | MOPAC Express Lanes | I-405 Express Toll Lanes SR 167 HOT Lanes SR 520 Bridge Tacoma Narrows Bridge SR 99 Tunnel | I-680 Express Toll Lanes I-880 Express Toll Lanes |

Questions, Comments or Feedback?
Please contact:

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ATTACHMENT C

Current Staffing Challenges



Tolling Operations Staff Overextended

The current CTIO staff count supporting Tolling Operations and Maintenance = Three (3)

1. Chief Toll Operations Officer
2. Tolling Operations Supervisor
3. Tolling Maintenance Supervisor

Chief Toll Operations Officer

Current Responsibilities

The Chief Toll Operations Officer manages multiple work units through subordinate professional program supervisors. The Chief Toll Operations Officer is responsible for planning for adequate staffing as the Express Lanes network grows and directly controls the work of others as a second-level supervisor. This position initiates the creation of new staff positions for CTIO tolling operations as needs are identified. This position is involved with all stages of the hiring process, including creation of PDQs, interviewing applicants, and making recommendations for hire, promotion, or transfer. This position exists to provide the strategic vision for CTIO tolling operations policy, balancing competing visions for toll planning and project development, and to develop and implement tolling operations services for the state. This position provides operational input

into the development and design efforts of new tolling facilities and acts as the subject matter expert for tolling operations, systems, and services for CTIO and the state.

This position directs statewide tolling operations efforts to ensure that all systems, services, and operations work together to improve the efficient operations of the CTIO Express Lanes Network. This position oversees and guides the in-lane and back office tolling vendor operations in multiple facilities across the state, including systems and services for the operation, technical interoperability, and toll payment enforcement for statewide toll systems.

This position is the decision-making authority regarding the formulation and implementation of policies and standard operating procedures for Toll Facility operations and roadside revenue collection systems, roadside (including in-lane) tolling infrastructure and production systems, negotiating and administering contracts for contractor support of tolling facility operations, assists in the development, negotiation, and oversight of tolling facilities and toll collection monitoring equipment, and initiates and maintains strong relationships with contractor operational peers as well as industry peers and public sector colleagues.

This position is the decision-making authority regarding the planning, design, technology, and implementation of integrated toll collection systems on new toll projects and new programs on existing Express Lanes(i.e. enforcement) and assumes operational responsibility for systems as they transition into production during the implementation and acceptance phases of projects, and coordinates with other state agencies and internal divisions, as applicable, for the provision of services for toll operations.

This position directs, through managers, the planning, development, and implementation of assigned functional areas; develops and maintains working relationships, communications, and contacts with departmental staff as well as applicable external parties (e.g., other governmental agencies, contractors, consultants, the general public, etc.); promotes good public relations; provides agency oversight for the roadside tolling system integration contractor performance-based contracts, holding the contractor accountable for meeting required service level requirements; interviews, hires and evaluates the performance of and, when necessary, disciplines and makes recommendations for discharging personnel.

This position creates and maintains a high-performance environment characterized by positive leadership and a strong team orientation.

The Chief Toll Operations Officer develops and implements the strategic mission of CTIO Express Lanes Network operations including setting goals for process improvements through new technologies, developing and making policy recommendations to the CTIO Board of Directors, developing strategic business plans that support the CTIO’s mission and goals, including recommendations on business rules and requirements, and creating and changing systems related to tolling that may be used by peer agencies in Colorado and nationwide.

The Chief Toll Operations Officer manages the CTIO Tolling Services Agreement (TSA) with the E-470 Public Highway Authority and the contract with ETC, the Toll System Integrator (TSI) for the Express Lanes tolling equipment installation and maintenance.

The Chief Toll Operations Officer serves as the Senior Authority on Tolling Operations, under the direct supervision of the CTIO Director. The Chief Toll Operations Officer manages the daily operation of multiple work units through subordinate professional program supervisors (Tolling Operations Supervisor and Tolling Maintenance Supervisor) establishing the processes that will be followed and developing the staffing patterns and work units in order to deploy staff.

What’s getting missed or not getting appropriate attention (the challenge):

| Task | Timely Manner? | Appropriate Attention? |
|--|----------------|------------------------|
| NGLTS document review in a timely manner or not at all—and delegating to the consultant staff | NO | NO |
| HB22-1074—Safety Enforcement program and back office set up, defining business rules and business requirements, and answering vendor questions | NO | NO |
| Blissway Multi-Agency Pilot | NO | NO |

| Task | Timely Manner? | Appropriate Attention? |
|---|----------------|------------------------|
| E-470 Task Order Option Letters for next calendar year, determining encumbrance amounts | NO | NO |
| CTIO Board memos and presentations | NO | NO |
| Daily emails--reading/responding/acting on | NO | NO |
| Customer complaints escalated to CTIO/Chief Toll Operations Officer- | NO | NO |
| Westbound Mountain Express Lane reports, traffic counts/data | NO | NO |
| CTIO new Commercial Back Office SOQs | NO | NO |
| Too many meetings a day--Average = 6, Max = 10-11 | NO | NO |
| Update PDQs | NO | NO |
| Create new PDQs for new FTE positions | NO | NO |
| Completing the CDOT required Cyber Security classes each quarter | NO | YES |

What is coming down the pipeline

- Central 70 Lane Commissioning, Performance Monitoring, TCSIT, Go Live
- Central 70 GES Tolling Equity Program
- I-25 South Gap Lane Commissioning, Performance Monitoring, TCSIT, Go Live
- I-25 North Segments 6,7,8 Toll Equipment installs, Lane Commissioning, Performance Monitoring, TCSIT, Go Live
- NGLTS Phase 2 Interfaces
- Dynamic Pricing
- HB 22-1074 Safety Violation Enforcement program
- Puerto Rico Peer Exchange
- I-70 MEXL Operating Days increase request
- CTIO CBOS
 - Shortlist
 - Draft CBOS RFP
 - Back office immersion vendor visits
 - Final CBOS RFP
 - Finalist selection
- Proof of concept demos
 - Contract award
- Design and implementation
- Create PDQs for new FTE positions

Average number of hours/days worked a week

- 10 to 13 hours a day
- 6 days a week (avg 3 or 4 hours Saturday or Sunday)

Tolling Operations Supervisor

Current Responsibilities

Key Consideration: It's rare to have time to proactively work. Communications and follow-up are prioritized.

Current Duties - Can Get Done

- Contract Management
- Procuring and maintaining specialized toll equipment
- Coordinating with FHWA to provide requested information
- Planning for future Express Lanes project operations needs, such as staffing for new Express Lanes
- Coordinating Express Lanes software developments related to OpenTMS and Express Lanes
- Working with CDOT operations personnel to ensure the productive flow of communication concerning the mutual needs of both entities

- Important to stay on top of contract value and term dates
- Supervision and management of the tolling operators
 - (1) Incident management/toll voiding
 - (2) Toll equipment auditing
 - (3) Real-time traffic condition monitoring
 - (4) Coordination of data requests
 - (5) Managing maintenance contractors and ensuring compliance to Service Level Agreements (SLAs)
 - (6) Managing personnel email distribution lists
 - (7) Coordination between CTIO and CDOT ITS
- Managing and reporting operations data
- Managing the daily operations of the growing Express Lanes Network
- Ensure the Operations and Maintenance team has access to software
- Liaison between CTIO and the different tolling operations teams (Plenary’s team for US 36 and I25 Central, CTIO’s contract staff for C-470, I-25, and I-70 segments as they become operational, and CDOT’s team for I-25 and I-70 segments currently operational) that are tasked with keeping the Colorado Express Lanes operating in a safe manner.
- React to the failure of tolling systems and maintain adequate, safe, and reliable travel in the Express Lanes
- Fostering a “teamwork” atmosphere between these different teams and preventing/eliminating an attitude of isolationism amongst each TOC team while, at the same time, cultivating a culture of mutual respect, communication, pride in their work, and a passion to make CTIO one of the leading Express Lanes agencies in the country.
- Business operations start-up and management
- Program management
- Strong program controls capabilities to manage schedules, budgets, and scopes of work, track progress, and to identify and manage issues
- Internal and External Customer Service Escalations
- Procurement
- Identifying opportunities to contract vendors to support the overall program
- Contract Amendments (Extensions, Add Funds)
- Reconcile contract health with Staff

What’s getting missed or not getting appropriate attention (the challenge):

| Tasks | Timely Manner? | Appropriate Attention? |
|--|----------------|------------------------|
| Important to stay on top of contract value and term dates | NOT ALWAYS | NO |
| Supervision and management of the tolling operators | NOT ALWAYS | NO |
| Tolling Operations Center Employee Interface | NOT ALWAYS | NO |
| Staff Hiring/Termination | NOT ALWAYS | NO |
| Attendance/Day Off Request | NOT ALWAYS | NO |
| Need to create and implement an attendance policy | NO | NO |
| Review Applications - Set Interviews | NO | NO |
| Reports - Watching Jasper Soft Training Videos | NO | NO |
| Access Control for Program Software - i.e., TAP, riteJetstream | NOT ALWAYS | NO |
| While all teams are extra busy, it’s critical to establish respectable rapport with the teams that support the program. Sharing the urgency that we have when we need support to resolve revenue-impacting events. | NOT ALWAYS | NO |
| Startup is a focus, but it creates challenges when working to maintain existing corridors. Activities related to “Pre-Go Live” require as much focus, if not more to ensure that each corridor specifications are addressed during this time. Additionally, these duties/tasks should be at a certain point of completion prior to being added to the Go-Live Checklist. This can sometimes challenge the attention required for the existing corridors. | NOT ALWAYS | NO |
| Resolve Customer Service Concerns requiring more than one or two emails | NOT ALWAYS | NO |

| Tasks | Timely Manner? | Appropriate Attention? |
|---|----------------|------------------------|
| Contract Management Tasks | | |
| Ensuring invoices are reviewed and processed in a timely manner | NOT ALWAYS | NO |
| It's important to identify when an invoice comes through to review, approve and pass along for processing. | NOT ALWAYS | NO |
| Ensuring that each contracting commitment has the correct amount of time and money. | NOT ALWAYS | NO |
| Forecasting annual costs of the Program Contract's financial needs and being able to project/forecast the spend down. Things like Legacy Maintenance can be unpredictable as we move toward the annual task orders for each corridor | NOT ALWAYS | NO |
| Data and Reports Tasks | | |
| The Tolling Operations Supervisor has access to the riteSuite system, but it is difficult to log in daily to review the data and compile the reports to assist with the planned operations. Ideally, the Tolling Operations Supervisor should review key reports at least once a week. | NO | NO |
| Program Management Tasks | | |
| Two projects, Central 70 and I-25 South Gap, are under construction and ready to commence tolling in the first quarter of 2023. Five projects, I-25 Segments 2 and 3, C-470 and the Eastbound and Westbound directions of the MEXL are in operations and maintenance. There are two other Express Lanes, I-25 North Segment 5 and Floyd Hill, that are in the planning stages. Each corridor has its own business rules and behaviors. The Tolling Operations Supervisor would like to get a better understanding of how well the Tolling Traffic Operators understand how each corridor operates. MEXL is likely the most obvious to them because it requires weekly engagement. | NO | NO |
| CTIO is currently managing several high-priority and high-profile projects with the existing team of three FTEs. | NOT ALWAYS | NOT ALWAYS |
| I25 N (Seg 2 and Seg 3) | NOT ALWAYS | NOT ALWAYS |
| I25 S GAP | NOT ALWAYS | NOT ALWAYS |
| EB MEXL | NOT ALWAYS | NOT ALWAYS |
| WB MEXL | NOT ALWAYS | NOT ALWAYS |
| C-70 | NOT ALWAYS | NOT ALWAYS |
| C-470 | NOT ALWAYS | NOT ALWAYS |
| I25 N (Seg 7 and Seg 8) | NO | NO |
| I25 Seg 5 and 6 planning has started | NO | NO |
| Tolling Equity Program | NOT ALWAYS | NO |
| Blissway Pilot | NOT ALWAYS | NO |
| Operations Tasks | | |
| Maintaining existing projects while bringing on new ones are competing priorities that show up daily. | NOT ALWAYS | NO |
| The Tolling Operations Supervisor directly supervises six team members, with one recent vacancy. (Two Sr Lead Tolling Operators and four Tolling Operators) | NOT ALWAYS | NOT ALWAYS |
| As CTIO is in the process of a large procurement for our new back office, it has become increasingly difficult for the Tolling Operations Supervisor to provide a sufficient level of presence and supervision to the team. The Tolling Operations Supervisor relies heavily on the Sr Leads and has regularly scheduled meetings to stay on top of things. It is challenging to manage daily attendance along with day off requests | NOT ALWAYS | NO |
| Technical training is provided by our consultant, but the Tolling Operations Supervisor has some ideas to share and workshop, from the Operations perspective, with the team when new duties are added, but, again, due to time constraints, this position is unable to do so. | NO | NO |

| Tasks | Timely Manner? | Appropriate Attention? |
|--|----------------|------------------------|
| The Tolling Operations Supervisor tasked the team with more intense logging to capture a more detailed picture of the day. The Tolling Operations Supervisor thinks a good workshop based on some movie clips that reflect how events played out would be a fun exercise. It is just a thought, and this paragraph is the most the Tolling Operations Supervisor has been able to do to accomplish this idea. The Tolling Operations Supervisor is setting this as a goal to execute prior to the end of 2022. The Tolling Operations Supervisor understands that most people learn differently, and this idea should garner interest as well as generate motivation about the role the team plays in the everyday life of the citizens of Colorado. | NO | NO |
| The Tolling Operations Supervisor has implemented a Trainee Assessment Program and needs to engage in that to assess the team members' ability to start working from home one day a week, as offered when the position was advertised. Wednesday is the day. However, this will also require the Tolling Operations Supervisor to ensure that the Sr. Leads are collectively engaged on this day with each Toll Operator and able to monitor them online using our Google Platform. | NOT ALWAYS | NO |
| The attendance policy for the Tolling Traffic Operators is vague and needs to be firmed up and implemented. The Tolling Operations Supervisor has a draft version that needs to be reviewed and finalized. | NO | NOT ALWAYS |
| Toll Rate Changes Tasks | | |
| The toll rate change process can be challenging. The rates are posted in various places for the public to have access to. Knowing where to post and how to accomplish this is important. Through trial and error, we learned that Staff could post updated schedules both in COTrip and on the Express Lanes website. However, the static messages must be updated by Staff in the Communications Division. | NOT ALWAYS | NO |
| Also challenging with toll rates, specifically C-470, is the new process that we experienced with the new ATMS system, OpenTMS. Again, through trial and error, the rates were posted 21 days later than planned, which resulted in revenue loss. The consultant team is documenting the new process. | NO | NOT ALWAYS |

Average number of hours/days worked a week

- 10 to 13 hours a day
- 6 days a week (avg 3 or 4 hours Saturday or Sunday)

Tolling Maintenance Supervisor

Current Responsibilities

Below is a comprehensive list of the duties that the CTIO Maintenance Supervisor currently performs. Areas of responsibility that are overshadowed by other demanding maintenance obligations are shown in the table below. CTIO is currently in the process of enormous growth, increasing our footprint with the upcoming opening of C70 and I25 South GAP. The development of five other segments (I25 Segments 5,6,7,8 & Floyd Hill) is underway, which has required a tremendous amount of time, causing a lack of time for primary job duties. CTIO has a very extensive physical network that requires much more attention than previously anticipated, in addition to the collaboration with Blissway on enforcement testing on the WB MEXL corridor. Lastly is the monumental lift our team has undertaken with several of our consulting teams to procure a new Commercial Back Office (CBO).

- Direct the implementation of policies, rules, regulations, and processes related to the maintenance of the tolling program on the Express Lanes network.
- Develop maintenance program priorities.

- Determine staffing patterns and make recommendations for contractor staff to have proper resources available.
- Coordinate with all respective maintenance teams and oversee the overall performance of the teams that maintain, repair, and replace the tolling equipment as well as the fiber network and dynamic signs that CDOT ITS is responsible for, having regular meetings/interactions.
- Utilize project management practices and methodologies to work on complex formal projects, which involve software, hardware, and network connectivity issues.
- Use ITS and electronics maintenance skills along with ITIL (Information Technology Infrastructure Library) foundation principles to manage service levels and response times.
- Develop work plans and establish staffing for Tolling Contract Maintenance teams that perform day-to-day monitoring, dispatch, and maintenance of the equipment associated with the Express Lanes network for legacy equipment and next-generation equipment installations and maintenance.
- Establish goals, scheduling, and training, and provide guidance to Tolling Maintenance Team.
- Prioritize proactive monitoring and maintenance efforts while keeping safety, tolling operations, and revenue collection in focus.
- Oversee and/or perform onsite audits and quality control of existing legacy Express Lanes corridors that currently includes nineteen toll point locations. This task will also be performed with each new Express Lane that is added to the network.
- Demonstrate excellent leadership ability, communications, and interpersonal skills that motivate, and inspire the teams to gel and perform in a manner that generates success and has the best interest of the program.
- Build strong and effective relationships with internal and external business partners.
- Work closely with the CDOT interagency support teams and contracted vendors to troubleshoot, isolate, and determine repair strategies for tolling equipment and device outages.
- Monitor requests for lane closures to ensure performance and audit and analyze invoices to tie scheduled preventive maintenance, priority maintenance, and emergency maintenance back to the charges/line items on the invoice.
- Perform administrative tasks associated with this role including email communication.
- Ensure systems/software access, perform troubleshooting, and resolve issues
- Create written processes to ensure compliance with CDOT's Lane Closure requirements.
- Interact with the Tolling Operators who monitor the system and traffic to respond to events, both in traffic and those that are affected by the tolling equipment.
- Track the performance of the contractors and require improvement when necessary.
- Monitor existing goals and identify new goals and objectives.
- Conduct needs assessments to analyze situations and set priorities based on needs identified.
- Identify stakeholders and resources needed for the maintenance of tolled Express Lanes, design action plans, implement plans and assess the level of achievement while developing a sense of mutual ownership in successful goal achievement and outcomes.
- Monitor and provide oversight on the oncoming ETC riteOSSTM maintenance and asset management system and existing maintenance system that is responsible for tracking the health and repair status of the Express Lanes network.
- Maintain current knowledge of the business rules (BR) of each corridor and coordinate associated maintenance-related activities with minimal disruption.
- Coordinate MHT's (Methods of Handling Traffic) related to lane closures with respective teams in a timely manner to ensure minimal impact on revenue collection.
- Manage the maintenance ticketing process directly or provide oversight of the tickets to ensure they are properly updated and closed out in a timely manner.
- Develop and present Board agenda items, inspection, and special reports, recommending contract or bid awards, presenting reports, and preparing miscellaneous briefings.
- Complete special projects and studies by managing emergency repair contracts, assessing damage and operational impacts, identifying and implementing appropriate incident response, and contracting for professional services.
- Investigate costs for equipment, make recommendations, obtain approval, and manage purchasing.
- In-person inspection of equipment, work oversight, emergency response, and lane closures.
- Provide oversight of the development of an equipment life-cycle plan and determine which equipment should have replacements on hand.

- Monitor system health alerts, traffic cameras, and other traffic management systems to ensure the Tolling Operations Center operators are responding to and acknowledging system health alerts by creating maintenance tickets and following up with the maintenance teams to ensure timely recovery.
- Work closely with the ETC Maintenance Manager to develop, communicate, and monitor effective inventory and spare parts department processes to ensure a proper balance of spare parts inventory to support the existing operating lanes and the planned oncoming lanes.
- Develop an understanding of and follow RMA (Return Material Authorization) factory return programs
- Regularly communicate metrics with the vendor(s) that will manage and control parts inventory based on demand.

What’s getting missed or not getting appropriate attention (the challenge):

| Tasks | Timely Manner? | Appropriate Attention? |
|---|----------------|------------------------|
| <p>Review reports and monitor day-to-day performance to assess that maintenance teams and/or contractors are adhering to Service Level Agreements. The Tolling Maintenance Supervisor is currently performing reviews of the E-470 data that is available and tracking day to day performance. However, as CTIO transitions from E-470 to ETC as the tolling integrator, CTIO has been pleasantly overwhelmed by the amount of data at our disposal. It’s difficult as a Maintenance Supervisor to perform data analytics while performing the other countless tasks associated with the position. This position requires a tremendous amount of investigation to of data to properly and effectively manage and direct maintenance coordination. This is a specialty task that requires an expert in data analytics to help efficiently pull and provide desired data for review. What may take a Data Analyst a short amount of time is taking the Tolling Maintenance Supervisor an incredible amount of time to construct. With the limited amount of time in the day and the number of ongoing projects, this crucial data availability can limit the ability of this position to make informed decisions. This is a crucial component to the position but reviewing data from two systems is incredibly time-consuming.</p> | NO | NO |
| <p>Respond with a sense of urgency to emergency events and revenue-impacting outages, notifying and activating the appropriate response teams, ensuring notifications are sent to the appropriate responders and stakeholders related to the event while following safety protocols. This has become an ever-increasing issue as the system is aging and requires a constant emergency response to correct system failures. Due to safety considerations, almost all work regarding toll point failures must be performed between 8 PM - 5 AM. All coordination between CDOT and CTIO/ETC is performed by the Tolling Maintenance Supervisor, which takes time away from generating/reviewing SLA reports the following day.</p> | NO | NO |
| <p>Engage with other industry partners to be aware of new technology, advances in equipment, and lessons learned. CTIO is always looking for innovative technology to make our Express Lane corridors operate more safely and reduce revenue leakage. CTIO has partnered with Blissway to help with a pilot program that offers a terrific solution for safety enforcement but has come at the expense of long hours of review and assistance, ensuring the program deliverables are adequate for successful implementation.</p> | NO | NO |

Average number of hours/days worked a week

- 9 to 11 hours a day
- 7 days a week (avg 1 to 3 hours Saturday and Sunday)

Number of hours/days worked overnight for maintenance or site inspections (Not Included Above)

- 4 to 8 hours a week (8PM - 5AM)
- Approximately 2 days a week