

Attachments

Attachment 1 – NCTA Business Policies

Attachment 2 – State of North Carolina, Statewide Information Security Manual

Attachment 3 – Data Dictionary

Attachment 4 – Use Cases

Attachment 5 – NCTA Reports and Analytics Templates

Attachment 6 – NCTA CBOS to RSS ICD

Attachment 7 – NCTA Change and Release Management Process

Attachment 8 – NCTA Example Change Order

Attachment I

NCTA Business Policies

(Attachment I contains the following two documents: “NC Quick Pass Business Policies v6.2” and “NCTA Roadside Toll Systems Operations Policies v1.0”)



Business Policies

Version 6.2

April 2021



SUBJECT TO REVIEW AND REVISION BY NCTA, OTHER GOVERNMENT AGENCIES, AND LEGAL COUNSEL

DOCUMENT REVISION HISTORY

Version	Date	Modification
1.0	October 2008	Original – utilized for TCS RFP
1.1	February 2014	Addition of Reciprocity / Reconciliation Process
2.0	November 2016	Updated, verified, and reformatted
2.1	March 2017	Added Exempt Vehicle Business Rules
2.2	July 2017	Added new account and transponder types, policies for HOV Declaration and Express Lanes, and revised document organization
3.0	September 2017	Merged and formatted document
3.1	November 2017	Comments from Tim Morrison, Kristen Pearce, Joe Donahue, Kathryn Lorbacher, Christine O'Loughlin, Seth Fisher and Warren Cooksey have been considered and as applicable have been incorporated.
4.0	April 2018	Updates made to NC Quick Pass Account Types and Plans, additional edits to HOV Declarations and Express Lanes, as well as the inclusion of various updates to NCTA policies.
5.0	March 1, 2019	Complete revision and rewrite of the NC Quick Pass CSC Business Policies document.
5.1	September 2019	Updates to version 5.0
6.0	April 2020	Updates for BOS 2 preparation, I-77 deployment, and CSC efficiencies.

Version	Date	Modification
6.1	August 2020	<p>Added Policy 4.1.2, identifying that customers can open an account without assigning a vehicle to that account. Approved by Policy Committee on 5/12/20.</p> <p>Revised Policy 8.3.3, identifying that a customer can increase or decrease the replenish amount by calling the Customer Service Center. Approved by Policy Committee on 5/12/20.</p> <p>Added Policy 8.5.5, identifying that the first Bill by Mail invoice to be sent to an account converted from a negative balance NC Quick Pass Transponder account shall be sent to the NC Quick Pass Transponder account address. Approved by Policy Committee on 5/12/20.</p> <p>Added Policy 8.5.6, identifying that the first Bill by Mail invoice to be sent to an account converted from a negative balance NC Quick Pass Transponder account shall show the previous balance amount as the negative balance from the converted account.</p> <p>Revised Policy 13.1.1, removing a duplicate sentence.</p> <p>Revised Policy 14.1.1, clarifying what account activity is as it relates to inactive accounts.</p> <p>Deleted Policy 14.1.4, 14.1.5, 14.1.6, these policies were related to account inactive fees, which are being removed. Approved by Policy Committee on 5/6/20.</p>

Version	Date	Modification
6.2	April 2021	<p>Policy 8.5, Negative Account Balance.</p> <p>Revised Policy 8.5.1, 8.5.2, and 8.5.8, Transponder accounts will now be put in “invalid status” when a balance reaches \$0.00. Previously the threshold was negative ten dollars (-\$10.00).</p> <p>Policy 21.2, Non-NC Quick Pass Account Owners Interoperability with Turnpike Projects.</p> <p>Revised Policy 21.2, small text edits.</p> <p>Policy 21.3, Disputes and Refunds for NC Quick Pass Account Owners and Out-of-State Transactions.</p> <p>Revised Policy 21.3, small text edits.</p> <p>Policy 21.4, Disputes and Refunds for Out-of-State Agency Account Owners and Turnpike Project Transactions.</p> <p>Added Policy 21.4.2, small text edits and added a policy that disputes from out-of-state agency account holders must be received by NC Quick Pass 180 days from the transaction date to be considered.</p> <p>Policy 209.1, General Collections Policies.</p> <p>Revised Policy 209.1.1, General Collections Policies, debt sent to a collection agency must have escalated to a fourth invoice and must have aged for at least 90 days from date of the original invoice. Previously, the only criteria were the four invoices.</p> <p>Revised Policy 209.1.1, General Collections Policies, and Policy 209.1.2, Collection Agency, overall section rewrite for clarification and restructuring.</p>

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I. Introduction

This document contains the business policies by which the North Carolina Turnpike Authority (NCTA) operates its NC Quick Pass® toll collection program.

This document is supplemented by the following four (4) Appendices:

- Appendix A contains definitions, acronyms and abbreviations used within this document.
- Appendix B contains a description of all accounts, plans and transponders supported by NC Quick Pass.
- Appendix C contains the North Carolina toll legislation upon which these policies are based.
- Appendix D contains the Business Policy Modification Form.

II. North Carolina Turnpike Authority Overview

NCTA, a business unit of the North Carolina Department of Transportation (NCDOT), was formed in 2002 by the North Carolina General Assembly. The mission of NCTA is to supplement the traditional non-toll transportation system by accelerating the delivery of roadway projects using alternative financing options and facilitating the development, delivery and operation of toll roads. NCTA is authorized to study, plan, develop, and undertake preliminary design work on Turnpike Projects.

NCTA's state-wide toll collection program consists of the following:

- **Toll Systems:** NCTA toll systems are comprehensive, All-Electronic Toll (AET) systems that allow motorists to drive through toll zones and pay their tolls without having to stop. When customers travel toll facilities operated by NCTA (referred to herein as "Turnpike Projects"), tolls are collected from customer accounts by reading a transponder mounted in the vehicle and/or by identifying the license plate number attached to the vehicle, and sending the vehicle's registered owner a bill in the mail (or email).
- **Customer Service Centers:** The NCTA currently operates three (3) Customer Service Centers, one each in Morrisville, Monroe and Charlotte. The main purpose of the Customer Service Center (CSC) is to provide a storefront in the vicinity of NCTA toll roads, where customers can sign up for a transponder account, pay invoices, or perform other NC Quick Pass business in person.

The Morrisville Customer Service Center, which serves the Raleigh/Durham region, is located just south of the Raleigh/Durham International Airport and near the northern terminus of the Triangle Expressway. The activities outlined below take place at the NC Quick Pass Operations Center, which is co-located with the Morrisville Customer Service Center facility:

- a) Customer account creation and closure, management and maintenance
- b) Toll transaction processing (e.g. transponder-based, image-based and interoperable transactions)

- c) NC Quick Pass Transponder inventory management, assignment, distribution and maintenance
- d) Account conversion management
- e) Data exchange interface management
- f) Customer account statement creation
- g) Bill by Mail and Bill by Email invoice creation
- h) Mail processing
- i) Payment processing, financial reconciliation and revenue tracking
- j) Interoperability support
- k) Customer service, and self-service channels management and support (e.g. Interactive Voice Recognition (IVR), website email, text message and mobile device applications)
- l) Call center operations support
- m) Walk-in center customer service (e.g. dispute resolution, account payments and replenishments)

The NC Quick Pass Operations Center also provides office space for the Customer Service Operations Contractor management team, NCTA's Customer Service and Back-Office System staff and consultant staff.

- **Toll Roads:** With the exception of toll roads operated by a private developer in conjunction with the NCDOT, NCTA is responsible for the operation of all Turnpike Projects throughout North Carolina.

- **Triangle Expressway**

NCTA's first toll road, the Triangle Expressway is an 18.8-mile toll road that extends the partially complete "outer loop" around the greater Raleigh area from I-40 to the N.C. 55 Bypass. The Triangle Expressway is an AET toll road with 11 interchanges and 16 toll zones (4 mainline toll zones and 12 ramp toll zones).

The Triangle Expressway currently has two sections: Toll N.C. 147 and Toll N.C. 540.

- Toll N.C. 147: 3.4 miles long between I-40 and Toll N.C. 540.
- Toll N.C. 540: 15.4 miles long between N.C. 54 in western Cary and the N.C. 55 Bypass near Holly Springs.

- **Monroe Expressway**

The Monroe Expressway is a 20-mile long toll road located southeast of Charlotte and is an alternative route to the U.S. 74 corridor, extending from Stallings to Marshville in Union County.

The Monroe Expressway, which opened to traffic in November 2018, is an AET toll road with 7 mainline toll zones.

➤ I-77 Express Lanes

The I-77 Express Lanes are 26-miles of tolled Express Lanes on I-77 that, once complete, will provide more reliable travel times into downtown Charlotte, NC from the Brookshire Freeway (Exit 11) in Mecklenburg County to N.C. 150 (Exit 36) in Iredell County.

The I-77 Express Lanes are dynamically priced, so toll rates will vary based on traffic congestion. High-Occupancy Vehicles (HOV) that have an active HOV declaration will travel for free, but single-occupancy vehicles that choose to use the Express Lanes will be required to pay the posted toll rate.

Because the I-77 Express Lanes were developed under a public-private partnership, a concessionaire operates the roadside toll collection system, and NCTA is responsible for the management of the transponder program and back office processing of the I-77 Express Lanes transactions.

- **Toll Interoperability:** NC Quick Pass is interoperable with toll programs in Florida (SunPass®, E-Pass and LeeWay), Georgia (Peach Pass®) and the Northeastern U.S. (E-ZPass®), collectively referred to as the “Interoperable Agencies.”
- **Toll-Free Passage:** Toll-free passage is allowed per North Carolina general statutes and project-specific operating agreements regarding first responders and HOV travel.

III. Customer Service Center Overview

The NC Quick Pass CSC is made up of the following two distinct entities:

- 1) The Back-Office System (BOS) is developed, provided, and managed by a third-party systems vendor. The BOS is responsible for managing all the North Carolina toll collection system functionality and serves as an Electronic Toll Collection (ETC) clearing house for all toll transactions produced in the State. The BOS provides functionality for:
 - a) Processing of all lane transactions (ETC, image-based and interoperable (IOP))
 - b) Account management
 - c) Customer service and customer interaction (website, IVR, email, text message, etc.)
 - d) Financial transactions and account replenishment
 - e) Financial and lane transaction reconciliations
 - f) Image review
 - g) Revenue management
 - h) Reporting
- 2) The CSC Operations Staff is provided by a separate, third-party operations vendor that specializes in customer service support. CSC Operations Staff serve the CSC located in Morrisville, NC, Monroe, NC and Charlotte, NC. The CSC Operations Staff provide full-scale back office service support for NCTA's tolling program, including but not limited to:
 - a) Operations staffing and staff management

- b) Call center operations support
- c) Walk-in center staffing and operations including payment processing
- d) Account management support
- e) Bill by Mail invoicing
- f) NC Quick Pass Transponder distribution
- g) Image review
- h) Financial management and reconciliation services

The CSC operator complies with Payment Card Industry Data Security Standards (PCI DSS) as a Level 1 Merchant.

IV. Customer Service Center Business Policies

NC Quick Pass will comply with and support the following business policies.

Policy 1: NC Quick Pass Account Types

NC Quick Pass supports the following types of accounts:

Policy 1.1: NC Quick Pass Transponder Accounts

Policy 1.1.1: NC Quick Pass Transponder Accounts utilize transponders to pay tolls.

Policy 1.1.2: Customers must purchase or obtain a separate NC Quick Pass Transponder for each vehicle they add to their account.

Policy 1.1.3: The number of vehicles assigned to an NC Quick Pass Transponder Account cannot exceed the number of transponders assigned to the account.

Policy 1.1.4: NC Quick Pass Transponder Accounts are for individuals, businesses and government agencies that have provided NC Quick Pass with contact information (i.e. registered).

Policy 1.1.5: Vehicles associated with an NC Quick Pass Transponder Account in good financial standing, with a properly mounted, valid transponder will receive the lowest toll rate on all Turnpike Projects.

Policy 1.1.6: NC Quick Pass Transponder Accounts can be prepaid or postpaid.

Policy 1.2: NC Quick Pass Registered Video Accounts

Policy 1.2.1: NC Quick Pass Registered Video Accounts utilize vehicle license plate images to pay tolls.

Policy 1.2.2: NC Quick Pass Registered Video Accounts are for individuals, businesses and government agencies that have provided NC Quick Pass with contact information (i.e. registered).

Policy 1.2.3: NC Quick Pass Registered Video Accounts are prepaid.

Policy 1.2.4: NC Quick Pass Registered Video Accounts require the approval of an NC Quick Pass Representative prior to being established.

Policy 1.3: Bill by Mail

Policy 1.3.1: The Bill by Mail Program utilizes vehicle license plate images to invoice customers for their toll usage.

Policy 1.3.2: Bill by Mail is for individuals that do not have a transponder, and who have not provided NC Quick Pass with contact information prior to travel on a Turnpike Project.

Policy 1.3.3: Bill by Mail is postpaid.

Policy 2: NC Quick Pass Transponder Accounts and Plans

Refer to this section for policies associated with NC Quick Pass Transponder Accounts.

When signing up for an NC Quick Pass Transponder Account, customers must choose one of the following account types: Personal, Business or HOV.

Note: Refer to Appendix B for an illustration of the type of accounts, the type of plans that can be assigned to the various accounts, and the transponders available with NC Quick Pass.

Policy 2.1: Personal Accounts

Policy 2.1.1: Personal Accounts are for customers that want to register five (5) or less vehicles on their account.

Policy 2.1.2: In addition to the account owner, Personal Accounts allow for an additional contact person to have access to the account, but an additional contact can only be added with the approval of the account owner.

Policy 2.1.3: NC Quick Pass may terminate a Personal Account at any time due to non-compliance or misuse of the account.

Policy 2.1.4: Standard Plan

Policy 2.1.4.1: Standard Plans are prepaid.

Policy 2.1.4.2: The Standard Plan supports the following transponder types:

- NC Quick Pass Sticker (interior and exterior)
- NC Quick Pass E-ZPass (interior and exterior)
- NC Quick Pass E-ZPass Flex

Policy 2.1.5: Motorcycle Plan

Policy 2.1.5.1: Motorcycle Plans are prepaid.

Policy 2.1.5.2: The Motorcycle Plan supports the following transponder types:

- NC Quick Pass Sticker (exterior)
- NC Quick Pass E-ZPass (exterior)

Policy 2.1.5.3: Only motorcycle customers registered with the NC Quick Pass Motorcycle Plan and equipped with either an NC Quick Pass Exterior Sticker Transponder or an NC Quick Pass Exterior E-ZPass

Transponder will receive toll-free passage on the I-77 Express Lanes.

Policy 2.1.5.4: Aside from the I-77 Express Lanes, vehicles enrolled in the NC Quick Pass Motorcycle Plan will not receive toll-free passage on Turnpike Projects.

Policy 2.2: Business Accounts

Policy 2.2.1: Business Accounts are for customers that want to register more than five (5) vehicles on their account.

Policy 2.2.2: Business Accounts require two (2) contact persons to be registered on the account.

Policy 2.2.3: NC Quick Pass may terminate a Business Account at any time due to non-compliance or misuse of the account.

Policy 2.2.4: Standard Plan

Policy 2.2.4.1: Standard plans are prepaid.

Policy 2.2.4.2: The Standard Plan supports the following transponder types:

- NC Quick Pass Sticker (interior and exterior)
- NC Quick Pass E-ZPass (interior and exterior)
- NC Quick Pass E-ZPass Flex

Policy 2.2.5: Government Plan

Policy 2.2.5.1: Government plans are postpaid.

Policy 2.2.5.2: The Government Plan supports the following transponder types:

- NC Quick Pass Sticker (interior and exterior)

Policy 2.2.5.3: A Government Plan can only be assigned to a Business Account.

Policy 2.2.5.4: The Government Plan's postpaid billing only applies to travel on Turnpike Projects.

Policy 2.2.5.5: A Government Plan must be approved by an NC Quick Pass Representative prior to being established.

Policy 2.2.5.6: NC Quick Pass will automatically invoice agencies with a Government Plan on a monthly basis.

Policy 2.2.5.7: Governmental agencies with this plan type will have thirty (30) days to pay their invoice.

Policy 2.2.5.8: Unpaid invoices from governmental agencies do not follow NC Quick Pass's Bill by Mail escalation process, and they will be escalated operationally through NC Quick Pass if necessary, to collect the tolls due.

Policy 2.2.6: Transit Plan

- Policy 2.2.6.1: Transit plans are postpaid.
- Policy 2.2.6.2: The Transit Plan supports the following transponder types:
- NC Quick Pass Transit Sticker
 - NC Quick Pass Sticker (interior and exterior)
- Policy 2.2.6.3: A Transit Plan can only be assigned to a Business Account.
- Policy 2.2.6.4: A Transit Plan allows transit agencies to post-pay for toll road use.
- Policy 2.2.6.5: The Transit Plan's postpaid billing only applies to travel on Turnpike Projects.
- Policy 2.2.6.6: A Transit Plan must be approved by an NC Quick Pass Representative prior to being established.
- Policy 2.2.6.7: NC Quick Pass will automatically invoice agencies with a Transit Plan on a monthly basis.
- Policy 2.2.6.8: Transit agencies with this plan type will have thirty (30) days to pay their invoice.
- Policy 2.2.6.9: Unpaid invoices from transit agencies do not follow NC Quick Pass' Bill by Mail escalation process, and they will be escalated operationally through NC Quick Pass if necessary, to collect the tolls due.
- Policy 2.2.6.10: A vehicle associated with a Transit Plan equipped with a valid transponder is only eligible for toll-free passage on the I-77 Express Lanes.
- Policy 2.2.6.11: Aside from the I-77 Express Lanes, vehicles assigned to a Transit Plan will not receive toll-free passage on Turnpike Projects.

Policy 2.2.7: First Responder Plan

- Policy 2.2.7.1: First Responder Plans are non-revenue.
- Policy 2.2.7.2: The First Responder Plan supports the following transponder types:
- NC Quick Pass First Responder Sticker
 - NC Quick Pass Sticker (interior and exterior)
- Policy 2.2.7.3: A First Responder Plan can only be assigned to a Business Account.
- Policy 2.2.7.4: Any organization that wants to open a Business Account with a First Responder Plan, and obtain NC Quick Pass First Responder Transponders for their vehicles to utilize North Carolina toll roads toll-free when responding to emergency situations will be required to:
- Submit a First Responder application for review and approval by NC Quick Pass

- Provide proof the organization's headquarters (e.g. police/fire station, hospital, etc.) is located within ten (10) miles of a Turnpike Project.

Note: If the organization is not within ten (10) miles of a Turnpike Project, NC Quick Pass may reject the organization's application, and require that the organization submit an Affidavit of Non-Liability for any toll transactions incurred on a Turnpike Project while responding to an emergency.

- Policy 2.2.7.5: All vehicles listed under the First Responder Plan must be an eligible law enforcement, emergency fire rescue, or emergency medical services vehicle, as specified by North Carolina General Statutes §136-89.211(2), and must be officially registered to the first responder's organization applying for the First Responder Plan.
- Policy 2.2.7.6: NC Quick Pass may request vehicle registration information for any vehicle assigned to a First Responder Plan from the organization applying for the First Responder Plan.
- Policy 2.2.7.7: Any vehicle not officially registered to the first responder's organization will not be entitled to a First Responder Transponder, and NC Quick Pass may charge the organization for any tolls incurred by these unauthorized vehicles.
- Policy 2.2.7.8: NC Quick Pass Business Accounts with a First Responder Plan must be approved by an NC Quick Pass Representative prior to being established.
- Policy 2.2.7.9: A vehicle associated with a First Responder Plan equipped with a valid transponder is eligible for toll-free passage on all North Carolina toll roads.
- Policy 2.2.7.10: The First Responder Plan does not allow for travel on interoperable toll roads either paid or toll-free.
- Policy 2.2.7.11: Unauthorized use of a First Responder Transponder may subject the account to suspension or permanent closure by NC Quick Pass.

Policy 2.3: HOV Accounts

Policy 2.3.1: HOV Accounts are for customers that travel exclusively on the I-77 Express Lanes while meeting the occupancy requirements, as posted prior to the entrance to the I-77 Express Lanes, to qualify for exempt transactions.

Policy 2.3.2: HOV Accounts do not require a pre-payment to open the account, or an account balance to use the account.

Policy 2.3.3: Customers must obtain an NC Quick Pass Transponder for this account type.

Policy 2.3.4: An HOV Account can only be assigned one (1) transponder.

Policy 2.3.5: To qualify for exempt transactions, an HOV Account holder must declare their HOV status before they travel on the I-77 Express Lanes using the NC Quick Pass HOV Declaration Application.

Policy 2.3.6: In addition to the account owner, HOV Accounts allow for an additional contact person to have access to the account, but an additional contact can only be added with the approval of the account owner.

Policy 2.3.7: NC Quick Pass may terminate an account at any time due to non-compliance or misuse of the account.

Policy 2.3.8: HOV Only Plan

Policy 2.3.8.1: The HOV Only Plan supports the following transponder types:

- NC Quick Pass Sticker (interior and exterior)

Policy 2.3.8.2: An HOV Only Plan can only be assigned to an HOV Account.

Policy 2.3.8.3: Customers with this plan do not have to prepay their tolls; however, if a customer with this plan travels on any Turnpike Project other than the I-77 Express Lanes and the customer's transponder is read, the customer will receive a bill in the mail, and the transactions will be billed at the Bill by Mail toll rate.

Policy 3: NC Quick Pass Transponders

Policy 3.1: NC Quick Pass Transponder Basics

Policy 3.1.1: NC Quick Pass offers customers seven (7) different transponder options. Refer to the tables below for more information on the transponder options.

Note: Interior Transponders are installed inside of a vehicle (e.g. on the windshield), and Exterior Transponders are installed on the outside of a vehicle (e.g. bumper or headlamp).

Policy 3.1.2: A transponder cannot be active on more than one (1) NC Quick Pass Transponder Account at one time.

Policy 3.2: Personal Account Transponder Options

Policy 3.2.1: An NC Quick Pass Personal Account with a Standard Plan has the following transponder options:




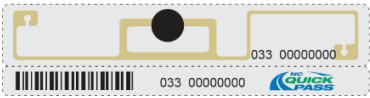

Standard Plan			
Transponder Name	Description	Transponder Picture	Sales Price
NC Quick Pass	Interior Sticker		\$0.00 (Free)
NC Quick Pass E-ZPass	Interior Hard Case		\$7.40 + tax
NC Quick Pass E-ZPass Flex	Interior Hard Case – HOV Declarable (Switchable)		\$16.49 + tax
NC Quick Pass (exterior)	Exterior Headlamp Sticker		\$0.00 (Free)
NC Quick Pass E-ZPass (exterior)	Exterior Hard Case		\$13.49 + tax

Table 1: NC Quick Pass Personal Account - Standard Plan Transponder Options

Policy 3.2.2: An NC Quick Pass Personal Account with a Motorcycle Plan has the following transponder options:

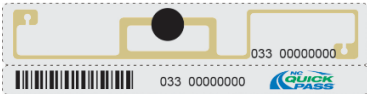

Motorcycle Plan			
Transponder Name	Description	Transponder Picture	Sales Price
NC Quick Pass (exterior)	Exterior Headlamp Sticker		\$0.00 (Free)
NC Quick Pass E-ZPass (exterior)	Exterior Hard Case		\$13.49 + tax

Table 2: NC Quick Pass Personal Account - Motorcycle Plan Transponder Options

Policy 3.3: Business Account Transponder Options

Policy 3.3.1: An NC Quick Pass Business Account with a Standard Plan has the following transponder options:




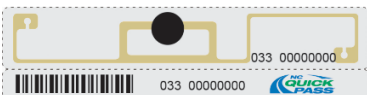

Standard Plan			
Transponder Name	Description	Transponder Picture	Sales Price
NC Quick Pass	Interior Sticker		\$0.00 (Free)
NC Quick Pass E-ZPass	Interior Hard Case		\$7.40 + tax
NC Quick Pass E-ZPass Flex	Interior Hard Case – HOV Declarable (Switchable)		\$16.49 + tax
NC Quick Pass (exterior)	Exterior Headlamp Sticker		\$0.00 (Free)
NC Quick Pass E-ZPass (exterior)	Exterior Hard Case		\$13.49 + tax

Table 3: NC Quick Pass Business Account - Standard Plan Transponder Options

Policy 3.3.2: An NC Quick Pass Business Account with a Government Plan has the following transponder options:


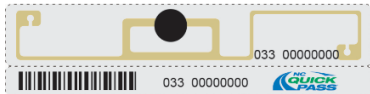
Government Plan			
Transponder Name	Description	Transponder Picture	Sales Price
NC Quick Pass	Interior Sticker		\$0.00 (Free)
NC Quick Pass (exterior)	Exterior Headlamp Sticker		\$0.00 (Free)

Table 4: NC Quick Pass Business Account - Government Plan Transponder Options

Policy 3.3.3: An NC Quick Pass Business Account with a Transit Plan has the following transponder options:


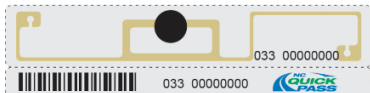

Transit Plan			
Transponder Name	Description	Transponder Picture	Sales Price
NC Quick Pass	Interior Sticker		\$0.00 (Free)
NC Quick Pass (exterior)	Exterior Headlamp Sticker		\$0.00 (Free)
NC Quick Pass Transit	Interior Sticker		\$0.00 (Free)

Table 5: NC Quick Pass Business Account - Transit Plan Transponder Options

Policy 3.3.4: An NC Quick Pass Business Account with a First Responder Plan has the following transponder options:




First Responder Plan			
Transponder Name	Description	Transponder Picture	Sales Price
NC Quick Pass	Interior Sticker		\$0.00 (Free)
NC Quick Pass (exterior)	Exterior Headlamp Sticker		\$0.00 (Free)
NC Quick Pass First Responder	Interior Sticker		\$0.00 (Free)

Table 6: NC Quick Pass Business Account - First Responder Plan Transponder Options

Policy 3.4: HOV Account Transponder Options

Policy 3.4.1: An NC Quick Pass HOV Account with an HOV Only Plan has the following transponder options:


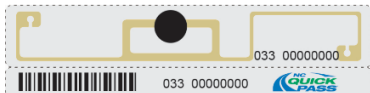
HOV Only Plan			
Transponder Name	Description	Transponder Picture	Sales Price
NC Quick Pass	Interior Sticker		\$0.00 (Free)
NC Quick Pass (exterior)	Headlamp Sticker		\$0.00 (Free)

Table 7: NC Quick Pass HOV Account - HOV Only Plan Transponder Options

Policy 3.5: Transponder Cost

Policy 3.5.1: NC Quick Pass customers are required to purchase transponders at a cost established by NC Quick Pass plus the applicable state and county sales tax.

Policy 3.5.2: Government agencies may be required to purchase transponders at a cost established by NC Quick Pass. Sales taxes will be waived for governmental agencies upon presentation of a sales tax exemption certificate. This certificate should be included with the application.

Policy 3.5.3: NC Quick Pass, at its discretion, may issue certain transponders at no cost to the customer.

Policy 3.5.4: NC Quick Pass reserves the right to waive or discount the transponder purchase cost for promotional or other operational purposes.

Policy 3.5.5: Individual transponder purchases are not eligible for discounts, and the purchase of multiple transponders does not qualify a customer for a discount.

Policy 3.5.6: Upon the completion of a sale, the transponder becomes the property of the customer.

Policy 3.6: Lost or Stolen Transponders

Policy 3.6.1: NC Quick Pass customers may report a transponder lost or stolen via the following NC Quick Pass customer communication channels:

- NC Quick Pass website
- Email
- Mail
- Fax
- NC Quick Pass CSC (calling or visiting a walk-in center)

Policy 3.6.2: Once a transponder is reported lost or stolen, NC Quick Pass will immediately deactivate the transponder.

Policy 3.6.3: Should a customer locate a transponder they had previously reported as lost or stolen, they can contact an NC Quick Pass CSC and have the transponder re-activated.

Policy 3.6.4: Customers are responsible for all toll transactions that occurred prior to their notification to NC Quick Pass of a lost or stolen transponder.

Policy 3.6.5: Customers may be required to purchase a replacement transponder for a lost or stolen transponder. The replacement cost will be the cost of the transponder plus the applicable state and county sales tax at the time of replacement. If a transponder was provided to a customer at no cost, NC Quick Pass may, at its discretion, require the customer to pay a replacement cost plus applicable state and county sales tax for the same transponder type that was lost or stolen.

Policy 3.7: Transponder Warranty

Policy 3.7.1: NC Quick Pass Sticker Transponders do not carry any warranty period.

Policy 3.7.2: New NC Quick Pass Transponders with a hard, plastic case carry a two-year warranty from the date of customer purchase (i.e. warranty period). If this type of transponder malfunctions within the two-year warranty period, it may be returned to an NC Quick Pass CSC.

Policy 3.7.3: Damaged transponders are not covered under warranty period.

Policy 3.7.4: NC Quick Pass is not responsible for transponder malfunction related to damage caused by a customer. Damage is defined as: The rendering of the transponder defective or inoperable due to tampering, improper use, defacement, or accidental destruction by a customer. For example, removing a Sticker Transponder after it has been affixed to a windshield or headlamp is considered customer-related damage.

Policy 3.7.5: NC Quick Pass Customers will be responsible for replacement costs related to damaged transponders, including the cost of the new, replacement transponder plus the applicable state and county sales tax.

Policy 3.7.6: Hard Case Transponder Malfunction

Policy 3.7.6.1: If the transponder malfunctions during the two-year warranty period, and the damage is not the result of customer-caused damage, NC Quick Pass will issue a replacement transponder at no charge.

Policy 3.7.6.2: If the transponder malfunctions beyond the two-year warranty period, the customer will be responsible for purchasing a replacement transponder, including the cost of the new, replacement transponder plus the applicable state and county sales tax.

Policy 3.8: Transponder Return and Exchange

Policy 3.8.1: Any purchased transponder may be returned to an NC Quick Pass CSC in person or via mail within ten (10) business days of the date of purchase for a full refund.

Policy 3.8.2: For a transponder delivered via US mail, a customer has ten (10) business days from the postmark of the transponder kit they received in the mail to return the transponder.

Policy 3.8.3: If a customer returns a transponder via mail, the postmark date on the return package must be within ten (10) business days from either:

Policy 3.8.3.1: The date of purchase if the transponder was purchased in person at an NC Quick Pass CSC, or

Policy 3.8.3.2: The postmark date on the transponder kit the customer received in the mail if the transponder was purchased online or by phone.

Policy 3.8.4: NC Quick Pass reserves the right to approve returns or exchanges beyond the ten (10) daytime period.

Policy 3.8.5: All customers must provide a proof of purchase (e.g. transponder purchase receipt) when returning a transponder. Customers returning a transponder via mail must include a proof of purchase, as well as a written return request that includes the

customer's NC Quick Pass Account number.

Policy 3.8.6: Returned transponders must be in the same condition (e.g. undamaged) as when they were purchased. For example, Interior Sticker Transponders that have been affixed to a customer's windshield will be damaged upon removal, and will not qualify for an exchange, replacement or a refund (if purchased).

Policy 3.8.7: Any refunds related to transponder return will be issued as a credit to a customer's NC Quick Pass Account. If a customer's NC Quick Pass Account is closed when a transponder is returned, NC Quick Pass will send the customer a refund check by mail.

Policy 3.8.8: Any credit to a customer will be issued by NC Quick Pass. Any additional payment required of the customer, resulting from a transponder exchange, will be due at the time of the exchange.

Policy 4: NC Quick Pass Transponder Account Establishment and Opening

Policy 4.1: General Account Establishment Policies

Policy 4.1.1: When establishing a new NC Quick Pass Transponder Account, the customer will be required to:

- Policy 4.1.1.1: Pay all unpaid tolls, fees and penalties (including any balances with a collection agency) associated with a Bill by Mail invoice
- Policy 4.1.1.2: Select an account type
- Policy 4.1.1.3: Pay the appropriate prepaid toll balance (if required)
- Policy 4.1.1.4: Purchase a transponder(s) (if necessary)
- Policy 4.1.1.5: Provide all required information and/or complete an application
- Policy 4.1.1.6: Agree to the NC Quick Pass terms and conditions

Policy 4.1.2: A customer is not required to assign a vehicle when opening an account.

Policy 4.1.3: A customer with outstanding Bill by Mail invoices may open an NC Quick Pass Transponder Account if the license plate(s) registered on the new transponder account does not match the license plate(s) associated with the unpaid Bill by Mail invoice(s).

Policy 4.1.4: A customer is restricted from establishing a transponder account if a license plate, or identical address, is associated with an outstanding Bill by Mail invoice balance.

Policy 4.2: Personal Account

Policy 4.2.1: Standard Plan

Policy 4.2.1.1: Customers can open an NC Quick Pass Personal Account with a Standard Plan utilizing the following channels:

- Online via the NC Quick Pass website
- In person at an NC Quick Pass CSC
- Over the phone with an NC Quick Pass Customer Service Representative (CSR)
- Mail
- Fax

Policy 4.2.2: Motorcycle Plan

Policy 4.2.2.1: Customers can open an NC Quick Pass Personal Account with a Motorcycle Plan utilizing the following channels:

- Online via the NC Quick Pass website
- In person at an NC Quick Pass CSC
- Over the phone with an NC Quick Pass CSR
- Mail
- Fax

Policy 4.3: Business Account

Policy 4.3.1: Standard Plan

Policy 4.3.1.1: Customers can open an NC Quick Pass Business Account with a Standard Plan utilizing the following channels:

- Online via the NC Quick Pass website
- In person at an NC Quick Pass CSC
- Over the phone with an NC Quick Pass CSR
- Mail
- Fax

Policy 4.3.2: Government Plan

Policy 4.3.2.1: NC Quick Pass Business Accounts with a Government Plan must be approved by an NC Quick Pass Representative prior to being established.

Policy 4.3.2.2: Customers can open an NC Quick Pass Business Account with a Government Plan utilizing the following channels:

- In person at an NC Quick Pass CSC
- Over the phone with an NC Quick Pass CSR authorized to administer these account types

Policy 4.3.3: Transit Plan

Policy 4.3.3.1: NC Quick Pass Business Accounts with a Transit Plan must be approved by an NC Quick Pass Representative prior to being established.

Policy 4.3.3.2: Customers can open an NC Quick Pass Business Account with a Transit Plan utilizing the following channels:

- In person at an NC Quick Pass CSC
- Over the phone with an NC Quick Pass CSR authorized to administer these account types

Policy 4.3.4: First Responder Plan

Policy 4.3.4.1: NC Quick Pass Business Accounts with a First Responder Plan must be approved by an NC Quick Pass Representative prior to being established.

Policy 4.3.4.2: Customers can open an NC Quick Pass Business Account with a First Responder Plan utilizing the following channels:

- In person at an NC Quick Pass CSC
- Over the phone with an NC Quick Pass CSR authorized to administer these account types

Policy 4.4: HOV Account**Policy 4.4.1: HOV Only Plan**

Policy 4.4.1.1: Customers can open an NC Quick Pass HOV Account with an HOV Only Plan utilizing the following channels:

- In person at an NC Quick Pass CSC
- Online via the NC Quick Pass website
- Over the phone with an NC Quick Pass CSR authorized to administer these account types
- Mail
- Fax

Policy 5: NC Quick Pass Transponder Account Application and Agreement

Policy 5.1: NC Quick Pass Transponder Application and Agreement

Policy 5.1.1: When establishing a transponder account via the NC Quick Pass website, a customer must complete the online application, and agree to the NC Quick Pass Terms and Conditions.

Policy 5.1.2: When establishing a transponder account in person at an NC Quick Pass CSC, through the mail, or via fax, a customer must fill out an NC Quick Pass Application and agree to the NC Quick Pass Terms and Conditions.

Policy 5.1.3: When establishing a transponder account by phone, a CSR will complete the application for a customer to open an account, and the customer must provide verbal acceptance to the NC Quick Pass Terms and Conditions.

Policy 5.1.4: As stated on transponder packaging, a customer's use of an NC Quick Pass Transponder also constitutes acceptance of the NC Quick Pass Terms and Conditions.

Policy 5.1.5: To open an NC Quick Pass Transponder Account, a customer must provide the following information:

- Account owner's name
 - Secondary contact name (applies to Business Account only)
- Account owner's address
- Account owner's contact information (e.g. phone number)
- Username
- Password
- Email address
- Security question answer
- PIN
- Statement and customer correspondence delivery option
- License plate number for each vehicle registered on the account
- Vehicle information (e.g. year, model, number of axles) for each vehicle registered on the account
- Payment method (e.g. cash, check, money order, credit/debit card, etc.)
Note: Does not apply to postpaid Transit, Government or First Responder plans, and HOV Only plans.
- Replenishment method (e.g. automatic or manual replenishment)
Note: Does not apply to postpaid Transit, Government or First Responder plans, and HOV Only plans.
- Agreement to/Acknowledgement of the NC Quick Pass Terms and Conditions

Policy 5.1.6: A customer's signature will be required to accept and process an application. The signature can be either physical, electronic or recorded verbally.

Policy 5.1.7: NC Quick Pass will not process incomplete applications.

Policy 6: NC Quick Pass Transponder Account Opening Account Balance (Prepaid Tolls)

Policy 6.1: Personal Accounts

Policy 6.1.1: Standard Plan

Policy 6.1.1.1: The opening account balance amount is \$20.00 total for the first two (2) transponders added to the account, and \$10.00 for each additional transponder.

Policy 6.1.2: Motorcycle Plan

Policy 6.1.2.1: The opening account balance amount is \$20.00 total for the first two (2) transponders added to the account, and \$10.00 for each additional transponder.

Policy 6.2: Business Accounts

Policy 6.2.1: Standard Plan

Policy 6.2.1.1: The opening account balance is \$20.00 for each transponder added to the account.

Policy 6.2.2: Government Plan

Policy 6.2.2.1: Business Accounts with a Government Plan are postpaid, and do not require an opening account balance.

Policy 6.2.3: Transit Plan

Policy 6.2.3.1: Business Accounts with a Transit Plan are postpaid, and do not require an opening account balance.

Policy 6.2.4: First Responder Plan

Policy 6.2.4.1: Business Accounts with a First Responder Plan do not require an opening account balance.

Policy 6.3: HOV Accounts

Policy 6.3.1: HOV Only Plan

Policy 6.3.1.1: HOV Accounts with an HOV Only Plan do not require an opening balance.

Policy 7: Payment Methods and Channels for NC Quick Pass Transponder Accounts

The following section applies to all NC Quick Pass Transponder Accounts.

Policy 7.1: NC Quick Pass Payment Types

Policy 7.1.1: NC Quick Pass accepts the following payment types for NC Quick Pass Accounts:

- Credit card
- Debit card
- Money order
- Cashier's check
- Personal check
- Cash

Policy 7.2: Credit and Debit Card

Policy 7.2.1: The following credit and debit card types are accepted:

- Visa
- Master Card
- American Express
- Discover

Policy 7.2.2: When using a credit or debit card as a payment method, customers will be required to provide a valid credit card number, expiration date and three-digit security code.

Policy 7.2.3: The same credit / debit card can be used for multiple accounts.

Policy 7.2.4: Credit Card Expiration Updates

Policy 7.2.4.1: It is the customer's responsibility to keep the payment method associated with their account up to date and valid.

Policy 7.2.4.2: When updated credit card expiration information is available, NC Quick Pass will automatically update credit card expiration dates on a monthly basis for all cards due to expire the subsequent month.

Policy 7.2.4.3: When updated credit card expiration information is not available, NC Quick Pass will notify customers that their credit card is set to expire and will request updated information or a new credit card.

Policy 7.2.4.4: If a customer does not provide updated credit card expiration information, transactions will continue to post to the account until all funds on the account are depleted, and a negative balance is reached.

Policy 7.3: Money Order

Policy 7.3.1: Money orders must be made out to NC Quick Pass.

Policy 7.4: Cashier's check

Policy 7.4.1: Cashier's checks must be made out to NC Quick Pass.

Policy 7.5: Personal check

Policy 7.5.1: Personal checks must be made out to the NC Quick Pass.

Policy 7.5.2: Personal checks must include the following:

- Mailing address
- Telephone number
- Driver's license number

Policy 7.5.3: Returned Check Fee

Policy 7.5.3.1: A Returned Check Fee of \$25.00 will be charged when a payment by check has been refused by a customer's bank.

Policy 7.5.3.2: A Returned Check Fee will be applied to a customer's account balance and may result in a negative account balance.

Policy 7.5.3.3: NC Quick Pass will notify the customer of the Returned Check Fee for non-payment.

Policy 7.5.3.4: After two (2) Returned Check Fees within one year, NC Quick Pass will flag the account, and will not accept check payments for the account.

Policy 7.6: Payment Channels

Policy 7.6.1: Customers are permitted to make payments via the various channels shown in the table below.

Channel	Credit / Debit Card	Money Order	Cashier's Check	Personal Check	Cash
NC Quick Pass Website	✓				
CSC Phone, Interactive Voice Response	✓				
CSC Phone, Customer Service Rep.	✓				
CSC	✓	✓	✓	✓	✓
Mail	✓	✓	✓	✓	
Fax	✓				

Table 8: Payment Types by Payment Channels

Policy 8: NC Quick Pass Transponder Account Replenishment and Balance Requirements

The following section applies to all prepaid NC Quick Pass Account plans that require replenishment (Personal Account – Standard Plan, Personal Account – Motorcycle Plan, Business Account – Standard Plan).

Policy 8.1: NC Quick Pass Transponder Account Replenishment Options

Policy 8.1.1: NC Quick Pass Transponder Accounts can be replenished either automatically or manually.

Policy 8.1.2: Upon account opening, the customer is required to choose between automatic and manual replenishment.

Policy 8.1.3: A customer may change between automatic and manual replenishment at their convenience.

Policy 8.1.4: Customers are responsible for monitoring and replenishing their NC Quick Pass Transponder Accounts to prevent them from going negative and being subject to additional fees and penalties.

Policy 8.1.5: Automatic Account Replenishment

Policy 8.1.5.1: A credit or debit card is required to auto-replenish an account.

Policy 8.1.5.2: Customers may provide a secondary credit or debit card number on their account to be used in the event their preferred card expires or is denied.

Policy 8.1.5.3: A customer's signature is required to accept and process automatic replenishment as a method of payment. The signature can be either physical, electronic or recorded verbally.

Policy 8.1.5.4: NC Quick Pass will automatically replenish an NC Quick Pass Transponder Account setup for automatic replenishment utilizing the credit or debit card on the account when the account balance reaches the Replenishment Threshold Amount and notify the customer that the account has been replenished.

Policy 8.1.5.5: If automatic replenishment fails due to an expired credit or debit card, or the card on the account was denied on two consecutive days/attempts, NC Quick Pass will notify the customer. The account will then convert to manual replenishment status.

Policy 8.1.5.6: It is the customer's responsibility to keep the payment method associated with their account up to date and valid.

Policy 8.1.6: Manual Account Replenishment

Policy 8.1.6.1: It is the customer's responsibility to monitor and replenish the account balance before the account goes negative.

Policy 8.1.6.2: When an account balance reaches the replenishment threshold amount, NC Quick Pass will automatically send the customer a Low Balance Notification to inform them that their account balance is low, and a payment is due to avoid additional fees and/or penalties.

Policy 8.1.6.3: A customer may make periodic manual payments as necessary.

Policy 8.2: Replenishment Amount

Policy 8.2.1: The initial replenishment amount is determined by the account type, account plan, the number of transponders on the account, and/or the opening account balance.

Policy 8.2.2: Personal Accounts

Policy 8.2.2.1: Standard Plan: The initial replenishment amount is \$20.00 total for the first two (2) transponders added to the account, and \$10.00 for each additional transponder.

Policy 8.2.2.2: Motorcycle Plan: The initial replenishment amount is \$20.00 total for the first two (2) transponders added to the account, and \$10.00 for each additional transponder.

Policy 8.2.3: Business Accounts

Policy 8.2.3.1: Standard Plan: The initial replenishment amount is \$20.00 for each transponder added to the account.

Policy 8.3: Replenishment Amount Adjustments

Policy 8.3.1: After the first thirty (30) days from the date of the account opening, the toll usage on the account will be evaluated, and the replenishment amount will be adjusted based on the customer's usage during the first thirty (30) days.

Policy 8.3.2: After the first thirty (30) day evaluation, the toll usage on the account will be evaluated every ninety (90) days to identify the average monthly toll usage during that period, and the replenishment amount will be adjusted accordingly.

Policy 8.3.3: A customer can request a higher or lower replenishment amount by contacting an NC Quick Pass CSC by phone. NC Quick Pass will continue to evaluate and adjust (if necessary) the replenishment amount on the account every ninety (90) days even if a customer has requested a lower replenishment amount.

Policy 8.3.4: When an account is setup to automatically replenish, NC Quick Pass will automatically replenish the account utilizing the credit or debit card on the account once the account threshold is reached.

Policy 8.3.5: NC Quick Pass will notify the customer when increasing or decreasing a replenishment amount.

Policy 8.4: Replenishment Threshold Amount

Policy 8.4.1: The initial replenishment threshold amount is determined by the account type, account plan, and the replenishment amount.

Policy 8.4.2: The minimum replenishment threshold amount for any automatically replenished prepaid transponder-based account is 25% of the opening balance and/or replenishment amount (depending a customer's quarterly evaluation of toll usage and replenishment amount adjustment, if any), or \$10.00, whichever is greater.

Policy 8.4.3: Initial Automatic Replenishment Threshold Amount

Policy 8.4.3.1: Personal Account: The initial automatic replenishment threshold for a Personal Account with either the Standard or Motorcycle plan is 25% of the replenishment amount, or \$10.00, whichever is greater.

Policy 8.4.3.2: Business Account: The initial automatic replenishment threshold for a Business Account with the Standard plan is 25% of the replenishment amount, or \$10.00, whichever is greater.

Policy 8.4.4: Initial Manual Replenishment Threshold Amount

Policy 8.4.4.1: Personal Account: The initial manual replenishment threshold for a Personal Account with either the Standard or Motorcycle plan is 50% of the replenishment amount.

Policy 8.4.4.2: Business Account: The initial manual replenishment threshold for a Business Account with the Standard plan is 50% of the replenishment amount.

Policy 8.4.5: Should a customer change their replenishment method from automatic replenishment to manual replenishment, their replenishment threshold amount will change from 25% of the replenishment amount, or \$10.00, whichever is greater to 50% of the replenishment amount.

Policy 8.5: Negative Account Balance

Policy 8.5.1: When the account balance on a prepaid NC Quick Pass Transponder Account is below zero dollars (\$0.00) the NC Quick Pass Account Owner will have forty-five (45) days to bring the account current by replenishing the account to a level above the Replenishment Threshold.

Policy 8.5.2: If the account balance is not replenished to a level above the Replenishment Threshold within forty-five (45) days, the transponder(s) assigned to the account are placed in an "invalid" status, and the account is suspended.

Policy 8.5.3: Suspended NC Quick Pass Transponder Accounts are converted to Bill by Mail.

Policy 8.5.4: The first Bill by Mail invoice will include any new toll activity, and/or unpaid tolls and/or fees from the converted NC Quick Pass Transponder Account.

Policy 8.5.5: The first Bill by Mail invoice will be sent to the NC Quick Pass Transponder Account address.

Policy 8.5.6: The first Bill by Mail invoice will include the previous balance shown as the current negative balance from the converted NC Quick Pass Transponder Account.

Policy 8.5.7: All Bill by Mail invoices generated will follow the Bill by Mail escalation procedures as described in this policy document.

Policy 8.5.8: When the account balance on a postpaid NC Quick Pass Transponder Account is below zero dollars (\$0.00), the transponder(s) will not be automatically placed in an “invalid” status, and the account will not be automatically suspended. However, NC Quick Pass will address any issues related to negative account balances with the owner of the account.

Policy 8.5.9: To reinstate a prepaid NC Quick Pass Account and transponder(s) to a valid status, the NC Quick Pass Transponder Account balance must be replenished to a level above the Replenishment Threshold, and any Bill by Mail transactions, fees and/or penalties must be paid in full.

Policy 8.6: Account Statement Options

Policy 8.6.1: Customers are offered the following monthly account statement delivery options:

Policy 8.6.1.1: **Online Statements** – Statements are available at any time at no charge on the NC Quick Pass website. Customers can view statements online up to one (1) year from the statement generation date.

Policy 8.6.1.2: **Monthly Electronic Statements** – Statements can be delivered via email at no cost.

Policy 8.6.1.3: **Quarterly Mailed Statements** – Statements, for Personal and Business Accounts only, can be delivered via US Mail. A \$5.00 fee per statement is charged to the customer’s account for this service.

Policy 8.6.1.4: **Special Run Statements** – Special Run Statements are paper copies of statements generated manually pursuant to a customer request. Customers can request Special Run Statements by contacting an NC Quick Pass CSC. A \$5.00 fee per requested statement is charged to the customer’s account for this service.

Policy 9: NC Quick Pass Transponder Account Customer Communications

Policy 9.1: Customer Correspondence Filing

Policy 9.1.1: Customer correspondence received at an NC Quick Pass CSC will be filed, indexed and retained based on North Carolina’s Document Retention Schedule.

Policy 10: NC Quick Pass Transponder Account Maintenance

Policy 10.1: Account Maintenance

Policy 10.1.1: Customers are responsible for keeping their NC Quick Pass Transponder Account information up to date (i.e. notifying NC Quick Pass of any changes to their account information) via the website, phone or by visiting an NC Quick Pass CSC.

Policy 10.1.1.1: NC Quick Pass provides secure account access through the NC Quick Pass website.

Policy 10.1.1.2: NC Quick Pass supports customer account maintenance functions via the following methods:

- Walk-In (in person at an NC Quick Pass Customer Service Center)
- Phone (by calling an NC Quick Pass Customer Service Center)
- NC Quick Pass Website

Policy 11: NC Quick Pass Transponder Account Fees and Penalties

Policy 11.1: NC Quick Pass Transponder Account Fees and Penalties

Refer to the table below for more information on fees and penalties.

Policy 11.1.1: Fees can only be waived by authorized NC Quick Pass personnel.

Policy 11.1.2: The registered owner of a vehicle is responsible for paying any toll(s), applicable fee(s) and/or penalty(ies).

Fee	Fee Amount	Reason for Fee
Inactive Account Fee	\$1.00/Month	Charged per month after twenty-four (24) consecutive months of no account activity (i.e. no toll transactions posting to an account)
Statement Fee - Quarterly	\$5.00/Statement	Request for paper statements to be generated and mailed quarterly
Statement Fee - Special Run	\$5.00/Request	One-time request for a paper statement to be generated and mailed to the customer
Returned Check Fee	\$25.00/Check	Insufficient funds, stop payment and closed account, etc.
Invoice Processing Fee	\$6.00 (maximum of \$48.00 for a twelve (12) month period for a registered owner)	Invoices unpaid after thirty (30) days from invoice date

Fee	Fee Amount	Reason for Fee
Civil Penalty	\$25.00 (maximum of \$25.00 for a six (6) month period for a registered owner)	Invoices unpaid after sixty (60) days from invoice date
I-Toll Fee	\$5.00/Month	Minimum of ten (10) I-Toll transactions in a month, and 15% of those transactions are I-Tolls

Table 9: Policy 12: NC Quick Pass Transponder Account Fees and Penalties

Policy 12: NC Quick Pass Transponder Account Image Toll (I-Toll) Posting

Policy 12.1: I-Toll Process

Policy 12.1.1: If a transponder is not read as a vehicle passes through a toll point, the vehicle license plate is identified. Once the license plate number has been identified, the system attempts to post transactions associated with the license plate to an existing NC Quick Pass Transponder Account that is in a) good financial standing and b) in an “Open” or “Closed Pending” status. This process of posting transactions through license plate matching is known as I-Tolling, or image tolling. This process can occur if a transponder cannot be read in the lane, or if a transponder is malfunctioning, improperly installed or a missing altogether.

Policy 12.1.2: This process applies to NC Quick Pass Transponder Accounts and away agency transponder accounts that are interoperable with NC Quick Pass.

Policy 12.2: I-Toll Toll Rates

Policy 12.2.1: Transactions posted to NC Quick Pass Transponder Accounts through the I-Toll process are posted at the discounted NC Quick Pass toll rate.

Policy 12.3: I-Toll Fees

Policy 12.3.1: If an NC Quick Pass Transponder Account has a minimum of ten (10) transactions in a month and 15% of those transactions are I-Tolls, the account will be charged a \$5.00 I-Toll Fee. The customer will be notified by NC Quick Pass requesting that they visit a CSC to determine if the customer’s transponder is working and properly mounted on their vehicle.

Policy 12.3.2: For all NC Quick Pass Transponder Accounts, the I-Toll assessment and monthly look back occurs on the 15th of each month. The account must be at least sixty (60) days old at the time of the lookback.

Policy 12.3.3: The I-Toll fee may be waived if the transponder is found to be defective and the transponder is under warranty, and/or the toll zone malfunctioned.

Policy 12.3.4: Business Accounts (with a Government, Transit and First Responder Plan) and

HOV Accounts are not subject to I-Toll fees. Should one of these account types experience a large number of I-Tolls posted to the account, NC Quick Pass will contact the account holder to understand the underlying cause (e.g. determine if the transponders registered to the account are defective).

Policy 13: Inactive NC Quick Pass Transponder Accounts

Policy 13.1: Inactive NC Quick Pass Transponder Accounts

Policy 13.1.1: Prepaid NC Quick Pass Transponder Accounts with no financial transaction activity for twenty-four (24) consecutive months are considered inactive. Financial transaction activity is defined as customer initiative payments, adjustments, credits, or toll transactions.

Policy 13.1.2: An account deemed inactive will remain in an inactive status until a toll is posted to the account.

Policy 13.1.3: NC Quick Pass will notify customers whose accounts are deemed to be inactive and will be processed in accordance with North Carolina Escheatment Laws.

Policy 14: Uncollectible NC Quick Pass Transponder Accounts

Policy 14.1: Uncollectible Accounts

Policy 14.1.1: An NC Quick Pass Transponder Account is deemed uncollectible if it has tolls, fees or penalties owed two (2) years after the last financial activity.

Policy 14.1.2: NC Quick Pass Transponder Accounts deemed uncollectible will be approved by the NCDOT Fiscal Unit.

Policy 14.1.3: Accounts deemed uncollectible:

- Can:
 - Be in North Carolina Division of Motor Vehicles (NCDMV) registration hold
 - Be flagged as nixie and skip trace accounts
 - Contain either in-state and out-of-state plates
 - Be automatically marked as such at the end of each fiscal year quarter
- Cannot:
 - Be assigned to a collection agency
 - Be sent additional or special notifications

Policy 14.1.4: If an NC Quick Pass Transponder Account that has been previously deemed as uncollectible receives new activity (e.g. new transactions post to the account), the account will be reactivated, and the customer will be responsible for both the new and old toll transactions, fees and penalties.

Policy 15: Closing an NC Quick Pass Transponder Account

Policy 15.1: Account Closure Request

Policy 15.1.1: In order to close an NC Quick Pass Transponder Account, NC Quick Pass customers must request an account be closed via one of the following communication channels:

- NC Quick Pass website
- Fax
- Sending a letter to an NC Quick Pass CSC
- Walk-In (in person at an NC Quick Pass Customer Service Center)
- Phone (by calling an NC Quick Pass Customer Service Center)

Policy 15.1.2: Any account closure request submitted to NC Quick Pass in writing must be sent from the account holder, contain the account number and clearly state an intention to close an account.

Policy 15.2: Closed Pending Status

Policy 15.2.1: When an NC Quick Pass Transponder Account is closed, any transponder(s), if applicable, assigned to the account will be deactivated within two (2) business days.

Policy 15.2.2: To ensure all transactions are processed through the account before it is closed, NC Quick Pass Transponder Accounts will remain open, and be placed in a “Closed Pending” status for a period of thirty (30) calendar days before the account is closed, and any refund, if necessary, is issued to the account owner.

Policy 15.3: Account Closure Process (Positive Balance)

Policy 15.3.1: After an NC Quick Pass Transponder Account has been in “Closed Pending” status for thirty (30) calendar days and there is a positive prepaid tolls balance on the account, NC Quick Pass will refund the remaining balance.

Policy 15.3.2: Once NC Quick Pass issues the refund, the account will be automatically closed.

Policy 15.3.3: Before an account can be closed, the account must have a zero-dollar (\$0.00) balance, and the plates/vehicles and/or transponders assigned to the account removed.

Policy 15.4: Account Closure Process (Negative Balance)

Policy 15.4.1: NC Quick Pass Transponder Accounts with a negative balance after the account has been in “Closed Pending” status for thirty (30) calendar days will not automatically be closed.

Policy 15.4.2: If an NC Quick Pass Transponder Account with a negative balance in “Closed Pending” status has a credit or debit card assigned to the account, NC Quick Pass will attempt to charge the negative balance to the card on file.

Policy 15.4.3: If NC Quick Pass is unable to charge the card assigned to the account, the

account will remain in “Closed Pending” status.

Policy 15.4.4: NC Quick Pass Transponder Accounts in “Closed Pending” status that do not have a credit or debit card assigned to the account with which to charge the negative balance will remain in “Closed Pending” status.

Policy 15.4.5: For any NC Quick Pass Transponder Account in “Closed Pending” status that carries a negative balance, NC Quick Pass will contact the customer to collect the additional fees/tolls necessary to bring the balance to zero dollars (\$0.00).

Policy 15.4.6: Once an NC Quick Pass Transponder Account in “Closed Pending” status goes negative, the NC Quick Pass Account Owner will have forty-five (45) days to provide payment to bring the account to a zero-dollar (\$0.00) balance.

Policy 15.4.7: If an NC Quick Pass Transponder Account in “Closed Pending” with a negative account balance is not brought to a zero dollar (\$0.00) balance within forty-five (45) days, the transponder(s) assigned to the account are placed in an “invalid” status, and the account is suspended..

Policy 15.4.8: Suspended NC Quick Pass Transponder Accounts are converted to Bill by Mail.

Policy 15.4.9: The first Bill by Mail invoice will include any new toll activity, and/or unpaid tolls and/or fees from the converted NC Quick Pass Transponder Account.

Policy 15.4.10: All Bill by Mail invoices generated will follow the Bill by Mail escalation procedures as described in this policy document.

Policy 15.4.11: Once an NC Quick Pass Transponder Account in “Closed Pending” status that carried a negative balance is brought to a zero-dollar (\$0.00) balance, the account will then be closed.

Policy 15.4.12: Before an account can be closed, the account must have a zero-dollar (\$0.00) balance, and the plates/vehicles and/or transponders assigned to the account removed.

Policy 16: NC Quick Pass Transponder Account Refunds

Policy 16.1: Refunds

Policy 16.1.1: NC Quick Pass Transponder Accounts – Automatic Replenishment Refund

Policy 16.1.1.1: If an NC Quick Pass Transponder Account is setup for automatic replenishment, a refund will be issued to the primary credit or debit card on the account within three (3) to five (5) business days as long as 1) the card is valid, and 2) it has been successfully used as a method of payment on the account previously.

Policy 16.1.1.2: Should a refund to the primary credit or debit card on the account fail, NC Quick Pass will attempt to issue the refund to a secondary card assigned to the account, if available, as long as 1) the secondary card is valid, and 2) it has been successfully used as a method of payment on the account previously.

Policy 16.1.1.3: Should a refund to the primary and/or secondary credit or debit card on the account fail or there is no secondary card on the account, the NCDOT Fiscal Unit will issue a refund check within ten (10) business days.

Policy 16.1.2: NC Quick Pass Transponder Accounts – Manual Replenishment Refund

Policy 16.1.2.1: If an NC Quick Pass Transponder Account is setup for manual replenishment, the NCDOT Fiscal Unit will issue a refund check within ten (10) business days.

Policy 17: NC Quick Pass Transponder Account Reinstatement

Policy 17.1: NC Quick Pass Transponder Account Reinstatement

Policy 17.1.1: An NC Quick Pass Transponder Account that was suspended due to a negative balance may be reinstated upon payment of all unpaid tolls, processing fees, civil penalties, other applicable fees and the prepaid toll amount.

Policy 17.1.2: A customer will be unable to open a new account if there are outstanding balances owed on another NC Quick Pass Transponder Account or NC Quick Pass Registered Video Account with the same license plate(s) and/or identical address(es).

Policy 17.1.3: Closed accounts cannot be reinstated. A new account must be created.

Policy 18: NC Quick Pass Transponder Account Bankruptcy

Policy 18.1: Bankruptcy

Policy 18.1.1: When NC Quick Pass receives notification regarding a customer bankruptcy, NC Quick Pass will verify that the notification is an official Bankruptcy Court order and document the proper information in the customer's account.

Policy 18.1.2: NC Quick Pass reserves the right to file a proof of claim with the Bankruptcy Court.

Policy 18.1.3: NC Quick Pass reserves the right to determine which claims to pursue. All documentation is retained within the account.

- Policy 18.1.4: While awaiting the outcome of a bankruptcy proceeding, NC Quick Pass cannot make any attempt to collect on debt owed prior to the date of the bankruptcy filing, nor can NC Quick Pass send customers to NCDMV Hold or Collections for any tolls incurred prior to the date the Bankruptcy Petition was filed.
- Policy 18.1.5: Tolls and fees incurred prior to the date of the Petition filing must remain on the account until the bankruptcy case is resolved.
- Policy 18.1.6: If the Bankruptcy Court notifies NC Quick Pass in writing of a Discharge or Dismissal of a customer's pending bankruptcy proceeding, the transactions during the period covered by the Bankruptcy Petition are dismissed.
- Policy 18.1.7: Any new tolls that occur after the discharge date are the responsibility of the customer.
- Policy 18.1.8: A Discharge or Dismissal reinstates the customer's responsibility for paying all tolls, fees, and penalties that were not pursued while the bankruptcy proceeding was taking place.

Policy 19: NC Quick Pass Transponder Account - Returned US Mail and Email

Policy 19.1: Forwarding Address Available

- Policy 19.1.1: NC Quick Pass will update the account with the updated address upon notification from the Post Office of a mail forwarding or new address.
- Policy 19.1.2: NC Quick Pass will manually forward any returned correspondence with a new address to the updated address.

Policy 19.2: Forwarding Address Not Available (Nixies)

- Policy 19.2.1: NC Quick Pass, upon receiving a returned correspondence without a forwarding address, will update the account with a flag stating it has a bad address.
- Policy 19.2.2: Any future mailings will be suppressed until a new address is obtained, and the bad address flag is removed.
- Policy 19.2.3: If a customer has provided an email on the account, a notice will be sent via email informing the account owner the mailing address associated with the account is no longer valid, and a new address must be provided to avoid any possible fees or penalties.
- Policy 19.2.4: Once a customer has provided a new address, all correspondence will continue from the date the address was updated, and the bad address flag removed.
- Policy 19.2.5: NC Quick Pass will not process or assess correspondence or fees retroactively.

Policy 19.3: Undeliverable Email

- Policy 19.3.1: Should an email address associated with an account that has specified email as the preferred method of communication become invalid, the NC Quick Pass system will flag the account as having a bad email address, and the

correspondence delivery method will be changed to mail until the account owner provides a new email address.

Policy 19.3.2: NC Quick Pass will notify the account owner by mail that they must update their electronic address to avoid any possible fees or penalties.

Policy 19.3.3: Once the account owner provides an updated email address, the bad email address flag will be removed and the correspondence delivery method will be changed to email.

Policy 20: NC Quick Pass Transponder Account Interoperability

Policy 20.1: NC Quick Pass Transponder Account Interoperability Toll Program

Policy 20.1.1: NC Quick Pass has an interoperable agreement with the E-ZPass Group (EZG), allowing certain NC Quick Pass customers to use their NC Quick Pass Transponder to pay for tolls when traveling on toll roads outside North Carolina that accept E-ZPass.

Policy 20.1.2: NC Quick Pass has an interoperable agreement with the Florida Turnpike Enterprise, allowing NC Quick Pass customers to use their NC Quick Pass Transponder to pay for tolls when traveling on toll roads outside North Carolina that accept SunPass.

Policy 20.1.3: Through the NC Quick Pass interoperable agreement with Florida Turnpike Enterprise, NC Quick Pass is interoperable with Georgia's State Road and Tollway Authority (SRTA), allowing certain NC Quick Pass customers to use their NC Quick Pass Transponder to pay for tolls when traveling on toll roads outside North Carolina that accept Peach Pass.

Policy 20.1.4: Depending on an account owner's NC Quick Pass Transponder Account type, account plan and transponder type, NC Quick Pass customers can use their NC Quick Pass Transponders to pay for toll usage when traveling on toll roads that accept the following electronic toll collection programs:

- E-ZPass
- Toll programs in Florida (SunPass®, E-Pass and LeeWay) Peach Pass

Policy 20.1.5: NC Quick Pass Customers will be subject to the rules, policies and regulations of the Interoperable Authorities when using their toll road.

Policy 20.1.6: In order to use an NC Quick Pass Transponder on toll roads outside of North Carolina (i.e. interoperable roads), a customer's account balance must either be above the Replenishment Threshold or their account must be on automatic replenishment, and the customer must sign up with an account that allows for interoperable travel.

Policy 20.1.7: Account owners with NC Quick Pass Transponder Accounts and plans that are eligible for interoperability are automatically enrolled in the NC Quick Pass interoperability program.

Policy 20.1.8: By establishing an NC Quick Pass Transponder Account and agreeing to the Terms and Conditions, account owners agree to share their transponder and

license plate numbers with states participating in the NC Quick Pass interoperability program.




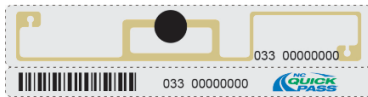
Policy 20.1.9: Due to toll transponder technology varying from state to state, interoperability in some cases will be achieved via license plate data. By sharing transponder and license plate numbers for NC Quick Pass customers with interoperable partner agencies, NC Quick Pass customers can be identified by license plate. Therefore, to prevent unnecessary fines and fees from agencies in other states, customers must keep their license plate information (e.g. license plate number on their account, registration renewal, registered address, etc.) up to date.

Policy 20.1.10: No NC Quick Pass customer's name or address will be provided to any agency or company with whom NC Quick Pass has established interoperability agreements. Requests for this data will follow the disclosure limitations in 18 U.S.C. 2721 (Federal Driver's Privacy Protection Act) and will only be provided to agencies and companies in which NC Quick Pass has reciprocal agreements.

Policy 20.1.11: NC Quick Pass customer information will not be made available to other agencies or companies for any reason other than to support payment of toll transactions or comply with a valid order of a court of jurisdiction.

Policy 20.1.12: Personal Account Interoperability Options

Policy 20.1.12.1: For Personal Account holders with a Standard Plan, refer to the table below for the interoperability capabilities, by transponder type:

Standard Plan			
Transponder Name	Description	Transponder Picture	Interoperable with toll roads that accept:
NC Quick Pass	Interior Sticker		<ul style="list-style-type: none"> • SunPass • Peach Pass
NC Quick Pass E-ZPass	Interior Hard Case		<ul style="list-style-type: none"> • E-ZPass • SunPass • Peach Pass
NC Quick Pass E-ZPass Flex	Interior Hard Case – HOV Declarable (Switchable)		<ul style="list-style-type: none"> • E-ZPass • SunPass • Peach Pass
NC Quick Pass (exterior)	Exterior Headlamp Sticker		<ul style="list-style-type: none"> • SunPass • Peach Pass


Standard Plan			
Transponder Name	Description	Transponder Picture	Interoperable with toll roads that accept:
NC Quick Pass E-ZPass (exterior)	Exterior Hard Case		<ul style="list-style-type: none"> E-ZPass SunPass Peach Pass

Table 10: NC Quick Pass Personal Account - Standard Plan Transponder Options Interoperability

Policy 20.1.12.2: For Personal Account holders with a Motorcycle Plan, refer to the table below for the interoperability capabilities by transponder type:

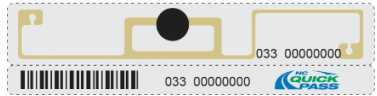



Motorcycle Plan			
Transponder Name	Description	Transponder Picture	Interoperable with toll roads that accept:
NC Quick Pass (exterior)	Exterior Headlamp Sticker		<ul style="list-style-type: none"> SunPass Peach Pass
NC Quick Pass E-ZPass (exterior)	Exterior Hard Case		<ul style="list-style-type: none"> E-ZPass SunPass Peach Pass

Table 11: NC Quick Pass Personal Account - Motorcycle Plan Transponder Options

Policy 20.1.13: Business Account Interoperability Options

Policy 20.1.13.1: For Business Account holders with a Standard Plan, refer to the table below for the interoperability capabilities by transponder type:

Standard Plan			
Transponder Name	Description	Transponder Picture	Interoperable with toll roads that accept:
NC Quick Pass	Interior Sticker		<ul style="list-style-type: none"> SunPass Peach Pass
NC Quick Pass E-ZPass	Interior Hard Case		<ul style="list-style-type: none"> E-ZPass SunPass Peach Pass

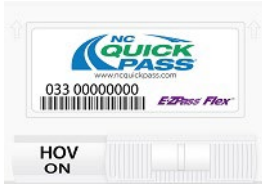
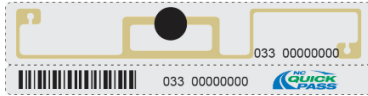

Standard Plan			
Transponder Name	Description	Transponder Picture	Interoperable with toll roads that accept:
NC Quick Pass E-ZPass Flex	Interior Hard Case – HOV Declarable (Switchable)		<ul style="list-style-type: none"> • E-ZPass • SunPass • Peach Pass
NC Quick Pass (exterior)	Exterior Headlamp Sticker		<ul style="list-style-type: none"> • SunPass • Peach Pass
NC Quick Pass E-ZPass (exterior)	Exterior Hard Case		<ul style="list-style-type: none"> • E-ZPass • SunPass • Peach Pass

Table 12: NC Quick Pass Business Account - Standard Plan Transponder Options Interoperability

Policy 20.1.13.2: Transponders associated with a Business Account with a Government Plan are not interoperable with any other agency due to the postpaid nature of this type of account.

Policy 20.1.13.3: Transponders associated with a Business Account with a Transit Plan are not interoperable with any other agency due to the postpaid nature of this type of account.

Policy 20.1.13.4: Transponders associated with a Business Account with a First Responders Plan are not interoperable with any other agency.

Policy 20.1.14: HOV Account Interoperability Options

Policy 20.1.14.1: Transponders associated with an HOV Account with an HOV Only Plan are not interoperable with any other agency.

Policy 20.2: Non-NC Quick Pass Account Owners Interoperability with Turnpike Projects

Policy 20.2.1: NC Quick Pass enables customers with E-ZPass, SunPass, and Peach Pass Accounts to pay for travel on Turnpike Projects.

Policy 20.2.2: Customers with E-ZPass, SunPass, and Peach Pass Accounts will be charged the current NC Quick Pass toll rate to pay for travel on Turnpike Projects.

Policy 20.3: Disputes and Refunds for NC Quick Pass Account Owners and Out-of-State Transactions

Policy 20.3.1: NC Quick Pass Transponder Account holders that want to dispute a toll, or request a refund for tolls charged to their account by an out-of-state agency, must notify NC Quick Pass with proper justification for the dispute.

Policy 20.3.2: NC Quick Pass may seek verification from the out-of-state agency regarding disputed toll(s).

Policy 20.3.2.1: If the toll(s) is verified, the customer will remain responsible for the tolls.

Policy 20.3.2.2: If the toll(s) is waived by the out-of-state agency, NC Quick Pass will reverse the toll charge, and credit the customer's account.

Policy 20.4: Disputes and Refunds for Out-of-State Agency Account Owners and Turnpike Project Transactions

Policy 20.4.1: Out-of-state agency account owners are required to dispute North Carolina toll charges through their home agency's customer service center.

Policy 20.4.2: Disputes must be received by NC Quick Pass within one hundred eighty (180) days of the transaction date to be considered.

Policy 100: NC Quick Pass Registered Video Accounts and Plans

Refer to this section for policies associated with NC Quick Pass Registered Video Accounts.

When signing up for an NC Quick Pass Registered Video Account, customers must choose one of the following account types: Personal or Business.

Policy 100.1: General Policies for NC Quick Pass Registered Video Accounts

The following policies apply to all NC Quick Pass Registered Video Accounts.

Policy 100.1.1: NC Quick Pass Registered Video Accounts do not require customers to use an NC Quick Pass Transponder to pay for tolls.

Policy 100.1.2: NC Quick Pass Registered Video Accounts are prepaid, so customers must prepay for tolls to use the account.

Policy 100.1.3: If a license plate is already associated with an active NC Quick Pass Account, Interoperable Account, or delinquent Bill by Mail invoice, the license plate cannot be added to a new or existing NC Quick Pass Registered Video Account.

Policy 100.1.4: Before a license plate can be added to a new or existing NC Quick Pass Registered Video Account, any delinquent invoice balances associated with the license plate must be paid.

Policy 100.1.5: It is the customer's responsibility to keep information on NC Quick Pass Registered Video Accounts up to date, including license plate and vehicle information. Should a customer change their license plate without properly updating their account, they may receive a Bill by Mail invoice, and be subject

to additional fees and/or penalties.

Policy 100.1.6: NC Quick Pass Registered Video Accounts are a valid form of payment on Turnpike Projects only.

Policy 100.1.7: An authorized NC Quick Pass Representative must approve a new NC Quick Pass Registered Video Account.

Policy 100.1.8: NC Quick Pass may terminate an account at any time due to non-compliance or misuse of the account.

Policy 100.2: Personal Accounts

Policy 100.2.1: Personal Accounts are for customers that want to register five (5) or less vehicles on their account.

Policy 100.2.2: In addition to the account owner, Personal Accounts allow for an additional contact person to have access to the account, but an additional contact can only be added with the approval of the account owner.

Policy 100.2.3: Only a Standard Plan is available to Personal Accounts.

Policy 100.2.4: Standard Plan

Policy 100.2.4.1: Vehicles associated with a Standard Plan will receive the Bill by Mail toll rate on all Turnpike Projects.

Policy 100.3: Business Account

Policy 100.3.1: Business Accounts are for customers that want to register more than five (5) vehicles on their account.

Policy 100.3.2: Business Accounts can have an unlimited number of vehicles assigned to it.

Policy 100.3.3: Business Accounts require two (2) contact persons to be registered on the account.

Policy 100.3.4: Only a Standard Plan is available to Business Accounts.

Policy 100.3.5: Standard Plan

Policy 100.3.5.1: Vehicles associated with a Standard Plan will receive the Bill by Mail rate on all Turnpike Projects.

Policy 101: NC Quick Pass Registered Video Account Establishment and Opening

Policy 101.1: General Account Establishment Policies

Policy 101.1.1: When establishing a new NC Quick Pass Registered Video Account, the customer will be required to:

Policy 101.1.1.1: Pay all unpaid tolls, fees and penalties (including any balances with a collection agency) associated with a Bill by Mail invoice

Policy 101.1.1.2: Select an account type

Policy 101.1.1.3: Pay the appropriate prepaid toll balance

Policy 101.1.1.4: Provide all required information and/or complete an application

Policy 101.1.1.5: Agree to the NC Quick Pass terms and conditions

Policy 101.1.2: A customer with outstanding Bill by Mail invoices may open an NC Quick Pass Registered Video Account if the license plate(s) registered on the new account does not match the license plate(s) associated with the unpaid Bill by Mail invoice(s).

Policy 101.1.3: A customer is restricted from establishing an NC Quick Pass Registered Video Account if a license plate, or identical address, is associated with an outstanding Bill by Mail invoice balance.

Policy 101.2: Personal Account

Policy 101.2.1: Standard Plan

Policy 101.2.1.1: Customers can open an NC Quick Pass Registered Video Personal Account with a Standard Plan utilizing the following channels:

- In person at an NC Quick Pass CSC
- Phone (with an NC Quick Pass CSR authorized to administer these account types)

Policy 101.3: Business Account

Policy 101.3.1: Standard Plan

Policy 101.3.1.1: Customers can open an NC Quick Pass Registered Video Business Account with a Standard Plan utilizing the following channels:

- In person at an NC Quick Pass CSC
- Phone (with an NC Quick Pass CSR authorized to administer these account types)

Policy 102: NC Quick Pass Registered Video Account Application and Agreement

Policy 102.1: NC Quick Pass Registered Video Account Application and Agreement

Policy 102.1.1: When establishing an NC Quick Pass Registered Video Account in person at an NC Quick Pass CSC, a customer must fill out an application, and agree to the NC Quick Pass Terms and Conditions.

Policy 102.1.2: When establishing an NC Quick Pass Registered Video Account by phone, a CSR will complete the application for a customer to open an account, and the customer must provide verbal acceptance to the NC Quick Pass Terms and Conditions.

Policy 102.1.3: To open an NC Quick Pass Registered Video Account, a customer must provide the following information:

- Account owner's name
 - Secondary contact name (applies to Business Account only)
- Account owner's address
- Account owner's contact information (e.g. phone number)
- Username
- Password
- Email address
- Security question answer
- PIN
- Statement and customer correspondence delivery option
- License plate number for each vehicle registered on the account
- Vehicle information (e.g. year, model, number of axles) for each vehicle registered on the account
- Payment method (e.g. cash, check, money order, credit/debit card, etc.)
- Prepaid replenishment method (e.g. automatic or manual replenishment)
- Agreement to/Acknowledgement of the NC Quick Pass Terms and Conditions

Policy 102.1.4: A customer's signature will be required to accept and process an application. The signature can be either physical, electronic or recorded verbally.

Policy 102.1.5: NC Quick Pass will not process incomplete applications.

Policy 103: NC Quick Pass Registered Video Account Opening Account Balance

Policy 103.1: Personal Accounts

Policy 103.1.1: Standard Plan

Policy 103.1.1.1: The opening account balance amount is \$30.00 total for the first two (2) license plates added to the account, and \$15.00 for each additional license plate.

Policy 103.2: Business Accounts

Policy 103.2.1: Standard Plan

Policy 103.2.1.1: The opening account balance amount is \$30.00 for each license plate added to the account.

Policy 104: Payment Methods and Channels for NC Quick Pass Registered Video Accounts

The following section applies to all NC Quick Pass Registered Video Accounts.

Policy 104.1: NC Quick Pass Payment Types

Policy 104.1.1: NC Quick Pass accepts the following payment types for NC Quick Pass Registered Video Accounts:

- Credit card
- Debit card
- Money order
- Cashier's check
- Personal check
- Cash

Policy 104.2: Credit and Debit Card

Policy 104.2.1: The following credit and debit card types are accepted:

- Visa
- Master Card
- American Express
- Discover

Policy 104.2.2: When using a credit or debit card as a payment method, customers will be required to provide a valid credit card number, expiration date and three-digit security code.

Policy 104.2.3: The same credit / debit card can be used for multiple accounts.

Policy 104.2.4: Credit Card Expiration Updates

- Policy 104.2.4.1: It is the customer's responsibility to keep the payment method associated with their account up to date and valid.
- Policy 104.2.4.2: When updated credit card expiration information is available, NC Quick Pass will automatically update credit card expiration dates on a monthly basis for all cards due to expire the subsequent month.
- Policy 104.2.4.3: When updated credit card expiration information is not available, NC Quick Pass will notify customers that their credit card is set to expire and request updated information or a new credit card.
- Policy 104.2.4.4: If a customer does not provide updated credit card expiration information, transactions will continue to post to the account until all funds on the account are depleted, and a negative balance is reached.

Policy 104.3: Money Order

Policy 104.3.1: Money orders must be made out to NC Quick Pass.

Policy 104.4: Cashier's check

Policy 104.4.1: Cashier's checks must be made out to NC Quick Pass.

Policy 104.5: Personal check

Policy 104.5.1: Personal checks must be made out to NC Quick Pass.

Policy 104.5.2: Personal checks must include the following:

- Mailing address
- Telephone number
- Driver's license number

Policy 104.5.3: Returned Check Fee

- Policy 104.5.3.1: A Returned Check Fee of \$25.00 will be charged when a payment by check has been refused by a customer's bank.
- Policy 104.5.3.2: A Returned Check Fee will be applied to a customer's account balance and may result in a negative account balance.
- Policy 104.5.3.3: NC Quick Pass will notify the customer of the Returned Check Fee for non-payment.
- Policy 104.5.3.4: After two (2) Returned Check Fees within one year, NC Quick Pass will flag the account, and will not accept check payments for the account.

Policy 104.6: Payment Channels

Policy 104.6.1: Customers are permitted to make payments via the various channels shown in the table below.

Channel	Credit / Debit Card	Money Order	Cashier's Check	Personal Check	Cash
NC Quick Pass Website	✓				
CSC Phone, Interactive Voice Response	✓				
CSC Phone, Customer Service Rep.	✓				
CSC	✓	✓	✓	✓	✓
Mail	✓	✓	✓	✓	
Fax	✓				

Table 13: Payment Types by Payment Channels

Policy 105: NC Quick Pass Registered Video Account Replenishment and Balance Requirements

The following section applies to both Personal and Business Accounts.

Policy 105.1: NC Quick Pass Registered Video Account Replenishment Options

Policy 105.1.1: NC Quick Pass Registered Video Accounts can be replenished either automatically or manually.

Policy 105.1.2: Upon account opening, the customer is required to choose between automatic and manual replenishment.

Policy 105.1.3: A customer may change between automatic and manual replenishment at their convenience.

Policy 105.1.4: Customers are responsible for monitoring and replenishing their NC Quick Pass Registered Video Account to prevent them from going negative and being subject to additional fees and penalties.

Policy 105.1.5: Automatic Account Replenishment

Policy 105.1.5.1: A credit card or debit card is required to auto-replenish an account.

Policy 105.1.5.2: Customers may provide a secondary credit or debit card number on their account to be used in the event their preferred card expires or is denied.

Policy 105.1.5.3: A customer's signature is required to accept and process automatic replenishment as a method of payment. The signature can be either physical, electronic or recorded verbally.

Policy 105.1.5.4: NC Quick Pass will automatically replenish an NC Quick Pass Registered Video Account setup for automatic replenishment utilizing the credit or debit card on the account when the account balance reaches the Replenishment Threshold Amount and notify the customer that the account has been replenished.

Policy 105.1.5.5: If automatic replenishment fails due to an expired credit or debit card, or the card on the account was denied on two consecutive days/attempts, NC Quick Pass will notify the customer. The account will then convert to manual replenishment status

Policy 105.1.5.6: It is the customer's responsibility to keep the payment method associated with their account up to date and valid.

Policy 105.1.6: Manual Account Replenishment

Policy 105.1.6.1: It is the customer's responsibility to monitor and replenish the account before the account goes negative.

Policy 105.1.6.2: When an account balance reaches the replenishment threshold amount, NC Quick Pass will automatically send the customer a Low Balance Notification to inform them that their account balance is low, and a payment is due to avoid additional fees and/or penalties.

Policy 105.1.6.3: A customer may make periodic manual payments as necessary.

Policy 105.2: Replenishment Amount

Policy 105.2.1: The initial replenishment amount is determined by the account type, account plan, the number of license plates on the account, and/or the opening account balance.

Policy 105.2.2: Personal Accounts

Policy 105.2.2.1: Standard Plan: The initial replenishment amount is \$30.00 total for the first two (2) license plates added to the account, and \$15.00 for each additional license plate.

Policy 105.2.3: Business Accounts

Policy 105.2.3.1: Standard Plan: The initial replenishment amount is \$30.00 for each license plate added to the account.

Policy 105.3: Replenishment Amount Adjustments

Policy 105.3.1: After the first thirty (30) days from the date of the account opening, the toll usage on the account will be evaluated, and the replenishment amount adjusted based on the customer's usage during the first thirty (30) days.

Policy 105.3.2: After the first thirty (30) days evaluation, the toll usage on the account will be evaluated every ninety (90) days to identify the average monthly toll usage during that period, and the replenishment amount will be adjusted accordingly.

Policy 105.3.3: A customer can request a lower replenishment amount by contacting an NC Quick Pass CSC. NC Quick Pass will continue to analyze and adjust (if necessary) the replenishment amount on the account every ninety (90) days even if a customer has requested a lower replenishment amount.

Policy 105.3.4: When an account is setup to automatically replenish, NC Quick Pass will automatically replenish the account utilizing the credit or debit card on the account once the account threshold is reached.

Policy 105.3.5: NC Quick Pass will notify the customer when increasing or decreasing a replenishment amount.

Policy 105.4: Replenishment Threshold Amount

Policy 105.4.1: The initial replenishment threshold amount is determined by the account type, account plan, and the replenishment amount.

Policy 105.4.2: The minimum replenishment threshold amount for any automatically replenished NC Quick Pass Registered Video Account is 25% of the opening balance and/or replenishment amount (depending a customer's quarterly evaluation of toll usage and replenishment amount adjustment, if any), or \$15.00, whichever is greater.

Policy 105.4.3: Initial Automatic Replenishment Threshold Amount

Policy 105.4.3.1: Personal Account: The initial replenishment threshold amount for a Personal Account is 25% of the replenishment amount, or \$15.00, whichever is greater.

Policy 105.4.3.2: Business Account: The initial replenishment threshold amount for a Business Account is 25% of the replenishment amount.

Policy 105.4.4: Initial Manual Replenishment Threshold Amount

Policy 105.4.4.1: Personal Account: The initial replenishment threshold amount for a Personal Account is 50% of the replenishment amount.

Policy 105.4.4.2: Business Account: The initial replenishment threshold amount for a Business Account is 50% of the replenishment amount.

Policy 105.4.5: Should a customer change their replenishment method from automatic replenishment to manual replenishment, their replenishment threshold amount will change from 25% of the replenishment amount, or \$10.00, whichever is greater to 50% of the replenishment amount.

Policy 105.5: Negative Account Balance

Policy 105.5.1: When the account balance on a NC Quick Pass Registered Video Account is below \$0.00 but not below negative ten dollars (-\$10.00), resulting in a negative account balance, the NC Quick Pass Registered Video Account Owner will have forty-five (45) days to bring the account current by replenishing the account to a level above the Replenishment Threshold..

- Policy 105.5.2: If the account balance is not replenished to a level above the Replenishment Threshold within forty-five (45) days or the account balance is below negative ten dollars (-\$10.00), the account is suspended.
- Policy 105.5.3: Suspended NC Quick Pass Registered Video Accounts are converted to Bill by Mail.
- Policy 105.5.4: The first Bill by Mail invoice will include any new toll activity, and/or unpaid tolls and/or fees from the converted NC Quick Pass Registered Video Account.
- Policy 105.5.5: All Bill by Mail invoices generated will follow the Bill by Mail escalation procedures as described in this policy document.
- Policy 105.5.6: To reinstate an NC Quick Pass Registered Video Account with a Standard plan, any Bill by Mail balance must be paid, and the NC Quick Pass Registered Video Account balance must be replenished to a level above the Replenishment Threshold.

Policy 106: NC Quick Pass Registered Video Account Statement Options

Policy 106.1: Account Statement Options

- Policy 106.1.1: Customers are offered the following monthly account statement delivery options:
- Policy 106.1.1.1: **Online Statements** – Statements are available at any time at no charge on the NC Quick Pass website. Customers can view statements online up to one (1) year from the statement generation date.
 - Policy 106.1.1.2: **Monthly Electronic Statements** – Statements can be delivered via email at no cost.
 - Policy 106.1.1.3: **Quarterly Mailed Statements** – Statements can be delivered via US Mail. A \$5.00 fee per statement is charged to the customer's account for this service.
 - Policy 106.1.1.4: **Special Run Statements** – Special Run Statements are paper copies of statements generated manually pursuant to a customer request. Customers can request Special Run Statements by contacting an NC Quick Pass CSC. A \$5.00 fee per requested statement is charged to the customer's account for this service.

Policy 107: NC Quick Pass Registered Video Accounts Customer Communications

Policy 107.1: Customer Correspondence Filing

Policy 107.1.1: Customer correspondence received at an NC Quick Pass CSC will be filed, indexed and retained based on North Carolina's Document Retention Schedule.

Policy 108: NC Quick Pass Registered Video Account Maintenance

Policy 108.1: Account Maintenance

Policy 108.1.1: Customers are responsible for keeping their NC Quick Pass Registered Video Account information up to date, (i.e. notifying NC Quick Pass of any changes to their account information) via the website, phone or by visiting an NC Quick Pass CSC.

Policy 108.1.1.1: NC Quick Pass provides secure account access through the NC Quick Pass website.

Policy 108.1.1.2: NC Quick Pass supports customer account maintenance functions via the following methods:

- Walk-In (in person at an NC Quick Pass Customer Service Center)
- Phone (by calling an NC Quick Pass Customer Service Center)
- NC Quick Pass Website

Policy 109: NC Quick Pass Registered Video Account Fees and Penalties

Policy 109.1: NC Quick Pass Registered Video Account Fees and Penalties

Refer to the table below for more information on fees and penalties.

Policy 109.1.1: Fees can only be waived by authorized NC Quick Pass personnel.

Policy 109.1.2: The registered owner of a vehicle is responsible for paying any toll(s), applicable fee(s) and/or penalty(ies).

Fee	Fee Amount	Reason for Fee
Inactive Account Fee	\$1.00/Month	Charged per month after twenty-four (24) consecutive months of no account activity (i.e. no toll transactions posting to an account)
Statement Fee - Quarterly	\$5.00/Statement	Request for paper statements to be generated and mailed quarterly

Fee	Fee Amount	Reason for Fee
Statement Fee - Special Run	\$5.00/Request	One-time request for a paper statement to be generated and mailed to the customer
Returned Check Fee	\$25.00/Check	Insufficient funds, stop payment and closed account, etc.
Invoice Processing Fee	\$6.00 (maximum of \$48.00 for a twelve (12) month period for a registered owner)	Invoices unpaid after thirty (30) days from invoice date
Civil Penalty	\$25.00 (maximum of \$25.00 for a six (6) month period for a registered owner)	Invoices unpaid after sixty (60) days from invoice date

Table 14: NC Quick Pass Registered Video Account Fees and Penalties

Policy 110: Inactive NC Quick Pass Registered Video Accounts

Policy 110.1: Inactive NC Quick Pass Registered Video Accounts

- Policy 110.1.1: NC Quick Pass Registered Video Accounts with no account activity (i.e. no toll transactions posting to an account) for twenty-four (24) consecutive months are considered inactive.
- Policy 110.1.2: An account deemed inactive will remain in an inactive status until a toll is posted to the account.
- Policy 110.1.3: NC Quick Pass will notify customers whose accounts are deemed to be inactive.
- Policy 110.1.4: If no toll transactions are posted to the account within thirty (30) days of the date of the notification of the inactive account status, a \$1.00 inactive account fee will be charged to the account.
- Policy 110.1.5: Once an account with an inactive status reaches a balance of \$1.00 or less, NC Quick Pass will notify the customer. If the customer does not take any action to fund or close the account within thirty (30) days of the notification of the account reaching a balance of \$1.00 or less, NC Quick Pass will close the account.

Policy 111: Uncollectible NC Quick Pass Registered Video Accounts

Policy 111.1: Uncollectible Accounts

- Policy 111.1.1: An NC Quick Pass Registered Video Account is deemed as uncollectible if it has tolls or fees owed two (2) years after the last financial activity.
- Policy 111.1.2: NC Quick Pass Registered Video Accounts deemed uncollectible will be approved by the NCDOT Fiscal Unit.

Policy 111.1.3: Accounts deemed uncollectible:

- Can:
 - Be in NCDMV registration hold
 - Be flagged as nixie and skip trace accounts
 - Contain either in-state and out-of-state plates
 - Be automatically marked as such at the end of each fiscal year quarter
- Cannot:
 - Be assigned to a collection agency
 - Be sent additional or special notifications

Policy 111.1.4: If an NC Quick Pass Registered Video Account that has been previously deemed as uncollectible receives new activity (e.g. new transactions post to the account), the account will be reactivated and the customer will be responsible for both the new and old toll transactions, fees and penalties.

Policy 112: Closing an NC Quick Pass Registered Video Account

Policy 112.1: Account Closure Request

Policy 112.1.1: In order to close an NC Quick Pass Registered Video Account, NC Quick Pass customers must request an account be closed via one of the following communication channels:

- NC Quick Pass website
- Fax
- Sending a letter to an NC Quick Pass CSC
- Walk-In (in person at an NC Quick Pass Customer Service Center)
- Phone (by calling an NC Quick Pass Customer Service Center)

Policy 112.1.2: Any account closure request submitted to NC Quick Pass in writing must be sent from the account holder, contain the account number and clearly state an intention to close an account.

Policy 112.2: Closed Pending Status

Policy 112.2.1: To ensure all transactions are processed through the account before it is closed, NC Quick Pass Registered Video Accounts will remain open and placed in a “Closed Pending” status for a period of thirty (30) calendar days before the account is closed, and any refund, if necessary, is issued to the account owner.

Policy 112.3: Account Closure Process (Positive Balance)

Policy 112.3.1: After an NC Quick Pass Registered Video account has been in “Closed Pending” status for thirty (30) calendar days and there is a positive prepaid tolls balance on the account, NC Quick Pass will refund the remaining balance.

Policy 112.3.2: Once NC Quick Pass issues the refund, the account will be automatically closed.

Policy 112.3.3: Before an account can be closed, the account must have a zero-dollar (\$0.00) balance, and the plates/vehicles assigned to the account removed.

Policy 112.4: Account Closure Process (Negative Balance)

Policy 112.4.1: NC Quick Pass Registered Video Accounts with a negative balance after the account has been in “Closed Pending” status for thirty (30) calendar days will not automatically be closed.

Policy 112.4.2: If an NC Quick Pass Registered Video Account with a negative balance in “Closed Pending” status has a credit or debit card assigned to the account, NC Quick Pass will attempt to charge the negative balance to the card on file.

Policy 112.4.3: If NC Quick Pass is unable to charge the card assigned to the account, the account will remain in “Closed Pending” status.

Policy 112.4.4: NC Quick Pass Accounts in “Closed Pending” status that do not have a credit or debit card assigned to the account with which to charge the negative balance will remain “Closed Pending” status.

Policy 112.4.5: For any NC Quick Pass Registered Video Account in “Closed Pending” status that carries a negative balance, NC Quick Pass will contact the customer to collect the additional fees/tolls necessary to bring the balance to zero dollars (\$0.00).

Policy 112.4.6: Once an NC Quick Pass Registered Video Account in “Closed Pending” status goes negative, the NC Quick Pass Account Owner will have forty-five (45) days to provide payment to bring the account to a zero-dollar (\$0.00) balance.

Policy 112.4.7: If an NC Quick Pass Registered Video Account in “Closed Pending” with a negative account balance is not brought to a zero-dollar (\$0.00) balance within forty-five (45) days, the account is suspended.

Policy 112.4.8: Suspended NC Quick Pass Registered Video Accounts are converted to Bill by Mail.

Policy 112.4.9: The first Bill by Mail invoice will include any new toll activity, and/or unpaid tolls and/or fees from the converted NC Quick Pass Registered Video Account.

Policy 112.4.10: All Bill by Mail invoices generated will follow the Bill by Mail escalation procedures as described in this policy document.

Policy 112.4.11: Once an NC Quick Pass Registered Video Account in “Closed Pending” status that carried a negative balance is brought to a zero-dollar (\$0.00) balance, the account will then be closed.

Policy 112.4.12: Before an account can be closed, the account must have a zero-dollar (\$0.00) balance, and the plates/vehicles assigned to the account removed.

Policy 113: NC Quick Pass Registered Video Account Refunds

Policy 113.1: Refunds

Policy 113.1.1: NC Quick Pass Registered Video Accounts – Automatic Replenishment Refund

- Policy 113.1.1.1: If an NC Quick Pass Registered Video Account is setup for automatic replenishment, a refund will be issued to the primary credit or debit card on the account within three (3) to five (5) business days as long as 1) the card is valid, and 2) it has been successfully used as a method of payment on the account previously.
- Policy 113.1.1.2: Should a refund to the primary credit or debit card on the account fail, NC Quick Pass will attempt to issue the refund to a secondary card assigned to the account, if available, as long as 1) the secondary card is valid, and 2) it has been successfully used as a method of payment on the account previously.
- Policy 113.1.1.3: Should a refund to the primary and/or secondary credit or debit card on the account fail or there is no secondary card on the account, the NCDOT Fiscal Unit will issue a refund check within ten (10) business.

Policy 113.1.2: NC Quick Pass Registered Video Accounts – Manual Replenishment Refund

- Policy 113.1.2.1: If an NC Quick Pass Registered Video Account is setup for manual replenishment, the NCDOT Fiscal Unit will issue a refund check within ten (10) business days.

Policy 114: NC Quick Pass Registered Video Account Reinstatement

Policy 114.1: NC Quick Pass Registered Video Account Reinstatement

- Policy 114.1.1: An account that was suspended due to a negative balance may be reinstated upon payment of all unpaid tolls, processing fees, civil penalties, other applicable fees and the prepaid toll amount.
- Policy 114.1.2: A customer will be unable to open a new account if there are outstanding balances owed on any other NC Quick Pass Account with the same license plate(s) and/or identical address(es).
- Policy 114.1.3: Closed accounts cannot be reinstated. A new account must be created.

Policy 115: NC Quick Pass Registered Video Account Bankruptcy

Policy 115.1: Bankruptcy

- Policy 115.1.1: When NC Quick Pass receives notification regarding a customer bankruptcy, NC Quick Pass will verify that the notification is an official Bankruptcy Court order and document the proper information in the customer's account.

- Policy 115.1.2: NC Quick Pass reserves the right to file a proof of claim with the Bankruptcy Court.
- Policy 115.1.3: NC Quick Pass reserves the right to determine which claims to pursue. All documentation is retained within the account.
- Policy 115.1.4: While awaiting the outcome of a bankruptcy proceeding, NC Quick Pass cannot make any attempt to collect on debt owed prior to the date of the bankruptcy filing, nor can NC Quick Pass send customers to NCDMV Hold or Collections for any tolls incurred prior to the date the Bankruptcy Petition was filed.
- Policy 115.1.5: Tolls and fees incurred prior to the date of the Petition filing must remain on the account until the bankruptcy case is resolved.
- Policy 115.1.6: If the Bankruptcy Court notifies NC Quick Pass in writing of a Discharge or Dismissal of a customer's pending bankruptcy proceeding, the transactions during the period covered by the Bankruptcy Petition are dismissed.
- Policy 115.1.7: Any new tolls that occur after the discharge date are the responsibility of the customer.
- Policy 115.1.8: A Discharge or Dismissal reinstates the customer's responsibility for paying all tolls, fees, and penalties that were not pursued while the bankruptcy proceeding was taking place.

Policy 116: NC Quick Pass Registered Video Account - Returned US Mail and Email

Policy 116.1: Forwarding Address Available

- Policy 116.1.1: NC Quick Pass will update the account with an updated address upon notification from the Post Office of a mail forwarding or new address.
- Policy 116.1.2: NC Quick Pass will manually forward any returned correspondence with a new address to the updated address.

Policy 116.2: Forwarding Address Not Available (Nixies)

- Policy 116.2.1: NC Quick Pass, upon receiving a returned correspondence without a forwarding address, will update the account with a flag stating it has a bad address.
- Policy 116.2.2: Any future mailings will be suppressed until a new address is obtained, and the bad address flag is removed.
- Policy 116.2.3: If a customer has provided an email on the account, a notice will be sent via email informing the account owner the mailing address associated with the account is no longer valid, and a new address must be provided to avoid any possible fees or penalties.
- Policy 116.2.4: Once a customer has provided a new address, all correspondence will continue from the date the address was updated, and the bad address flag removed.

Policy 116.2.5: NC Quick Pass will not process correspondence or assess fees retroactively.

Policy 116.3: Undeliverable Email

Policy 116.3.1: Should an email address associated with an account that has specified email as the preferred method of communication become invalid, the NC Quick Pass system will flag the account as having a bad email address, and the correspondence delivery method will be changed to mail until the account owner provides a new email address.

Policy 116.3.2: NC Quick Pass will notify the account owner by mail that they must update their email address to avoid any possible fees or penalties.

Policy 116.3.3: Once the account owner provides an updated email address, the bad email address flag will be removed, and the correspondence delivery method will be changed to email.

Policy 117: NC Quick Pass Registered Video Account Interoperability

Policy 117.1: Registered Video Account Interoperability

Policy 117.1.1: NC Quick Pass Registered Video Accounts are a valid form of payment on Turnpike Projects only.

Policy 117.1.2: If a customer intends to travel on an interoperable road in another state and intends to use their account as a payment method, the customer must convert to an NC Quick Pass Transponder Account.

Policy 118: NC Quick Pass Registered Video Account Conversion

Policy 118.1: NC Quick Pass Registered Video Account to Transponder Account Conversion

Policy 118.1.1: An NC Quick Pass Registered Video Account customer may convert to an NC Quick Pass Transponder Account online, or by calling or visiting an NC Quick Pass CSC.

Policy 118.1.2: When converting to an NC Quick Pass Transponder Account, the customer will be required to:

Policy 118.1.2.1: Pay all unpaid tolls, fees and penalties (including any balances with a collection agency) associated with a Bill by Mail invoice

Policy 118.1.2.2: Select an account type

Policy 118.1.2.3: Pay the appropriate prepaid toll balance (if required)

- Policy 118.1.2.4: Purchase a transponder(s) (if necessary)
- Policy 118.1.2.5: Provide all required information and/or complete an application
- Policy 118.1.2.6: Agree to the NC Quick Pass terms and conditions
- Policy 118.1.3: When converting the NC Quick Pass Registered Video Account to an NC Quick Pass Transponder Account, all currently listed vehicles/license plates under the NC Quick Pass Registered Video Account will be added to the NC Quick Pass Transponder Account.
- Policy 118.1.4: A customer must comply with all NC Quick Pass Terms and Conditions, as well as the NC Quick Pass Policies outlined within this document.
- Policy 118.1.5: Transactions that occurred prior to the conversion date will be posted to the NC Quick Pass Transponder Account at the Bill by Mail toll rate.
- Policy 118.1.6: Transactions that occur subsequent to the account conversion date will be posted to the NC Quick Pass Transponder Account at the transponder rate.
- Policy 118.1.7: A customer with outstanding Bill by Mail invoices may open an NC Quick Pass Transponder Account if the license plate(s) registered on the new transponder account does not match the license plates associated with the unpaid Bill by Mail invoice(s).
- Policy 118.1.8: A customer is restricted from converting accounts if a license plate, or identical address, is associated with an unpaid Bill by Mail invoice.

Policy 200: Bill by Mail Program

Refer to this section for policies associated with the NC Quick Pass Bill by Mail Program.

Bill by Mail policies are established in accordance with the North Carolina General Statutes. These statutes provide that the registered owner of the motor vehicle is responsible for payment of tolls unless the owner establishes that the motor vehicle was in the care, custody, and control of another person when the vehicle traveled on a Turnpike Project per NC G.S. 136-89.212.

NC Quick Pass is authorized to obtain and exchange vehicle owner registration information from the NCDMV, other states, other toll operators, and official toll collection organizations. The information obtained is not a public record and is subject to the disclosure limitation in 18 U.S.C. § 2721 Federal Driver's Privacy Protection Act.

Policy 200.1: General Policies for the Bill by Mail Program

- Policy 200.1.1: The Bill by Mail Program is postpaid.
- Policy 200.1.2: Because a customer does not register for the Bill by Mail Program, a customer's consent or agreement to any terms and conditions is not required.
- Policy 200.1.3: NC Quick Pass must mail an invoice to the registered owner of the vehicle at the address associated with the motor vehicle registration.
- Policy 200.1.4: NC Quick Pass must send the first Bill by Mail invoice to the registered owner

of a vehicle within ninety (90) days of when the transaction occurred.

Policy 200.1.5: NC Quick Pass waives the right to collect a toll if it fails to send the first invoice to the registered owner of the vehicle within ninety (90) days of the date the transaction occurred.

Policy 200.1.6: If a vehicle was in the care, custody, or control of another person at the time the toll was incurred, NC Quick Pass must send an invoice to the person who had care, custody, or control of the vehicle within ninety (90) days of receipt of a sworn affidavit from the registered owner of the vehicle, as required by G.S. 136-89.214(a).

Policy 200.2: Bill by Mail Process

Policy 200.2.1: The Bill by Mail process is initiated when one of the following occurs:

- A first-time user without an NC Quick Pass Account of any kind is identified through license plate image capture, image review, and registered owner identification.
- An NC Quick Pass Transponder or Registered Video Account has a negative balance, and the account owner has not made a payment to bring the account current within forty-five (45) days of the account balance going negative.
- Tolls are accrued after an NC Quick Pass or interoperable transponder account is closed.

Policy 200.2.2: When a vehicle passes under a tolling point and the roadside toll collection system (RTCS) does not detect a valid NC Quick Pass or interoperable transponder, multiple images of the vehicle's front and rear license plates are captured.

Policy 200.2.3: The license plate images are reviewed to identify the license plate numbers, jurisdiction of issuance and license plate type, if applicable.

Policy 200.2.4: Once the license plate number has been accurately identified, the NC Quick Pass system will attempt to locate the license plate number on an active Bill by Mail invoice or NC Quick Pass Account (e.g. Transponder, or Registered Video) in good financial standing.

Policy 200.2.5: If an existing invoice or account is identified, transactions associated with the license plate are posted (i.e. I-Tolled) to the account.

Policy 200.2.6: If an existing NC Quick Pass account or Bill by Mail invoice is not located, the license plate data is sent to an in-state and/or out-of-state DMV to identify the owner of the vehicle.

Policy 200.2.6.1: NC Quick Pass may utilize both national lookup databases, and the NCDMV to obtain information about the registered owner of in-state and out-of-state vehicles.

Policy 200.2.7: Once the owner of the vehicle is identified, the vehicle owner is sent a new Bill by Mail invoice.

Policy 200.2.8: Any toll transactions incurred by the owner of the vehicle are then posted to the invoice.

Policy 200.2.9: The registered owner of the vehicle will continue to be billed for any toll transactions processed by NC Quick Pass until a change in vehicle ownership occurs, the registered owner submits a sworn affidavit identifying the person who had care, custody and control of the vehicle at the time the toll was incurred, or the customer converts to an NC Quick Pass Account (e.g. Transponder, or Registered Video).

Policy 201: Pre-Invoice Payment Option

Policy 201.1.1: A customer that has traveled on a Turnpike Project without an NC Quick Pass Transponder or Registered Video Account has the option to contact an NC Quick Pass CSC, prepay for their tolls, and avoid receiving an invoice in the mail.

Policy 201.1.2: A customer must contact NC Quick Pass within thirty (30) days after traveling on a Turnpike Project and provide the necessary payment to cover any unpaid toll(s).

Policy 201.1.3: Customers can prepay tolls if:

1. The transactions have been processed by NC Quick Pass, and the vehicle owner has been identified by the NCDMV,
2. Bill by Mail has been established for the vehicle owner, and their toll transactions have been posted, and
3. NC Quick Pass has not already mailed an invoice to the customer.

Policy 201.1.4: If a customer contacts NC Quick Pass within thirty (30) days after traveling on a Turnpike Project and successfully prepays their tolls according to the policies above, they will not receive an invoice in the mail.

Policy 202: Bill by Mail Invoice Policies

Policy 202.1: Bill by Mail Invoicing

Policy 202.1.1: If the owner of a vehicle, or person who had care, custody and control of the vehicle does not prepay toll(s) incurred on a Turnpike Project, NC Quick Pass will mail a first invoice thirty (30) days from the date the transaction posts.

Policy 202.1.2: The first Bill by Mail invoice will include any tolls incurred and processed during the first thirty (30) day billing period, beginning with the initial transaction.

Policy 202.1.3: All subsequent billing periods are set at, and invoices mailed, approximately thirty (30) days after the first invoice.

Policy 202.1.4: A Bill by Mail invoice for each billing period will include (to the extent possible) all processed, unpaid tolls incurred by the same registered vehicle owner during the billing period.

Note: This may include tolls due from multiple vehicles/license plates belonging

to the same registered vehicle owner during the billing period if the information provided by the NCDMV, an out-of-state DMV or another recognized source matches.

Policy 202.1.5: Transactions that occurred during a billing period that do not get included on an invoice will be invoiced in the subsequent billing cycle.

Policy 202.2: Bill by Mail Invoice Requirements

Policy 202.2.1: A Bill by Mail invoice will include the following items each billing period:

Policy 202.2.1.1: Name and address of the registered owner of the vehicle that traveled on a Turnpike Project, or of the person identified in the registered owner's sworn affidavit as having care, custody and control of the vehicle at the time the toll transaction occurred.

Policy 202.2.1.2: The date and time a transaction occurred.

Policy 202.2.1.3: A description of the toll zone of the Turnpike Project where a toll transaction occurred.

Policy 202.2.1.4: An image of the license plate from one of the transactions. (all images related to an invoice will be available to the customer through the NC Quick Pass website or upon request from an NC Quick Pass CSC).

Note: Only invoices that contain toll activity will contain an image of a license plate. If there is only financial activity, such as payments and fees, there will be a static box on the invoice with the license plate number referenced.

Policy 202.2.1.5: The amount charged for each toll incurred during the invoice period, based on the Bill by Mail toll rate.

Policy 202.2.1.6: The total amount due for the current invoice period, an explanation of how payment may be made, and, if applicable, any delinquent invoices, and an explanation of payment options.

Policy 202.2.1.7: The date by which the invoice must be paid to avoid the imposition of a processing fee and/or civil penalty, and the amount of the fee.

Policy 202.2.1.8: Each invoice includes a failure to pay statement explaining the invoice escalation process, and the consequences of non-payment, including possible civil penalty(ies), processing fee(s), NCDMV registration holds and/or submission to a collection agency until all amounts owed to NC Quick Pass are paid in full.

Policy 202.2.1.9: A clear and concise explanation of how to dispute responsibility for a toll.

Policy 202.2.1.10: If applicable, a copy of the sworn affidavit submitted by the registered owner of a vehicle identifying the person with care, custody and control of the motor vehicle when the toll transaction occurred.

Policy 203: Bill by Email

Policy 203.1: Bill by Email Invoice Generation

Policy 203.1.1: Bill by Mail customers have the option of receiving a Bill by Mail invoice via email.

Policy 203.1.2: After receiving an invoice via mail and paying at least one invoice, a customer can elect to receive subsequent invoices by email.

Policy 203.1.3: To receive future invoices by email, a customer must:

1. Opt-in to receiving Bill by Mail invoices via email on the NC Quick Pass website,
2. Provide a valid email address, and
3. Agree to the Bill By Email Terms and Conditions.

Policy 203.1.4: Once a customer has registered to receive invoices via email, all subsequent invoices will be sent to the email address provided by the customer.

Policy 203.1.5: If after sending an invoice by email it is determined that the customer's email address is invalid, the NC Quick Pass system will automatically revert back to sending invoices via mail.

Policy 204: Payment Methods and Channels for Bill by Mail Invoices

Policy 204.1: Bill by Mail Payments

Policy 204.1.1: Invoices must be paid in full to prevent invoice escalation fees and penalties.

Policy 204.1.2: Partial payments will be applied to the oldest past due invoice balance, whether it applies to satisfying unpaid outstanding tolls, unpaid outstanding processing fees and/or unpaid outstanding civil penalties.

Policy 204.1.3: Overpayments

Policy 204.1.3.1: NC Quick Pass will accept overpayments made to Bill by Mail invoices.

Policy 204.1.3.2: An overpayment made to a Bill by Mail invoice will be used to pay for future transactions incurred by the vehicle owner.

Policy 204.2: Bill by Mail Invoice Payment Types

Policy 204.2.1: NC Quick Pass accepts the following payment types for Bill by Mail invoices:

- Credit card
- Debit card
- Money order

- Cashier's check
- Personal check
- Cash

Policy 204.3: Credit and Debit Card

Policy 204.3.1: The following credit and debit card types are accepted:

- Visa
- Master Card
- American Express
- Discover

Policy 204.3.2: When using a credit or debit card as a payment method, customers will be required to provide a valid credit card number, expiration date and three-digit security code.

Policy 204.4: Money Orders

Policy 204.4.1: Money orders must be made out to NC Quick Pass.

Policy 204.5: Cashier's check

Policy 204.5.1: Cashier's checks must be made out to NC Quick Pass.

Policy 204.6: Personal check

Policy 204.6.1: Personal checks must be made out to NC Quick Pass.

Policy 204.6.2: Personal checks must include the following:

- Mailing address
- Telephone number
- Driver's license number

Policy 204.6.3: Returned Check Fee

Policy 204.6.3.1: A Returned Check Fee of \$25.00 will be charged when a payment by check has been refused by a customer's bank.

Policy 204.6.3.2: A Returned Check Fee will be applied to a customer's subsequent invoice balance.

Policy 204.6.3.3: NC Quick Pass will notify the customer of the Returned Check Fee for non-payment.

Policy 204.6.3.4: After two (2) Returned Check Fees within one year, NC Quick Pass will not accept check payments from the customer.

Policy 204.7: Payment Channels

Policy 204.7.1: Customers are permitted to make payments via the various channels shown in Table 15.

Channel	Credit / Debit Card	Money Order	Cashier's Check	Personal Check	Cash
NC Quick Pass Website	✓				
CSC Phone, Interactive Voice Response	✓				
CSC Phone, Customer Service Rep.	✓				
CSC	✓	✓	✓	✓	✓
Mail	✓	✓	✓	✓	
Fax	✓				

Table 15: Bill by Mail Payment Types by Payment Channels

Policy 205: Invoice Escalation

NC Quick Pass will apply the following invoice escalation process.

Policy 205.1: First Invoice

Policy 205.1.1: An account without a previous balance when an invoice is generated is considered current.

Policy 205.1.2: A first invoice will generally only contain a customer's toll activity from the past thirty (30) days.

Policy 205.2: Second Invoice (Delinquent Balance from Previous Invoice)

Policy 205.2.1: If a Bill by Mail invoice balance remains unpaid by the due date on the invoice, the unpaid balance is considered delinquent and carried forward into the subsequent invoice amount.

Policy 205.2.2: A second invoice will include:

Policy 205.2.2.1: Delinquent balance amount (generally delinquent between thirty (30) days and fifty-nine (59) days)

Policy 205.2.2.2: Amount due for current toll activity (prior thirty (30) days), if applicable

Policy 205.2.2.3: \$6.00 Invoice Processing Fee

Policy 205.3: Third Invoice (Delinquent Balance from Previous Invoices)

Policy 205.3.1: If a customer does not pay the second invoice by the due date on the invoice, NC Quick Pass will send the customer a third invoice, which will include:

- Policy 205.3.1.1: Delinquent balance amount (generally delinquent between sixty (60) days and eighty-nine (89) days)
- Policy 205.3.1.2: Amount due for current toll activity (prior thirty (30) days), if applicable
- Policy 205.3.1.3: \$6.00 Invoice Processing Fee (if applicable)
- Policy 205.3.1.4: \$25.00 Civil Penalty (if applicable)

Policy 205.4: Fourth Invoice (Delinquent Balance from Previous Invoices)

Policy 205.4.1: If a customer does not pay the fourth invoice by the date due, NC Quick Pass may enact:

- Policy 205.4.1.1: In-state Bill by Mail customers with delinquent balances are subject to NCDMV registration hold and collections.
- In-state Bill by Mail customers with delinquent balances of less than \$500.00 will be placed on NCDMV registration hold and remain on NCDMV registration hold for thirteen (13) months.
 - If the debt associated with an unpaid, delinquent Bill by Mail invoice is not paid after thirteen (13) months, the debt will be sent to collections.
 - In-state Bill by Mail customers with a delinquent balance of \$500.00 or more are placed on NCDMV registration hold and sent to collections.
- Policy 205.4.1.2: Out-of-State, Bill by Mail customers with delinquent balances will be sent to collections.

Policy 206: Bill by Mail Fees and Penalties

Policy 206.1: Bill by Mail Fees and Penalties

Refer to the table below for more information on Bill by Mail fees and penalties.

Policy 206.1.1: Fees can only be waived by authorized NC Quick Pass personnel.

Policy 206.1.2: The registered owner of a vehicle is responsible for paying any toll(s), applicable fee(s) and/or penalty(ies).

Fee	Fee Amount	Reason for Fee
Returned Check Fee	\$25.00/Check	Insufficient funds, stop payment and closed account, etc.
Invoice Processing Fee	\$6.00 (maximum of \$48.00 for a twelve (12) month period for a registered owner)	Invoices unpaid after thirty (30) days from invoice date

Fee	Fee Amount	Reason for Fee
Civil Penalty	\$25.00 (maximum of \$25.00 for a six (6) month period for a registered owner)	Invoices unpaid after sixty (60) days from invoice date

Table 16: Bill by Mail Fees and Penalties

Policy 206.2: Bill by Mail Invoice Processing Fee

- Policy 206.2.1: An Invoice Processing Fee is assessed for each invoice not paid by the due date, generally thirty (30) days from the invoice date, where the vehicle owner did not request an informal review of a toll within the allotted timeframe.
- Policy 206.2.2: By Statute, the Invoice Processing Fee cannot exceed \$48.00 in a twelve (12) month period for a single individual.
- Policy 206.2.3: NC Quick Pass may grant a waiver of one invoice processing fee, per account, in a 24-month period.
- Policy 206.2.4: NC Quick Pass may grant a waiver of a second invoice processing fee, per account, in a 24-month period, if the customer at the time of the waiver satisfies all requirements of these business policies for conversion to a NC Quick Pass Transponder Account.
- Policy 206.2.5: The waiver does not eliminate the customer's responsibility for the payment of tolls, non-waived processing fees, and civil penalties.
- Policy 206.2.6: Waived processing fees will be documented in the NC Quick Pass system.

Policy 206.3: Civil Penalty

- Policy 206.3.1: A Civil Penalty is generally assessed to the third invoice after a customer does not pay the second invoice by the date due with a delinquent balance of approximately sixty (60) days.
- Policy 206.3.2: NC Quick Pass can assess a maximum of one Civil Penalty within a six (6) month period.
- Policy 206.3.3: An invoice carrying a Civil Penalty will clearly state the total amount due, and the manner in which it may be paid.
- Policy 206.3.4: The total amount due must be paid to NC Quick Pass within thirty (30) days of the invoice date.
- Policy 206.3.5: Any waivers must be preapproved by NC Quick Pass.
- Policy 206.3.6: When NC Quick Pass collects a Civil Penalty imposed for unpaid tolls, it will credit the clear proceeds to the Civil Penalty and Forfeiture Fund established in G.S. 115C-457.1.

Policy 206.3.7: The guidelines used by the Office of State Budget and Management to determine an agency's actual costs of collecting a Civil Penalty and the clear proceeds of the Civil Penalty apply to the determination of the clear proceeds of a Civil Penalty imposed.

Policy 207: Bill by Mail Payment Order of Precedence

Policy 207.1.1: The following is the order of precedence for payments to be applied to delinquent Bill by Mail invoice balances:

1. Previous invoice amounts (toll, fees, penalties)
2. Current tolls
3. Current fees
4. Current civil penalty

Policy 208: NCDMV Registration Hold and Release

Policy 208.1: Bill by Mail NCDMV Registration Hold and Release

Policy 208.1.1: Failure to pay a fourth invoice will result in the suspension of a customer's vehicle registration renewal for vehicles registered in North Carolina.

Policy 208.1.2: NC Quick Pass notes NCDMV registration hold eligibility on all invoices.

Policy 208.1.3: For a registrant with multiple vehicles registered in North Carolina that are associated with a delinquent Bill by Mail invoice, NC Quick Pass can suspend the registration renewal for each vehicle registered in North Carolina.

Policy 208.1.4: Vehicle registration will be held from renewal until all unpaid tolls, fees, and penalties are paid in full.

Policy 208.1.5: Payment can be made with a credit card (by phone), or by cash, check, money order, or credit card payment at an NC Quick Pass CSC Walk-In Center.

Policy 208.1.6: Once the full payment is verified and approved, NC Quick Pass will process a registration release to NCDMV.

Policy 208.1.7: With the exception of check payments over \$250, an NC Quick Pass CSC will remove a NCDMV registration hold within two (2) business days of receipt of the payment.

Policy 208.1.8: In the event payment is made by check in the amount of \$250 or more, NC Quick Pass will remove the NCDMV registration hold within ten (10) business days in order to verify clearance of the check.

Policy 208.1.9: In the event a check of any amount is returned, NC Quick Pass will re-establish the NCDMV registration hold.

Policy 209: Bill by Mail Collection Process

Policy 209.1: General Collections Policies

- Policy 209.1.1: After a Bill by Mail_customer neglects to pay tolls, fees, and/or penalties that have escalated to a fourth invoice, the debt from invoices that has aged at least 90 days will be eligible for collections.
- Policy 209.1.2: Tolls, fees, and penalties are eligible for collections.
- Policy 209.1.3: Debt that has been assigned to a collection agency must be paid in full to be removed from collections.

Policy 209.2: Collection Agency

- Policy 209.2.1: Eligible debt from in-state customers less than \$500 will be sent to collections after being on NCDMV registration hold status for thirteen (13) months.
- Policy 209.2.2: In-state customers, with debt that has been assigned to a collection agency, can also remain on NCDMV registration hold.
- Policy 209.2.3: When an in-state customer on NCDMV registration hold has debt that is placed in collections, the collection agency and NC Quick Pass will ensure that all past due amounts from the customer are paid in full prior to removing the debt from collections and removing the NCDMV registration hold.
- Policy 209.2.4: Out-of-state customers are not subject to NCDMV registration hold but will have eligible debt advance directly to collections.
- Policy 209.2.5: The collection agency will initiate letters to customers for all debt received from NC Quick Pass.
- Policy 209.2.6: The collection agency will have one (1) year to collect a debt from the time a debt is placed in collections.
- Policy 209.2.7: After one (1) year, the debt reverts back to NC Quick Pass.
- Policy 209.2.8: Any debt transferred to a collection agency is not noted on subsequent invoices sent to the customer.
- Policy 209.2.9: Payments for debt transferred to a collection agency cannot be accepted by NC Quick Pass and must be made to the collection agency. NC Quick Pass will provide customers the ability to view Bill by Mail_invoices that have been sent to collections.

Policy 210: Uncollectible Invoice

Policy 210.1: Uncollectible Invoice

- Policy 210.1.1: A Bill by Mail invoice is deemed as uncollectible if it has tolls or fees owed two (2) years after the last financial activity.
- Policy 210.1.2: Bill by Mail invoices deemed uncollectible will be approved by the NCDOT Fiscal Unit.

Policy 210.1.3: A Bill by Mail invoice deemed uncollectible:

- Can:
 - Be in NCDMV registration hold
 - Be flagged as nixie and skip trace accounts
 - Contain either in-state and out-of-state plates
 - Be automatically marked as such at the end of each fiscal year quarter
- Cannot:
 - Be assigned to a collection agency
 - Be sent additional or special notifications

Policy 210.1.4: If a Bill by Mail invoice that has been previously deemed as uncollectible receives new activity (e.g. new transactions), the invoice will be reactivated and the customer will be responsible for both new and old toll transactions, fees and penalties.

Policy 211: Bill by Mail Bankruptcy

Policy 211.1: Bill by Mail Bankruptcy Policies

Policy 211.1.1: When NC Quick Pass receives notification regarding a customer bankruptcy, NC Quick Pass will verify that the notification is an official Bankruptcy Court order and document the proper information in the customer's account.

Policy 211.1.2: NC Quick Pass reserves the right to file a proof of claim with the Bankruptcy Court.

Policy 211.1.3: NC Quick Pass reserves the right to determine which claims to pursue. All documentation is retained within the account.

Policy 211.1.4: While awaiting the outcome of a bankruptcy proceeding, NC Quick Pass cannot make any attempt to collect on debt owed prior to the date of the bankruptcy filing, nor can NC Quick Pass send customers to NCDMV Hold or Collections for any tolls incurred prior to the date the Bankruptcy Petition was filed.

Policy 211.1.5: Tolls and fees incurred prior to the date of the Petition filing must remain on the account until the bankruptcy case is resolved.

Policy 211.1.6: If the Bankruptcy Court notifies NC Quick Pass in writing of a Discharge or Dismissal of a customer's pending bankruptcy proceeding, the transactions during the period covered by the Bankruptcy Petition are dismissed.

Policy 211.1.7: Any new tolls that occur after the discharge date are the responsibility of the customer.

Policy 211.1.8: A Discharge or Discharge reinstates the customer's responsibility for paying all tolls, fees, and penalties that were not pursued while the bankruptcy proceeding was taking place.

Policy 212: Bill by Mail Refunds

Policy 212.1: Refunds

Policy 212.1.1: When an overpayment is made to a Bill by Mail invoice, NC Quick Pass will not generate a refund unless requested by the customer.

Policy 212.1.2: Should a customer request a refund after making an overpayment to a Bill by Mail invoice, the NCDOT Fiscal Unit will issue a refund check within ten (10) days after receiving the request.

Policy 212.1.3: If a customer requests a refund, but continues to drive on the road, the refund amount will be reduced by any newly posted transactions.

Policy 213: Bill by Mail Customer Communications

Policy 213.1: Customer Correspondence Filing

Policy 213.1.1: Customer correspondence received at an NC Quick Pass CSC will be filed, indexed and retained based on North Carolina's Document Retention Schedule.

Policy 214: Bill by Mail - Returned US Mail and Email

Policy 214.1: Forwarding Address Available

Policy 214.1.1: NC Quick Pass will update a customer's invoice with the updated address upon notification from the Post Office of a mail forwarding or new address.

Policy 214.1.2: NC Quick Pass will manually forward any returned correspondence with a new address to the updated address.

Policy 214.2: Forwarding Address Not Available (Nixies)

Policy 214.2.1: NC Quick Pass, upon receiving a returned invoice without a forwarding address, will update the Bill by Mail invoice with a flag stating it has a bad address.

Policy 214.2.2: Any future mailings will be suppressed until a new address is obtained, and the bad address flag is removed.

Policy 214.2.3: If a customer has provided an email, a notice will be sent via email informing the customer the mailing address associated with their Bill by Mail invoices is no longer valid, and a new address must be provided to avoid any possible fees or penalties.

Policy 214.2.4: Once a customer has provided a new address, all correspondence will continue from the date the address was updated, and the bad address flag removed.

Policy 214.2.5: NC Quick Pass will not process or assess correspondence or fees retroactively.

Policy 214.3: Undeliverable Email

Policy 214.3.1: Should an email address associated with the Bill by Email program become invalid, the NC Quick Pass system will flag the invoice as having a bad email address, and the invoice delivery method will be changed to mail until the vehicle owner provides a new email address.

Policy 214.3.2: NC Quick Pass will notify the vehicle owner by mail that they must update their electronic address to avoid any possible fees or penalties.

Policy 214.3.3: Once the vehicle owner provides an updated email address, the bad email address flag will be removed, and any future invoices will be delivered via email.

Policy 215: Bill by Mail Interoperability

Policy 215.1: Bill by Mail Interoperability

Policy 215.1.1: The NC Quick Pass Bill by Mail Program is only applicable on Turnpike Projects.

Policy 215.1.2: If a customer intends to travel on an interoperable toll road in another state, the customer must convert to an NC Quick Pass Transponder Account.

Policy 216: Bill by Mail Conversion

Policy 216.1: Bill by Mail Converted to NC Quick Pass Transponder Account

Policy 216.1.1: A Bill by Mail customer may convert to an NC Quick Pass Transponder Account online, or by calling or visiting an NC Quick Pass CSC.

Policy 216.1.2: When converting to an NC Quick Pass Transponder Account, the customer will be required to:

Policy 216.1.2.1: Pay all unpaid tolls, fees and penalties (including any balances with a collection agency) associated with a Bill by Mail invoice.

Policy 216.1.2.2: Select an account type

Policy 216.1.2.3: Pay the appropriate prepaid toll balance (if required)

Policy 216.1.2.4: Purchase a transponder(s) (if necessary)

Policy 216.1.2.5: Provide all required information and/or complete an application

Policy 216.1.2.6: Agree to the NC Quick Pass terms and conditions

Policy 216.1.3: When converting from Bill by Mail to an NC Quick Pass Transponder Account, all license plates currently assigned to Bill by Mail will be added to the NC

Quick Pass Transponder Account.

Policy 216.1.4: Tolls posting to Bill by Mail with a transaction date prior to the conversion date will be posted at the Bill by Mail toll rate.

Policy 216.1.5: Bill by Mail tolls that have not been invoiced will be reduced to the NC Quick Pass rate when a customer converts to an NC Quick Pass Transponder Account.

Policy 216.1.6: A customer with outstanding Bill by Mail invoices may open an NC Quick Pass Transponder Account if the license plate(s) registered on the new transponder account does not match the license plates associated with the unpaid Bill by Mail invoice(s).

Policy 216.1.7: A customer is restricted from converting accounts if a license plate, or identical address, is associated with an unpaid Bill by Mail invoice.

Policy 216.2: Bill by Mail Converted to a Registered Video Account

Policy 216.2.1: After receiving authorization from NC Quick Pass, a Bill by Mail customer may convert to an NC Quick Pass Registered Video Account by calling or visiting an NC Quick Pass CSC.

Policy 216.2.2: The customer will be required to:

Policy 216.2.2.1: Pay all unpaid tolls, fees and penalties (including any balances with a collection agency) associated with a Bill by Mail invoice

Policy 216.2.2.2: Select an account type

Policy 216.2.2.3: Pay the appropriate prepaid toll balance (if required)

Policy 216.2.2.4: Provide all required information and/or complete an application

Policy 216.2.2.5: Agree to the terms and conditions agreement

Policy 216.2.3: When converting Bill by Mail to a Registered Video Account, all license plates currently assigned to Bill by Mail will be added to the Registered Video Account.

Policy 216.2.4: NC Quick Pass Registered Video Accounts must be approved by NC Quick Pass.

Policy 300: Disputes

Policy 300.1: Customer Disputes General Information

Policy 300.1.1: Under North Carolina law, the registered owner of the motor vehicle is responsible for payment of tolls incurred unless the registered owner establishes that the motor vehicle was in the care, custody, and control of another person when it was driven on a Turnpike Project.

Policy 300.1.2: Customers are entitled to dispute any toll incurred in North Carolina.

Policy 300.1.3: In order to dispute tolls on away agency toll roads, the customer must contact the applicable agency directly regarding their dispute process. Contact information for each agency can be found on the NC Quick Pass website.

Policy 300.1.4: If a charge or fee is rescinded, NC Quick Pass will credit the customer's account.

Policy 300.2: Dispute Process Timeline

Policy 300.2.1: A request for an informal review of a toll and/or fee(s) or a Sworn Affidavit must be submitted within thirty (30) days of the date on the customer statement or Bill by Mail invoice, or the vehicle owner waives the right to dispute the toll or fee. A vehicle owner can only dispute a toll and/or fee incurred during the most recent billing period (i.e. within the last 30 days), or the date a toll posted to an NC Quick Pass Transponder Account.

Policy 300.2.2: Recipients of a Bill by Mail invoice containing an incorrect vehicle, license plate or other information may dispute responsibility for the toll and associated fees at any time in writing, in person or by phone, and they are not subject to the thirty (30) day limit.

Policy 300.2.3: If a dispute is filed by mail, the request must be postmarked within thirty (30) days of the invoice date, or the date a toll posted to an NC Quick Pass Transponder Account.

Policy 300.2.4: If the request for an Informal Review or a Sworn Affidavit is received after the thirty (30) day period, the request will be denied, and NC Quick Pass will send an Informal Review Determination Reject letter to the customer stating that the time to request a review has expired.

Policy 300.2.5: A customer who did not receive an invoice must dispute responsibility for the toll within thirty (30) days of the invoice date on the subsequent invoice received. Customers that did not receive an invoice due to a change of address must provide proof they updated their registered address with the NCDMV within the state-mandated sixty (60) days from the change of address.

Policy 300.3: Request for Informal Review

Policy 300.3.1: A vehicle owner may dispute responsibility for a toll by requesting an Informal Review with NC Quick Pass.

Policy 300.3.2: Customers are entitled to dispute any toll transaction(s) incurred in North Carolina through the completion and submittal of the Request for Informal Review – Toll Dispute form.

Policy 300.3.3: The Request for Informal Review – Toll Dispute form can be obtained on the NC Quick Pass website, and at the NC Quick Pass CSC.

Policy 300.3.4: Customers can submit the Request for Informal Review – Toll Dispute form to NC Quick Pass via the following channels:

- Mail
- Email

- Fax
- In-person via an NC Quick Pass CSC

Policy 300.4: NC Quick Pass' Receipt of Informal Review Request

Policy 300.4.1: Within five (5) business days of receipt of a Request for an Informal Review, NC Quick Pass reviews the dispute, and renders a decision based on the information provided by the vehicle owner and internal records pertaining to the dispute.

Policy 300.4.2: When NC Quick Pass receives a request for Informal Review within the thirty (30) day period, collection of the toll and fees, as well as the escalation process, is suspended pending a decision by NC Quick Pass.

Policy 300.5: Informal Review Determination

Policy 300.5.1: Potential outcomes of an informal review are:

Policy 300.5.1.1: The vehicle owner is found responsible for the disputed toll(s), and the vehicle owner may file with the Office of Administrative Hearings (OAH). Once the decision is recorded in the NC Quick Pass system, a notification of denial will be sent to the vehicle owner informing them of the determination. If the vehicle owner is unsatisfied with the outcome of the OAH, they may file a dispute for a final Judicial Review.

Policy 300.5.1.2: The vehicle owner is found responsible for the disputed toll(s), and the disputed toll is charged to the vehicle owner's account or applied to the customer's Bill by Mail invoice balance.

Policy 300.5.1.3: The vehicle owner is found not responsible for the disputed toll(s). The determination will be documented in the NC Quick Pass system, and a waived notification will be sent to the vehicle owner informing them of the decision. No payment will be required from the vehicle owner.

Policy 300.5.1.4: The vehicle owner is found not responsible for the disputed toll(s), and a transfer of responsibility is required. The correct license plate, vehicle owner, or responsible party (driver) will be resubmitted for invoice processing. Under G.S. 136-89.214, NC Quick Pass may send an invoice to the person with care, custody, or control of the vehicle when it was driven on a Turnpike Project. The vehicle driver has the right to dispute the toll.

Policy 300.6: Sworn Affidavit

Policy 300.6.1: A vehicle owner may establish that a motor vehicle was in the care, custody and control of another person when it was driven on a Turnpike Project by submitting a Sworn Affidavit specifying one following:

- Policy 300.6.1.1: The name and address of the person or company that had the care, custody, and control of the vehicle when it was driven on facility Turnpike Project. If the vehicle was leased or rented under a long-term lease or rental, as defined in G.S. 105-187.1, the affidavit must be supported by a copy of the lease or rental agreement or other written evidence of the agreement.
- Policy 300.6.1.2: The vehicle was stolen. The affidavit must be supported by an insurance or a police report concerning the theft or other written evidence of the theft.
- Policy 300.6.1.3: The person transferred the vehicle to another person by sale or otherwise before it was driven on a Turnpike Project. The affidavit must be supported by insurance information, a copy of the certificate of title, or other evidence of the transfer. The sworn affidavit requires signature of both parties in order for NC Quick Pass CSC management to review the disputed toll.
- Policy 300.6.2: If a person establishes that a vehicle was in the care, custody and control of another person, the other person shall be responsible for the payment of the toll. NC Quick Pass may pursue, as provided by North Carolina State law, the person who was in the care, custody and control of the vehicle when it was driven on a Turnpike Project. The person that receives an invoice as a result of a sworn affidavit may dispute such toll in accordance with North Carolina State law.

Policy 400: I-77 Express Lanes

Policy 400.1: I-77 Express Lane Policies

- Policy 400.1.1: The I-77 Express Lanes in Charlotte, North Carolina shall be clearly identified as an “Express Lane” prior to entrance into the toll lanes.
- Policy 400.1.2: The I-77 Express Lanes are restricted to two-axle and transit vehicles.
- Policy 400.1.3: The volume and speed of traffic in the I-77 Express Lanes will be monitored in order to set toll rates dynamically, which will automatically adjust toll rates up or down to meet and maintain specified performance requirements.
- Policy 400.1.4: Vehicles that do not have an occupancy declaration device (e.g. NC Quick Pass E-ZPass Flex transponder or other transponder with the HOV Declaration Application) will be treated by the system as Single-Occupancy Vehicles (SOV).

Policy 400.2: I-77 Express Lane Vehicle Classifications

- Policy 400.2.1: The following vehicles will be allowed to use the I-77 Express Lanes if they meet one of the following criteria:

- Policy 400.2.1.1: “Single-Occupancy Vehicles” or SOV means 2-axle motor vehicles, (other than Motorcycles) without trailers, with fewer than three (3) occupants, not larger than 20 feet in length, eight and a half feet in width and twelve feet in height. These vehicles do not meet the occupancy requirement to declare HOV as signed on the I-77 Express Lanes.
- Policy 400.2.1.2: “High-Occupancy Vehicles” or HOV means motor vehicles without trailers, not larger than 20 feet in length, eight and a half feet in width and seven feet in height. These vehicles contain three (3) or more occupants and must have an occupancy declaration device (e.g. NC Quick Pass E-ZPass Flex transponder or other transponder with the HOV Declaration Application) that provides occupancy declaration information.
- Policy 400.2.1.3: “Motorcycles” means motor vehicles with two (2) or three (3) wheels not larger than a Single-Occupancy Vehicle.
- Policy 400.2.1.4: “Transit Vehicles” means recognized, non-profit transit agency buses, rubber-wheeled trolleys, and vans used for mass transportation under applicable North Carolina Laws.

Policy 400.3: Exempt Vehicles on the I-77 Express Lanes

- Policy 400.3.1: Certain vehicles, called exempt vehicles, are not required to pay a toll on the I-77 Express Lanes provided they meet the following criteria:
- Policy 400.3.1.1: Transponder-equipped, 2-axle vehicles that declare themselves as HOV through a NC Quick Pass E-ZPass Flex transponder, or via the NC Quick Pass HOV Declaration Application that is linked to an NC Quick Pass Transponder account,
- Policy 400.3.1.2: Transit Vehicles with an NC Quick Pass Transponder,
- Policy 400.3.1.3: Motorcycles or
- Policy 400.3.1.4: First responders’ vehicles (i.e. law enforcement, emergency fire and rescue and emergency medical service), as set forth in North Carolina General Statutes §136-89.211(2), with an NC Quick Pass First Responder transponder.
- Policy 400.3.2: Exempt vehicles shall receive a discount of 100% of the applicable toll rate on the I-77 Express Lanes.
- Policy 400.3.3: A toll will be applied without a discount for any vehicle meeting HOV requirements if the vehicle is not equipped with a valid, properly installed NC Quick Pass Transponder, regardless of the number of occupants in the vehicle.
- Policy 400.3.4: An NC Quick Pass customer whose account is not in good financial standing and/or has been put in any status other than “Good/Valid/Low-Balance,” and

whose transponder(s) are set to any other status than “valid” is subject to the Bill by Mail process.

Note: Transit and First Responder vehicles without an NC Quick Pass transponder may receive a discounted toll by submitting an affidavit to the NC Quick Pass CSC post-travel on the I-77 Express Lanes.

Policy 401: HOV Declaration on I-77 Express Lanes

Policy 401.1: HOV Declaration

Policy 401.1.1: Only NC Quick Pass customers with transponder accounts will be able to declare HOV occupancy to take advantage of HOV-related benefits (e.g. toll-free travel) on the I-77 Express Lanes.

Policy 401.1.2: The I-77 Express Lanes will only acknowledge NC Quick Pass transponders for HOV declaration.

Policy 401.2: Occupancy Requirements for HOV Declaration

Policy 401.2.1: Each vehicle that declares HOV status when traveling on the I-77 Express Lanes must carry the minimum number of occupants posted on the entrance signs (e.g. 3+) to the Express Lanes.

Policy 401.2.2: Each adult and child passenger in a vehicle count as one (1) occupant.

Policy 401.2.3: Pets, infants still in the womb, and other inanimate objects are not considered valid occupants.

Policy 401.2.4: Violators of the I-77 Express Lane HOV occupancy requirements caught traveling on the I-77 Express Lanes are subject to a fine by North Carolina law enforcement.

Policy 401.3: NC Quick Pass Transponder Account Required for HOV Declaration

Policy 401.3.1: To declare HOV occupancy status on the I-77 Express Lanes, customers will need to open an NC Quick Pass Transponder Account, and either obtain an NC Quick Pass E-ZPass Flex transponder, or obtain one of the other transponder types NC Quick Pass provides to their customers.

Policy 401.3.2: Customers that choose any transponder other than the NC Quick Pass E-ZPass Flex transponder must register with the HOV Declaration Application, and use the application to declare an occupancy status fifteen (15) minutes prior to their use of the I-77 Express Lanes to be eligible for HOV benefits and/or discounts, or they will be tolled at the Single-Occupancy Vehicle (SOV) toll rate regardless of occupancy or declaration status.

Policy 401.4: Customer Mechanisms for HOV Occupancy Declaration

Policy 401.4.1: NC Quick Pass provides valid NC Quick Pass Transponder Account holders the following two (2) options to declare their HOV occupancy status for the I-77 Express Lanes:

1. The NC Quick Pass E-ZPass Flex transponder, which can be switched from SOV to HOV if the required number of occupants are in the vehicle, or
2. The NC Quick Pass HOV Declaration Application, which allows valid NC Quick Pass Transponder Account holders to declare occupancy status via the mobile application provided they have any NC Quick Pass transponder. NC Quick Pass Transponder Account customers that have registered with the mobile application can declare their occupancy through the following mechanisms:
 - Online
 - Via the HOV Declaration Application website
 - Via the HOV Declaration Mobile Application
 - Walk-In (in person at an NC Quick Pass Customer Service Center)
 - Phone-in (by calling an NC Quick Pass Customer Service Center)

Policy 401.5: NC Quick Pass E-ZPass Flex (i.e. Switchable Transponders)

Policy 401.5.1: NC Quick Pass will support NC Quick Pass E-ZPass Flex transponders, allowing customers to declare HOV status by changing the switch position on the transponder.

Policy 401.5.2: Before a customer can declare their HOV occupancy on the I-77 Express Lane using a NC Quick Pass E-ZPass Flex transponder, they must have a registered NC Quick Pass Transponder Account in good financial standing with a valid transponder properly installed in their vehicle.

Policy 401.5.3: Customers must have their NC Quick Pass E-ZPass Flex transponder set to the “HOV” setting to receive any HOV benefits and/or discounts.

Policy 401.5.4: A customer using a NC Quick Pass E-ZPass Flex transponder will not need to register with the HOV declaration application to travel on the I-77 Express Lane.

Policy 401.6: HOV Declaration Application

Policy 401.6.1: Before a customer can register with the HOV Declaration Application, they must have an NC Quick Pass Transponder Account in good financial standing with a valid transponder mounted in or on their vehicle.

Policy 401.6.2: After registering for the HOV Declaration Application, a customer can declare HOV status fifteen (15) minutes prior to using the I-77 Express Lane.



Policy 500: Privacy

Policy 500.1: Privacy Policies

- Policy 500.1.1: Except as permissible by state and federal law Information regarding, information related to NC Quick Pass Transponder Accounts, NC Quick Pass Registered Video Accounts and the Bill by Mail Program will not be disclosed to third parties without prior written consent from the primary account holder.
- Policy 500.1.2: Pursuant to G.S. 136-89.213, identifying information obtained by NC Quick Pass through an agreement is not a public record, and is subject to the disclosure limitations in 18 U.S.C. § 2721, the Federal Driver's Privacy Protection Act.
- Policy 500.1.3: NC Quick Pass will maintain the confidentiality of all information required which is kept confidential under 18 U.S.C. § 2721(a), as well as any financial information, transaction history, and information related to the collection of a toll or user fee from a person, including, but not limited to, photographs or other recorded images or automatic vehicle identification or driver account information generated by radio-frequency identification or other electronic means.
- Policy 500.1.4: NC Quick Pass may use account information only for the purpose of collecting and enforcing tolls.
- Policy 500.1.5: NC Quick Pass may disclose customer account information to other interoperable agencies for the purpose of toll collection. The customers' name and address will not be provided to any agency or company with whom NC Quick Pass has established interoperability agreements. Requests for this data will follow the disclosure limitations in 18 U.S.C. § 2721 (Federal Driver's Privacy Protection Act) and will only be provided to agencies in which NC Quick Pass has reciprocal agreements.
- Policy 500.1.6: Driver/customer information will not be made available for any reason other than to support payment of toll transactions or comply with a valid order of a court of competent jurisdiction.
- Policy 500.1.7: Account information may be disclosed to the public if such disclosure is required by law or by court order from a court of competent jurisdiction.

Policy 600: Business Policy Modification Process

Policy 600.1: Modification Policies

- Policy 600.1.1: NC Quick Pass will complete an annual review of its Business Policies at the end of each fiscal year.

- Policy 600.1.2: A redline version of the Business Policies will be created by the Director of Toll Operations (DTO) that indicates revisions and distributed to the NC Quick Pass Policy Committee. The Committee will come together to review the redline document and make any final decisions/edits. The Business Policies will be finalized by the DTO and retained in electronic and hard copy format. The file naming convention will be "NC Quick Pass Business Policies v#. #<year><month><day>.docx.
- Policy 600.1.3: The need for modification of these policies may be identified through day-to-day toll operations, toll program growth or legislative changes.
- Policy 600.1.4: Policies should be focused on providing greater efficiency, improving customer service and/or adding new or expanding current toll roads.
- Policy 600.1.5: All modifications will be processed through the DTO, and the following process will be utilized.
- Policy 600.1.5.1: The NC Quick Pass staff member requesting a modification is required to complete the Business Policy Modification Form (BPMF) and submit the completed form to the DTO for further action.
 - Policy 600.1.5.2: Upon receipt and review of the form, the DTO will distribute the BPMF to the NC Quick Pass Review Committee. The scope of the proposed modification will identify the staff required to review the material.
 - Policy 600.1.5.3: A meeting will be scheduled to discuss the modifications submitted and make any further adjustments to finalize the change in policy.
 - Policy 600.1.5.4: The Committee will then make a recommendation to the NCTA Executive Director.
 - Policy 600.1.5.5: The Business Policy Review/Approval form will be used to document the meeting, and the final determination by the NCTA Executive Director.
 - Policy 600.1.5.6: The DTO will update the BPMF (if applicable) and incorporate the approved modifications into a revised Business Policy document (redline and clean versions).
 - Policy 600.1.5.7: Once the Business Policy version is finalized with signatures, the revised Business Policy document will be scanned and uploaded by the DBA into NC Quick Pass's CTA'S document retention system and the original securely filed for NC Quick Pass.



Roadside Toll Systems Operations Policies

Version 1.0 DRAFT

April 2021

SUBJECT TO REVIEW AND REVISION BY NCTA, OTHER GOVERNMENT AGENCIES, AND LEGAL COUNSEL

DOCUMENT REVISION HISTORY

Version	Date	Modification
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I. Introduction

This document contains the roadside toll system policies by which statewide toll facilities operate.

II. North Carolina Turnpike Authority Overview

NCTA, a business unit of the North Carolina Department of Transportation (NCDOT), was formed in 2002 by the North Carolina General Assembly. The mission of NCTA is to supplement the traditional non-toll transportation system by accelerating the delivery of roadway projects using alternative financing options and facilitating the development, delivery and operation of toll roads. NCTA is authorized to study, plan, develop, and undertake preliminary design work on Turnpike Projects.

NCTA's state-wide program consists of the following:

- **Toll Systems:** NCTA toll systems are comprehensive, All-Electronic Toll (AET) systems that allow motorists to drive through toll zones and pay their tolls without having to stop. When customers travel toll facilities operated by NCTA (referred to herein as "Turnpike Projects"), tolls are collected from customer accounts by reading a transponder mounted in the vehicle and/or by identifying the license plate number attached to the vehicle, and sending the vehicle's registered owner a bill in the mail (or email).
- **Customer Service Centers:** The NCTA currently operates three (3) Customer Service Centers, one each in Morrisville, Monroe and Charlotte. The main purpose of the Customer Service Center (CSC) is to provide a storefront in the vicinity of NCTA toll roads, where customers can sign up for a transponder account, pay invoices, or perform other NC Quick Pass business in person.
- **The Morrisville Customer Service Center, which serves the Raleigh/Durham region, is located just south of the Raleigh/Durham International Airport and near the northern terminus of the Triangle Expressway. The activities outlined below take place at the NC Quick Pass Operations Center, which is co-located with the Morrisville Customer Service Center facility:**
 - a) Customer account creation and closure, management and maintenance
 - b) Toll transaction processing (e.g. transponder-based, image-based and interoperable transactions)
 - c) NC Quick Pass Transponder inventory management, assignment, distribution and maintenance
 - d) Account conversion management
 - e) Data exchange interface management
 - f) Customer account statement creation
 - g) Bill by Mail and Bill by Email invoice creation
 - h) Mail processing
 - i) Payment processing, financial reconciliation and revenue tracking

- j) Interoperability support
- k) Customer service, and self-service channels management and support (e.g. Interactive Voice Recognition (IVR), website email, text message and mobile device applications)
- l) Call center operations support
- m) Walk-in center customer service (e.g. dispute resolution, account payments and replenishments)

The NC Quick Pass Operations Center also provides office space for the Customer Service Operations Contractor management team, NCTA's Customer Service and Back-Office System staff and consultant staff.

- **Toll Roads:** With the exception of toll roads operated by a private developer in conjunction with the NCDOT, NCTA is responsible for the operation of all Turnpike Projects throughout North Carolina.

- **Triangle Expressway**

NCTA's first toll road, the Triangle Expressway is an 18.8-mile toll road that extends the partially complete "outer loop" around the greater Raleigh area from I-40 to the N.C. 55 Bypass. The Triangle Expressway is an AET toll road with 11 interchanges and 16 toll zones (4 mainline toll zones and 12 ramp toll zones).

The Triangle Expressway currently has two sections: Toll N.C. 147 and Toll N.C. 540.

- Toll N.C. 147: 3.4 miles long between I-40 and Toll N.C. 540.
- Toll N.C. 540: 15.4 miles long between N.C. 54 in western Cary and the N.C. 55 Bypass near Holly Springs.

- **Monroe Expressway**

The Monroe Expressway is a 20-mile long toll road located southeast of Charlotte and is an alternative route to the U.S. 74 corridor, extending from Stallings to Marshville in Union County.

The Monroe Expressway, which opened to traffic in November 2018, is an AET toll road with 7 mainline toll zones.

- **I-77 Express Lanes**

The I-77 Express Lanes are 26-miles of tolled Express Lanes on I-77 that, once complete, will provide more reliable travel times into downtown Charlotte, NC from the Brookshire Freeway (Exit 11) in Mecklenburg County to N.C. 150 (Exit 36) in Iredell County.

The I-77 Express Lanes are dynamically priced, so toll rates will vary based on traffic congestion. High-Occupancy Vehicles (HOV) that have an active HOV declaration will travel for free, but single-occupancy vehicles that choose to use the Express Lanes will be required to pay the posted toll rate.

Because the I-77 Express Lanes were developed under a public-private partnership, a concessionaire operates the roadside toll collection system, and NCTA is

responsible for the management of the transponder program and back office processing of the I-77 Express Lanes transactions.

- **Toll Interoperability:** NC Quick Pass is interoperable with toll programs in Florida (SunPass®, E-Pass and LeeWay), Georgia (Peach Pass®) and the Northeastern U.S. (E-ZPass®), collectively referred to as the “Interoperable Agencies.”
- **Toll-Free Passage:** Toll-free passage is allowed per North Carolina general statutes and project-specific operating agreements regarding first responders and HOV travel.

III. Customer Service Center Overview

The NC Quick Pass CSC is made up of the following two distinct entities:

- 1) The Back-Office System (BOS) is developed, provided and managed by a third-party systems vendor. The BOS is responsible for managing all the North Carolina toll collection system functionality and serves as an Electronic Toll Collection (ETC) clearing house for all toll transactions produced in the State. The BOS provides functionality for:
 - a) Processing of all lane transactions (ETC, image-based and interoperable (IOP))
 - b) Account management
 - c) Customer service and customer interaction (website, IVR, email, text message, etc.)
 - d) Financial transactions and account replenishment
 - e) Financial and lane transaction reconciliations
 - f) Image review
 - g) Revenue management
 - h) Reporting
- 2) The CSC Operations Staff is provided by a separate, third-party operations vendor that specializes in customer service support. CSC Operations Staff serve the CSC located in Morrisville, NC, Monroe, NC and Charlotte, NC. The CSC Operations Staff provide full-scale back office service support for NCTA's tolling program, including but not limited to:
 - a) Operations staffing and staff management
 - b) Call center operations support
 - c) Walk-in center staffing and operations including payment processing
 - d) Account management support
 - e) Bill by Mail invoicing
 - f) NC Quick Pass Transponder distribution
 - g) Image review
 - h) Financial management and reconciliation services

The CSC operator complies with Payment Card Industry Data Security Standards (PCI DSS) as a Level 1 Merchant.

IV. Roadside Toll Systems Operations Policies

The North Carolina Turnpike Authority will comply with and support the following operations policies.

Policy 1: Accepted Payment Types

		Triangle Expressway	Monroe Expressway	I-77 Express Lanes	I-485 Express Lanes
Accepted Payments	Pre-Paid (Transponders)	NC Quick Pass E-ZPass SunPass Peach Pass			
	Post Paid	Bill by Mail			

Table 1: Accepted Payment Types on North Carolina Toll Facilities

Policy 2: Toll Rate Characteristics

	Triangle Expressway	Monroe Expressway	I-77 Express Lanes	I-485 Express Lanes
Base Rate	Bill by Mail ¹	Bill by Mail ²	Bill by Mail ³	Bill by Mail ⁴
Discounted Rate	Transponder (35% Discount) ¹	Transponder (35% Discount) ²	Transponder (35% Discount) ³	Transponder (35% Discount) ⁴
Toll Rate Rounding	Round to the nearest cent ⁵	Round to the nearest cent ⁶	Round to the nearest 5 cents ⁷	Round to the nearest 5 cents ⁴
Vehicle Classification	(2-Axle Vehicles = Toll Rate 3-Axle Vehicles = 2x Toll Rate 4-Axle Vehicles = 4x Toll Rate) ^{8,2}		(2-Axle Vehicles less than 22 feet long = Toll Rate 2-Axle Vehicles greater than 22 feet long = Extended Vehicle Multiplier x Toll Rate 2-Axle Vehicles with a single axle trailer = Extended Vehicle Multiplier x Toll Rate) ^{9,4}	
Extended Vehicle Multiplier	N/A	N/A	Varies no more frequently than every 30 minutes and shall change no more frequently than once every seven (7) days ^{10,4}	
Toll Assessment	Individual tolls are assessed at each toll zone			

Table 2: Toll Rate Characteristics on North Carolina Toll Facilities

Policy 3: Vehicles Exempt from Paying Tolls

	Triangle Expressway	Monroe Expressway	I-77 Express Lanes	I-485 Express Lanes
Motorcycles	Not Exempt	Not Exempt	Exempt ¹¹	Exempt ⁴
Transit Vehicles	Not Exempt	Not Exempt	Exempt ¹¹	Exempt ⁴
First Responders	Exempt ¹²	Exempt ¹²	Exempt ¹¹	Exempt ⁴
Electric / Hybrid Vehicles	Not Exempt	Not Exempt	Not Exempt	Not Exempt
Registered HOV 3+ Vehicles	Not Exempt	Not Exempt	Exempt ¹¹	Not Exempt
Registered Rideshare Vehicles	Not Exempt	Not Exempt	Not Exempt	Exempt ⁴

Table 3: Vehicles Exempt from Paying Tolls on North Carolina Toll Facilities

Policy 4: Express Lane Toll Rate Signing

Policy 4.1: I-77 Express Lanes

Policy 4.1.1: On the I-77 Express Lanes, vehicles are tolled at the toll rate shown on the variable toll message sign when last visible to the driver.⁹

Policy 4.2: I-485 Express Lanes

Policy 4.2.1: On the I-485 Express Lanes, vehicles are tolled at the toll rate shown on the variable toll message sign when last visible to the driver.⁴

Policy 5: Express Lane Toll Rate Change – Schedule Mode

Policy 5.1: I-77 Express Lanes

Policy 5.1.1: On the I-77 Express Lanes, the scheduled toll rate cannot change more than once during a 24-hour period and is scheduled by day of the week in 30-minute intervals; the definition of schedule mode is documented in Exhibit 4, Part IV of the I-77 Comprehensive Agreement.¹³

Policy 5.2: I-485 Express Lanes

Policy 5.2.1: On the I-485 Express Lanes, the scheduled toll rate cannot change more than once during a 24-hour period and is scheduled by day of the week in 30-minute intervals.⁴

Policy 6: Express Lane Toll Rate Change – Dynamic Mode

Policy 6.1: I-77 Express Lanes

Policy 6.1.1: On the I-77 Express Lanes, the toll rate may not change more frequently than every five (5) minutes, and must be between the established minimum and

maximum toll rate; the definition of dynamic mode is documented in Exhibit 4, Part V of the I-77 Comprehensive Agreement.⁷

Policy 6.2: I-485 Express Lanes

Policy 6.2.1: On the I-485 Express Lanes, the toll rate may not change more frequently than every five (5) minutes and must be between the established minimum and maximum toll rate.⁴

Policy 7: Express Lane Toll Rate Change – Express Lane Performance

Policy 7.1: I-77 Express Lanes

Policy 7.1.1: On the I-77 Express Lanes, toll rates are adjusted to manage traffic demand while maintaining average speed at or above 80% of the posted speed limit, but at no time less than 45 miles per hour; the definition of toll rate change is documented in Exhibit 4, Part VI of the I-77 Comprehensive Agreement.⁷

Policy 7.2: I-485 Express Lanes

Policy 7.2.1: On the I-485 Express Lanes, toll rates are adjusted to manage traffic demand while maintaining average speed at or above 80% of the posted speed limit, but at no time less than 45 miles per hour.⁴

ENDNOTES

¹ See *Triangle Expressway Comprehensive Traffic and Revenue Study*, April 2009, Page 6-12

² See *Monroe Expressway Traffic and Toll Revenue Study Final Report*, November 2016, Page 6-4

³ See *Amendment No. 9 to the Comprehensive Agreement Relating to the I-77 HOT Lanes Project*, Execution Version, Exhibit 4, Page 12

⁴ *To be determined later in accordance with NCGS 136-89.199 and applicable NCTA Board of Directors Policies

⁵ See *Triangle Expressway Comprehensive Traffic and Revenue Study*, April 2009, Page 6-13

⁶ See *Monroe Expressway Traffic and Toll Revenue Study Final Report*, November 2016, Page 6-14

⁷ See *Amendment No. 9 to the Comprehensive Agreement Relating to the I-77 HOT Lanes Project*, Execution Version, Exhibit 4, Page 7

⁸ See *Triangle Expressway Comprehensive Traffic and Revenue Study*, April 2009, Page 6-11

⁹ See *Amendment No. 9 to the Comprehensive Agreement Relating to the I-77 HOT Lanes Project*, Execution Version, Page 6

¹⁰ See *Amendment No. 9 to the Comprehensive Agreement Relating to the I-77 HOT Lanes Project*, Execution Version, Page 8

¹¹ See *Amendment No. 9 to the Comprehensive Agreement Relating to the I-77 HOT Lanes Project*, Execution Version, Exhibit 4, Page 4

¹² In accordance with NCGS 136-89.211

¹³ See *Amendment No. 9 to the Comprehensive Agreement Relating to the I-77 HOT Lanes Project*, Execution Version, Exhibit 4, Page 5



North Carolina Department of Information Technology

Statewide Information Security Manual

January 2022

Statewide Information Security Manual

INTRODUCTION

PURPOSE

The purpose of this policy is to establish a statewide security policy for North Carolina State agencies and the State network. This policy also establishes principles to ensure a secure network infrastructure that integrates confidentiality, availability, and integrity into the infrastructure design, implementation, and maintenance, to do the following:

- a. Protect the State's infrastructure and the citizen's data, whether hosted by external entities or within State data centers, from both internal and external threats.
- b. Provide a consistent and repeatable framework for which IT assets can be securely connected to the State network.
- c. Support the State's initiative to establish standards to manage technology, risks and increase consistency and accessibility.

OWNER

State Chief Risk Officer

SCOPE

The Statewide Information Security Manual is the foundation for information technology security in North Carolina. It sets out the statewide information security standards required by N.C.G.S. §143B-1376, which directs the State Chief Information Officer (State CIO) to establish a statewide set of standards for information technology security to maximize the functionality, security, and interoperability of the State's distributed information technology assets, including, but not limited to, data classification and management, communications, and encryption technologies. This policy covers all State information and information systems to include those used, managed, or operated by a contractor, an agency, or other organization on behalf of the State. This policy applies to all State employees, contractors, and all other users of State information and information systems that support the operation and assets of the State. Use by local governments, local education agencies (LEAs), community colleges, constituent institutions of the University of North Carolina (UNC) and other executive branch agencies is encouraged to the extent allowed by law. This security policies are consistent with applicable laws, executive orders, directives, regulations, and other policies, standards, and guidelines.

POLICY

SECTION 1. ADOPTION OF NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) RISK MANAGEMENT FRAMEWORK SPECIAL PUBLICATION (SP) 800-37

The State has adopted the National Institute of Standards and Technology (NIST) Special Publication (SP) 800-37 – *Guide for Applying Risk Management Framework (RMF) for Federal Information Systems*, as the standard for managing information security risk in State IT resources. The RMF provides a disciplined and structured process that integrates information security and risk management activities into the system development life cycle. The NIST RMF utilizes NIST SP 800-53 as the foundation for identifying and implementing security controls. NIST 800-53

organizes these security controls into eighteen (18) Control Families. Each policy document and control family identified in the Statewide Information Security Manual is based on the NIST SP 800-53, Security and Privacy Controls. The State has modified certain controls from the original NIST 800-53 requirements where they were deemed necessary.

Table 1 below identifies the control family names which will be utilized within the State security policies.

TABLE 1: SECURITY CONTROL FAMILY NAMES

ID	FAMILY	ID	FAMILY
AC	Access Control	MP	Media Protection
AT	Awareness and Training	PE	Physical and Environmental Protection
AU	Audit and Accountability	PL	Security Planning
CA	Assessment, Authorization, and Monitoring	PS	Personnel Security
CM	Configuration Management	RA	Risk Assessment
CP	Contingency Planning	SA	System and Services Acquisition
IA	Identification and Authentication	SC	System and Communications Protection
IR	Incident Response	SI	System and Information Integrity
MA	Maintenance	SR	Supply Chain Risk Management

SECURITY CATEGORIZATION

There are two levels of security categorization to be used within the State: **Low** and **Moderate**. Security controls must be selected based on the data classification and security categorization of the information system and/or requirements for the specific operating environment.

Low Systems: Systems that contain only data that is public by law or directly available to the public via such mechanisms as the Internet. In addition, desktops, laptops and supporting systems used by agencies are Low Risk unless they store, process, transfer or communicate Restricted or Highly Restricted data.

Moderate Systems: Systems that stores, process, transfer or communicate Restricted or Highly Restricted data or has a direct dependency on a Moderate system. Any system that stores, processes, or transfers or communicates PII or other sensitive data types is classified as a Moderate system, at a minimum.

Agencies may tailor the baseline controls, as needed to enhance the security posture, based on their unique organizational needs. An example of such enhancement may occur due to additional requirements mandated by Federal agencies such as Internal Revenue Service (IRS) and other. All agencies are required to implement and comply with the baseline controls within the Statewide Information Security Manual, unless otherwise prescribed by Federal or State statute.

NIST SP 800-53 controls defines three types of controls:

- **Common Controls:** Those security controls that are Enterprise wide, e.g., State policies, Security devices provided by DIT, Enterprise email, etc. Agencies may inherit these controls as the system is managed outside of their authority. It is important to note that for a system to be considered **Inherited**, it must meet, at a minimum, the following criteria:
 - The system is managed by DIT, Cloud or other organizations outside the authority and security boundary of the agency,
 - The State Chief Risk Officer has designated the control as inheritable.

- **System-Specific Controls:** Those controls that provide security and other services for a particular information system only.
- **Hybrid Controls:** Those controls which are shared between Enterprise, i.e., DIT, Cloud and/or Agency managed.

Agencies must evaluate each system and identify those that fall within the above listed control types. This step is crucial in facilitating and understanding roles and responsibilities as it pertains to audits and assessments. The following Table 2 - *Security Control Baseline* identifies those controls that will be implemented if a system is categorized as Low or Moderate. The table is based on NIST 800-53 Rev 5 and has been modified to meet State of North Carolina use.

Note: Controls which have brackets, i.e., (X), are “control enhancements” above the base requirement. Controls listed as “Optional” may be utilized to enhance the security posture of the information system and are NOT considered mandatory. Agencies should understand that with the implementation of optional controls may require additional funding. The description of these controls may be found at the following link:

<https://csrc.nist.gov/Projects/risk-management/sp800-53-controls/release-search#!/families?version=5.1>

TABLE 2: SECURITY CONTROL BASELINES

CNTL NO.	CONTROL NAME	INITIAL CONTROL BASELINES	
		LOW	MOD
Access Control			
AC-1	Access Control Policy and Procedures	AC-1	AC-1
AC-2	Account Management	AC-2	AC-2 (1) (2) (3) (4) (5) (13)
AC-3	Access Enforcement	AC-3	AC-3
AC-4	Information Flow Enforcement	AC-4	AC-4
AC-5	Separation of Duties	AC-5	AC-5
AC-6	Least Privilege	AC-6	AC-6 (1) (2) (5) (7) (9) (10)
AC-7	Unsuccessful Logon Attempts	AC-7	AC-7
AC-8	System Use Notification	AC-8	AC-8
AC-9	Previous Logon (Access) Notification	Optional	Optional
AC-10	Concurrent Session Control	Optional	Optional
AC-11	Device Lock	AC-11	AC-11 (1)
AC-12	Session Termination	AC-12	AC-12
AC-14	Permitted Actions without Identification or Authentication	AC-14	AC-14
AC-16	Security Attributes	Optional	Optional
AC-17	Remote Access	AC-17	AC-17 (1) (2) (3) (4)
AC-18	Wireless Access	AC-18	AC-18 (1) (3)
AC-19	Access Control for Mobile Devices	AC-19	AC-19 (5)
AC-20	Use of External Information Systems	AC-20	AC-20 (1) (2)
AC-21	Information Sharing	Optional	AC-21
AC-22	Publicly Accessible Content	AC-22	AC-22
AC-23	Data Mining Protection	Optional	Optional
AC-24	Access Control Decisions	Optional	Optional
AC-25	Reference Monitor	Optional	Optional

CNTL NO.	CONTROL NAME	INITIAL CONTROL BASELINES	
		LOW	MOD
Awareness and Training			
AT-1	Security Awareness and Training Policy and Procedures	AT-1	AT-1
AT-2	Security Training and Awareness	AT-2	AT-2 (2) (3)
AT-3	Role-Based Training	AT-3	AT-3
AT-4	Training Records	AT-4	AT-4
Audit and Accountability			
AU-1	Audit and Accountability Policy and Procedures	AU-1	AU-1
AU-2	Event Logging	AU-2	AU-2
AU-3	Content of Audit Records	AU-3	AU-3 (1)
AU-4	Audit Storage Capacity	AU-4	AU-4
AU-5	Response to Audit Processing Failures	AU-5	AU-5
AU-6	Audit Review, Analysis, and Reporting	AU-6	AU-6 (1) (3)
AU-7	Audit Reduction and Report Generation	Optional	AU-7
AU-8	Time Stamps	AU-8	AU-8 (1)
AU-9	Protection of Audit Information	AU-9	AU-9 (4)
AU-10	Non-repudiation	Optional	Optional
AU-11	Audit Record Retention	AU-11	AU-11
AU-12	Audit Record Generation	AU-12	AU-12
AU-13	Monitoring for Information Disclosure	Optional	Optional
AU-14	Session Audit	Optional	Optional
AU-15	Alternate Audit Capability	Optional	Optional
AU-16	Cross-Organizational Audit Logging	Optional	Optional
Assessment, Authorization and Monitoring			
CA-1	Security Assessment, Authorization and Monitoring Policy and Procedures	CA-1	CA-1
CA-2	Control Assessments	CA-2	CA-2 (1)
CA-3	Information Exchange	CA-3	CA-3 (5)
CA-4	Security Certification	Incorporated into CA-2.	Incorporated into CA-2.
CA-5	Plan of Action and Milestones/ Corrective Action Plan	CA-5	CA-5
CA-6	Authorization	CA-6	CA-6
CA-7	Continuous Monitoring	CA-7 (4)	CA-7 (1) (4)
CA-8	Penetration Testing	Optional	CA-8
CA-9	Internal System Connections	CA-9	CA-9
Configuration Management			
CM-1	Configuration Management Policy and Procedures	CM-1	CM-1
CM-2	Baseline Configuration	CM-2	CM-2 (2) (3) (7)
CM-3	Configuration Change Control	CM-3	CM-3 (4)
CM-4	Impact Analysis	CM-4	CM-4 (2)
CM-5	Access Restrictions for Change	CM-5	CM-5
CM-6	Configuration Settings	CM-6	CM-6

CNTL NO.	CONTROL NAME	INITIAL CONTROL BASELINES	
		LOW	MOD
CM-7	Least Functionality	CM-7 (1)	CM-7 (1) (2) (5)
CM-8	System Component Inventory	CM-8 (1)	CM-8 (1) (3)
CM-9	Configuration Management Plan	CM-9	CM-9
CM-10	Software Usage Restrictions	CM-10	CM-10
CM-11	User-Installed Software	CM-11	CM-11
CM-12	Information Location	CM-12	CM-12 (1)
Contingency Planning			
CP-1	Contingency Planning Policy and Procedures	CP-1	CP-1
CP-2	Contingency Plan	CP-2	CP-2
CP-3	Contingency Training	CP-3	CP-3
CP-4	Contingency Plan Testing	CP-4	CP-4
CP-5	Contingency Plan Update	Incorporated into CP-2	Incorporated into CP-2
CP-6	Alternate Storage Site	Optional	CP-6
CP-7	Alternate Processing Site	Optional	CP-7
CP-8	Telecommunications Services	Optional	CP-8
CP-9	System Backup	CP-9	CP-9 (1) (8)
CP-10	System Recovery and Reconstitution	CP-10	CP-10
CP-11	Alternate Communications Protocols	Optional	Optional
CP-12	Safe Mode	Optional	Optional
CP-13	Alternative Security Mechanisms	Optional	Optional
Identification and Authentication			
IA-1	Identification and Authentication Policy and Procedures	IA-1	IA-1
IA-2	Identification and Authentication (Organizational Users)	IA-2 (8)	IA-2 (1) (2) (8) (12)
IA-3	Device Identification and Authentication	IA-3	IA-3
IA-4	Identifier Management	IA-4	IA-4
IA-5	Authenticator Management	IA-5 (1)	IA-5 (1) (6)
IA-6	Authenticator Feedback	IA-6	IA-6
IA-7	Cryptographic Module Authentication	IA-7	IA-7
IA-8	Identification and Authentication (Non-Organizational Users)	IA-8	IA-8
IA-9	Service Identification and Authentication	Optional	Optional
IA-10	Adaptive Authentication	Optional	Optional
IA-11	Re-authentication	IA-11	IA-11
IA-12	Identity Proofing	Optional	IA-12 (2) (3) (5)
Incident Response			
IR-1	Incident Response Policy and Procedures	IR-1	IR-1
IR-2	Incident Response Training	IR-2	IR-2
IR-3	Incident Response Testing	Optional	IR-3 (2)
IR-4	Incident Handling	IR-4	IR-4 (1)
IR-5	Incident Monitoring	IR-5	IR-5
IR-6	Incident Reporting	IR-6	IR-6 (1) (3)

CNTL NO.	CONTROL NAME	INITIAL CONTROL BASELINES	
		LOW	MOD
IR-7	Incident Response Assistance	IR-7	IR-7 (1)
IR-8	Incident Response Plan	IR-8	IR-8
IR-9	Information Spillage Response	Optional	Optional
IR-10	Integrated Information Security Analysis Team	Optional	Optional
Maintenance			
MA-1	System Maintenance Policy and Procedures	MA-1	MA-1
MA-2	Controlled Maintenance	MA-2	MA-2
MA-3	Maintenance Tools	Optional	MA-3 (1) (2) (3)
MA-4	Nonlocal Maintenance	MA-4	MA-4
MA-5	Maintenance Personnel	MA-5	MA-5
MA-6	Timely Maintenance	Optional	MA-6
Media Protection			
MP-1	Media Protection Policy and Procedures	MP-1	MP-1
MP-2	Media Access	MP-2	MP-2
MP-3	Media Marking	Optional	MP-3
MP-4	Media Storage	Optional	MP-4
MP-5	Media Transport	Optional	MP-5
MP-6	Media Sanitization	MP-6	MP-6
MP-7	Media Use	MP-7	MP-7 (1)
MP-8	Media Downgrading	Optional	Optional
Physical and Environmental Protection			
PE-1	Physical and Environmental Protection Policy and Procedures	PE-1	PE-1
PE-2	Physical Access Authorizations	PE-2	PE-2
PE-3	Physical Access Control	PE-3	PE-3
PE-4	Access Control for Transmission	PE-4	PE-4
PE-5	Access Control for Output Devices	Optional	PE-5
PE-6	Monitoring Physical Access	PE-6	PE-6 (1)
PE-8	Visitor Access Records	PE-8	PE-8
PE-9	Power Equipment and Cabling	Optional	PE-9
PE-10	Emergency Shutoff	Optional	PE-10
PE-11	Emergency Power	Optional	PE-11
PE-12	Emergency Lighting	PE-12	PE-12
PE-13	Fire Protection	PE-13	PE-13 (1)
PE-14	Environmental Controls	PE-14	PE-14
PE-15	Water Damage Protection	PE-15	PE-15
PE-16	Delivery and Removal	PE-16	PE-16
PE-17	Alternate Work Site	Optional	PE-17
PE-18	Location of System Components	Optional	PE-18
PE-19	Information Leakage	Optional	Optional
PE-20	Asset Monitoring and Tracking	Optional	Optional
Security Planning			

CNTL NO.	CONTROL NAME	INITIAL CONTROL BASELINES	
		LOW	MOD
PL-1	Security Planning Policy and Procedures	Optional	PL-1
PL-2	System Security and Privacy Plans	Optional	PL-2
PL-4	Rules of Behavior	PL-4 (1)	PL-4 (1)
PL-5	Privacy Impact Assessment	Optional	Incorporated in RA-3
PL-7	Security Concept of Operations	Optional	Optional
PL-8	Information Security Architecture	PL-8	PL-8
PL-9	Central Management	Optional	Optional
Personnel Security			
PS-1	Personnel Security Policy and Procedures	PS-1	PS-1
PS-2	Position Risk Designation	PS-2	PS-2
PS-3	Personnel Screening	PS-3	PS-3
PS-4	Personnel Termination	PS-4	PS-4
PS-5	Personnel Transfer	PS-5	PS-5
PS-6	Access Agreements	PS-6	PS-6
PS-7	External Personnel Security	PS-7	PS-7
PS-8	Personnel Sanctions	PS-8	PS-8
PS-9	Position Descriptions	PS-9	PS-9
Risk Assessment			
RA-1	Risk Assessment Policy and Procedures	RA-1	RA-1
RA-2	Security Categorization	RA-2	RA-2
RA-3	Risk Assessment	RA-3	RA-3
RA-4	Risk Assessment Update	Incorporated into RA-3	Incorporated into RA-3
RA-5	Vulnerability Monitoring and Scanning	RA-5	RA-5 (1) (2) (5)
System and Services Acquisition			
SA-1	System and Services Acquisition Policy and Procedures	SA-1	SA-1
SA-2	Allocation of Resources	SA-2	SA-2
SA-3	System Development Life Cycle	SA-3	SA-3
SA-4	Acquisition Process	SA-4 (10)	SA-4 (1) (2) (9) (10)
SA-5	System Documentation	SA-5	SA-5
SA-8	Security and Privacy Engineering Principles	Optional	SA-8
SA-9	External System Services	SA-9	SA-9 (2)
SA-10	Developer Configuration Management	Optional	SA-10
SA-11	Developer Testing and Evaluation	Optional	SA-11
SA-12	Supply Chain Protection	Optional	Optional
SA-13	Trustworthiness	Optional	Optional
SA-14	Criticality Analysis	Optional	Optional
SA-15	Development Process, Standards, and Tools	Optional	Optional
SA-16	Developer-Provided Training	Optional	Optional
SA-17	Developer Security Architecture and Design	Optional	Optional
SA-18	Tamper Resistance and Detection	Optional	Optional
SA-19	Component Authenticity	Optional	Optional

CNTL NO.	CONTROL NAME	INITIAL CONTROL BASELINES	
		LOW	MOD
SA-20	Customized Development of Critical Components	Optional	Optional
SA-21	Developer Screening	Optional	Optional
SA-22	Unsupported System Components	SA-22	SA-22
System and Communications Protection			
SC-1	System and Communications Protection Policy and Procedures	SC-1	SC-1
SC-2	Separation of System and User Functionality	SC-2	SC-2
SC-3	Security Function Isolation	Optional	Optional
SC-4	Information in Shared System Resources	Optional	SC-4
SC-5	Denial of Service Protection	SC-5	SC-5
SC-6	Resource Availability	Optional	Optional
SC-7	Boundary Protection	SC-7	SC-7 (4) (5) (7) (8)
SC-8	Transmission Confidentiality and Integrity	SC-8	SC-8 (1)
SC-10	Network Disconnect	SC-10	SC-10
SC-11	Trusted Path	Optional	Optional
SC-12	Cryptographic Key Establishment and Management	SC-12	SC-12
SC-13	Cryptographic Protection	SC-13	SC-13
SC-15	Collaborative Computing Devices and Applications	SC-15	SC-15
SC-16	Transmission of Security and Privacy Attributes	Optional	Optional
SC-17	Public Key Infrastructure Certificates	SC-17	SC-17
SC-18	Mobile Code	SC-18	SC-18
SC-19	Voice Over Internet Protocol	Optional	SC-19
SC-20	Secure Name/Address Resolution Service (Authoritative Source)	SC-20	SC-20
SC-21	Secure Name/Address Resolution Service (Recursive or Caching Resolver)	SC-21	SC-21
SC-22	Architecture and Provisioning for Name/Address Resolution Service	SC-22	SC-22
SC-23	Session Authenticity	SC-23	SC-23
SC-24	Fail in Known State	Optional	Optional
SC-25	Thin Nodes	Optional	Optional
SC-26	Decoys	Optional	Optional
SC-27	Platform-Independent Applications	Optional	Optional
SC-28	Protection of Information at Rest	Optional	SC-28 (1)
SC-29	Heterogeneity	Optional	Optional
SC-30	Concealment and Misdirection	Optional	Optional
SC-31	Covert Channel Analysis	Optional	Optional
SC-32	System Partitioning	Optional	Optional
SC-34	Non-Modifiable Executable Programs	Optional	Optional
SC-35	External Malicious Code Identification	Optional	Optional
SC-36	Distributed Processing and Storage	Optional	Optional
SC-37	Out-of-Band Channels	Optional	Optional

CNTL NO.	CONTROL NAME	INITIAL CONTROL BASELINES	
		LOW	MOD
SC-38	Operations Security	Optional	Optional
SC-39	Process Isolation	Optional	Optional
SC-40	Wireless Link Protection	SC-40	SC-40
SC-41	Port and I/O Device Access	Optional	Optional
SC-42	Sensor Capability and Data	Optional	Optional
SC-43	Usage Restrictions	SC-43	SC-43
SC-44	Detonation Chambers	Optional	SC-44
System and Information Integrity			
SI-1	System and Information Integrity Policy and Procedures	SI-1	SI-1
SI-2	Flaw Remediation	SI-2	SI-2 (2)
SI-3	Malicious Code Protection	SI-3	SI-3
SI-4	System Monitoring	SI-4	SI-4 (2) (4) (5)
SI-5	Security Alerts, Advisories, and Directives	SI-5	SI-5
SI-6	Security and Privacy Function Verification	Optional	Optional
SI-7	Software, Firmware, and Information Integrity	Optional	SI-7 (1) (7)
SI-8	Spam Protection	Optional	SI-8 (1) (2)
SI-10	Information Input Validation	Optional	SI-10
SI-11	Error Handling	Optional	SI-11
SI-12	Information Management and Retention	SI-12	SI-12
SI-13	Predictable Failure Prevention	Optional	Optional
SI-14	Non-Persistence	Optional	Optional
SI-15	Information Output Filtering	Optional	Optional
SI-16	Memory Protection	Optional	SI-16
SI-17	Fail-Safe Procedures	Optional	Optional
Supply Chain Risk Management			
SR-1	Supply Chain Risk Management Policy and Procedures	SR-1	SR-1
SR-2	Supply Chain Risk Management Plan	SR-2 (1)	SR-2 (1)
SR-3	Supply Chain Controls and Processes	SR-3	SR-3
SR-4	Provenance	Optional	Optional
SR-5	Acquisition Strategies, Tools, and Methods	SR-5	SR-5
SR-6	Supplier Assessments and Reviews	Optional	SR-6
SR-7	Supply Chain Operations Security	Optional	Optional
SR-8	Notification Agreements	SR-8	SR-8
SR-9	Tamper Resistance and Detection	Optional	Optional
SR-10	Inspection of Systems or Components	SR-10	SR-10
SR-11	Component Authenticity	SR-11 (1) (2)	SR-11 (1) (2)
SR-12	Component Disposal	SR-12	SR-12

SECTION 2. IMPLEMENTATION AND MANAGEMENT

This Manual is the foundation for information technology security in state government and is required for all executive branch agencies to follow in order to comply with statewide information security standards. To be successful, Agency leadership must continue to emphasize the importance of information security throughout their organizations and at their discretion, implement additional supplementary controls as deemed necessary. When considering the supplementary controls not included in the State's policies, agencies should refer to NIST SP 800-53 Rev 5 and industry security practices related to information technology implementation. Agencies are also required to ensure ongoing compliance by implementing continuous monitoring activities.

SECTION 3 – INFORMATION PROTECTION

Agencies must implement appropriate safeguards as defined in the supporting policy documents (such as identification and authentication, encryption, data filtering, tagging, Multi-factor authentication or segregation) to ensure Restricted and Highly Restricted information, including Personally Identifiable Information (PII), Federal Tax Information (FTI), Payment Card Industry (PCI) is protected from inappropriate disclosure, misuse, or other security breaches, in accordance with State, Federal and other security standards and requirements.

Agencies must ensure an appropriate response in the event of a breach of sensitive PII consistent with Federal and Agency standards and requirements.

SECTION 4 – CONTINUOUS MONITORING

Continuous monitoring, automatic alerting, and auditing with corresponding tracking capabilities and reporting are required for devices connected to the State infrastructure or supporting State business (e.g., cloud services). Agencies must also have procedures in place to ensure robust incident response to unauthorized accesses and activities. The State CIO has the authority to require the installation of monitoring or auditing agents on devices connected to the network.

SECTION 5 – SECURITY ARCHITECTURE

Agencies must implement appropriate information safeguards (such as encryption, data filtering, tagging, or segregation) to ensure highly restricted information, including Personally Identifiable Information (PII), Federal Tax Information (FTI), Payment Card Industry (PCI) is protected from inappropriate disclosure, misuse, or other security breaches, in accordance with State, Federal and other security standards and requirements.

Agencies must ensure an appropriate response in the event of a breach of sensitive PII consistent with Federal and Agency standards and requirements.

SECTION 4 – REFERENCES

The following policies in the Statewide Information Security Manual provide additional details for the implementation of State information technology resources.

- SCIO-SEC-301: Access Control Policy (AC)
- SCIO-SEC-302: Awareness and Training Policy (AT)
- SCIO-SEC-303: Audit and Accountability Policy (AU)
- SCIO-SEC-304: Assessment, Authorization, and Monitoring Policy (CA)

- SCIO-SEC-305: Configuration Management Policy (CM)
- SCIO-SEC-306: Contingency Planning Policy (CP)
- SCIO-SEC-307: Identification and Authentication Policy (IA)
- SCIO-SEC-308: Incident Response Policy (IR)
- SCIO-SEC-309: Maintenance Policy (MA)
- SCIO-SEC-310: Media Protection Policy (MP)
- SCIO-SEC-311: Personnel Security Policy (PS)
- SCIO-SEC-312: Security Planning Policy (PL)
- SCIO-SEC-313: Physical and Environmental Protection Policy (PE)
- SCIO-SEC-314: Risk Assessment Policy (RA)
- SCIO-SEC-315: System and Services Acquisition Policy (SA)
- SCIO-SEC-316: System and Communications Protection Policy (SC)
- SCIO-SEC-317: System and Information Integrity Policy (SI)
- SCIO-SEC-318: Supply Chain Risk Management Policy (SR)

Attachment 3

Data Dictionary

Transaction Data Fields	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
Transaction ID	Unique Identifier assigned to each transaction generated by the system	
Transaction Date/Time	Timestamp associated with vehicle transaction as it occurred in the lane	
Facility	NCTA Facility ID	
Toll Zone	Toll Zone ID	
Lane	Lane number (0-XX, right to left for each zone)	
Vehicle Class	Vehicle class based on NCTA classification structure	
Number of Axles	Number of axles detected by AVC	
Vehicle Length	Detected vehicle length	
Speed	Speed of vehicle	
Tag Number	Tag Number - currently 3-digit agency code and 8-digit serial number - subject to change	
Tag Status	Tag Status assigned to transaction based on Tag Status File provided by BOS	
Tag Protocol	TDM, 6C or SeGo	
Tag Class	Classification programmed into the transponder and read by AVI	
Plate State	Issuing Authority of vehicle license plate sent to BOS as part of transaction file	
Plate Number	Full License plate number assigned to transaction sent to BOS as part of transaction file	
Plate Type	Plate type sent to BOS as part of transaction file	
Plate Country	Issuing Country of vehicle license plate sent to BOS as part of transaction file	
Transaction Type	AVI, Image-Based, Flushed Transponder, Wrong Way Vehicle	
Lane Degradation	An indicator of any issues reported in the lane system at the time of transaction	
Lane Mode	Operating Mode of the lane at the time of the transaction - Open, Emergency, Maintenance, Closed, Etc..	
Straddle Flag	Y/N indicating if the vehicle was straddling through the zone or not	
Image Processing Type	MIR, OCR (if there are several OCR engines used, identify which was chosen as prime or provide details for all)	

AVI Transaction Fare	AVI Transaction Fare assigned to the transaction based on the fare table (fare may vary due to vehicle class, payment type, transaction time, Lane Mode and/or HOV Status)	
Transaction Data Fields (cont'd)	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
Image-Based Transaction Fare	Image Based Transaction Fare assigned to the transaction based on the fare table (fare may vary due to vehicle class, payment type, transaction time, and/or lane mode)	
HOV Discount	Eligible for HOV discount	
HOV Tag Status	HOV Status declared through transponder	
HOV Predeclared Status	HOV Status provided through outside interface	
Assigned Fare	Fare amount assigned to transaction based on system rules (either the AVI Transaction Fare or Image based Transaction Fare)	
Transaction File Name	The name of the Transaction File sent to BOS containing the subject transaction	
Transaction Delivery Date/Time	Date/time at which the transaction file containing the subject transaction was sent to the BOS	
BOS Disposition	Disposition value provided by the BOS - accepted, rejected, adjusted (if rejected, provide reject code)	
Financial Disposition	Amount posted by BOS (provided within disposition file containing subject transaction)	
BOS Disposition File	The name of the Disposition File sent by BOS containing the subject transaction	
Disposition Receipt Date/Time	Date/time at which the disposition file containing subject transaction was received from the BOS	
Transaction Status	Current Status of the Transaction (image review pending, batched for delivery to BOS, sent to BOS, rejected in MIR, etc..)	
Time Received by RSS	Timestamp for which transaction was received from the lane in the RSS	
Number of Images	Number of images associated with the transaction	
Image ID	Unique Identifier of each image assigned to a transaction	
OCR Plate State Value	Issuing Authority of vehicle license plate produced through OCR	
OCR Plate Number Value	Full License plate number produced through OCR	
OCR Plate Type Value	Plate Type as assigned by OCR	

OCR Plate Country	Issuing Country of vehicle license plate through OCR	
OCR Confidence	OCR Confidence value. Possibly up to 3 fields if plate number, plate state and plate type each have independent confidence values	
OCR Processing Time	Timestamp for when OCR value was assigned to the transaction	
Transaction Data Fields (cont'd)	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
MIR Plate State Value	Issuing Authority of vehicle license plate produced through MIR	
MIR Plate Number Value	Full License plate number produced through MIR	
MIR Plate Type Value	Plate Type produced through MIR	
MIR Plate Country	Issuing Country of vehicle license plate through MIR	
MIR Processing Time	Timestamp for when MIR value was assigned to the transaction	
MIR Reviewer	The user that provided the MIR value (Could be multiple fields for multiple reviewers)	
MIR Reject	The code (reject reason) applied to a rejected image	
Transaction Amendment Timestamp	Timestamp associated with any amendment to the transaction record	
Transaction Amendment Outgoing	Incremented sequence number each time amendment to original transaction is submitted to BOS	
Transaction Amendment Reason	Plate Correction, Fare correction etc...	

Tag Status File Data Fields	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
Tag Status File Name	The name of the tag status file provided by BOS	
Tag Status File Received Date/Time	The date/time the tag status file was received from the BOS	
Tag Status Processed Date/Time	The date/time for when the tag file was fully implemented at each toll zone	
Tag Status File ACK	ACK send to BOS	

Fare Table Data Fields	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
Fares	Fare values associated with each location, vehicle classification and payment type	
Fare Start Date/Time	Date/Time at which a fare begins to be assigned to transactions in the lane	
Fare End Date/Time	Date/Time at which a fare ceases to be assigned to transactions in the lane	

Maintenance Data Fields	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
Ticket ID	Unique Identifier for a ticket or alert	
Ticket Name	Standardized name for type of ticket	
Ticket Priority	Ticket Priority, aligning with Response/Repair priority levels in the RFP	
Equipment Serial Number	Unique Identifier for the failed device, as applicable	
Date/Time Detected	Date and time the ticket was generated	
Assigned Technician	Technician assigned the ticket (based on on-call roles/schedules)	
Ticket Status	Current status of the ticket - open, acknowledged, repaired, closed etc..	
Date/Time Last Updated	The date and time the ticket was last updated	
Source of Update	Technician or system feature that provided the last update	
Ticket Location	Examples include: Toll Zone, Lane, ITS location, Host	
Ticket Description	Long form description of the issue associated with the ticket name	
Technician Notes	Any notes provided by the technician throughout the process	
Ticket Amendment Timestamp	Timestamp associated with any amendment to the maintenance ticket record	

Equipment Tracking Data Fields	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
Equipment Serial Number	Unique identifier for each device tracked in the system	
Equipment Name	Short name of the device	
Equipment Manufacturer	Equipment Manufacturer	

Equipment Part Number	Manufacturer provided part number	
Equipment Location	Facility/toll zone/lane/warehouse etc..	
Equipment Status	Functioning, failed, out for repair, storage, etc..	
Equipment Amendment Timestamp	Timestamp associated with any amendment to the equipment tracking record	
Equipment Warranty End Date	End date for manufacturer warranty	

Intelligent Transportation Systems	Data Field Description	Contractor Compliance (Existing, Adjustment, or New Development)
Travel Time	Time required to travel between Toll Zones	
Volume	Number of vehicles during defined interval (typically 15 minutes)	
Density	Number of vehicles occupying a defined length of the the Roadway	
Speed	Velocity of vehicle at a point in time or between Roadway segments.	
Toll Rate message	Message that contains toll rate information to post to sign	
Toll Rate time stamp	Timestamp on message that contains toll rate information to post to sign	
Travel time message	Message that contains travel time expected on the Toll Facility between start and end of the facility	
Travel timestamp	Timestamp that contains travel time expected on the Toll Facility between start and end of the facility	

Attachment 4

Use Cases

Verification and Validation Program Use Cases

This document is intended to provide a list of minimum use cases that is required to be tested by the Contractor and demonstrated to NCTA. NCTA expects such use cases to be updated based on the Contractor’s Architecture and system design to provide additional derived test cases from these use cases to demonstrate the end-to-end functionality of the Contract. Data Generated from these tests shall be provided to the NCTA to test interfaces. The Contractor shall work with the Department to change scenarios as for each test, as necessary, to test some edge cases, exception scenarios, and different operations scenarios to ensure that the system is fit for operations use. The Table below represents both Express Lanes and AET lane type use cases. The applicable use cases will be provided for each Project by NCTA.

Toll Operations Use Cases

Use Case Number	Scenario	Scenario Description The number of Transactions is outlined in each of the test columns on the right. For FAT, OI, SIT, Transaction Variables defined in this document shall be tested in each of the tests.	FAT	OIT	SIT	OAT	SAT
UC-01	Valid ETC Transactions with standard transponder	Execute a minimum X transactions standard ETC Transactions through the system and validate the transaction through the entire system from the roadside to host system and post to the Transaction host and back office system is available.	X=1000 Simulate Interfaces	X-2500 Simulate Interfaces	X-5000 Use Test Interfaces	X= 2500 Production traffic	X=10000 Production traffic
UC-02	Valid HOV Exempt ETC Transaction	Execute a minimum X transactions standard ETC Transactions through the system and validate the transaction through the entire system from the roadside to host system and post to TRH, and send to OBO/CBOS. 70% of the transactions shall be in eligible HOV designation and 30% shall be not declared in HOV designation.	X=500 Simulate Interfaces	X-1000 Simulate Interfaces	X-1000 Use Test Interfaces	X= 2000 Production traffic	X=5000 Production traffic
UC-03	Image Transaction; no valid E-ZPass Account	Execute 50 standard image toll transactions and validate the transactions through the entire system from the roadside to and post to TRH, and OBO/CBOS/. Validate that the Transaction is constructed, checked against the customer accounts and an Invoice is generated and sent to the customer for payment.	X=1000 Simulate Interfaces	X-2500 Simulate Interfaces	X-5000 Use Test Interfaces	X= 2500 Production traffic	X=10000 Production traffic
UC-04	Transaction involving HOV Enforcement Transaction	A single occupant is traveling with a switchable transponder declaring as HOV. The Transaction shall be identified such that the TRH and OBO/CBOS can associate the HOV status with the transaction posted in the account.		X-5	X-5	X-5	X-5
UC-05	Image review and verification	<p>Transaction image received from the TOLL ZONE. If the image meets criteria for bypassing image review (high confidence, not a plate of interest), send the images directly to Transaction Construction. Else, TRH queues the image for manual review. Image is displayed at an image reviewer's terminal. If the image reviewer determines the image meets criteria for rejection (no plate, emergency vehicle), the image reviewer enters the appropriate reject code. Else, the image reviewer enters the license plate information (characters, state, type). Confirm Image cropping functionality with image region of interest clearly identifying plate.</p> <p>A set of minimum of 25 image reviewers will review and disposition 2 hour of images simultaneously with staggered logins to emulate the start of a real workday.</p> <ol style="list-style-type: none">1. Rear overview and ROI are captured per transaction2. If image meets criteria for bypassing MIR (clear ROI, high confidence, not a plate of interest) the transaction is automatically processed and sent to BOS.3. Else, images are queued for manual image review <p>Once images are reviewed and the correct ROI is selected, the transaction is sent to the TRH and subsequently to the NCTA provided OBO/CBOS.</p>	X- all images as outlined in UC-03	X- all images as outlined in UC-03	X- all images as outlined in UC-03	X- all images as outlined in UC-03	X- all images as outlined in UC-03

Use Case Number	Scenario	Scenario Description The number of Transactions is outlined in each of the test columns on the right. For FAT, OI, SIT, Transaction Variables defined in this document shall be tested in each of the tests.	FAT	OIT	SIT	OAT	SAT
UC-06	Multiple Toll transactions created for a single vehicle	Duplicate transactions are generated for a single vehicle or multiple following or side-by-side vehicles. The RTCS identifies the transactions as duplicates and marks them and places them in a system exception log or queue. These use cases shall demonstrate: 1. How the queue is managed. 2. Who monitors the queue? 3. How are transactions released 4. What reports or alarms are trigged for exceptions?	Yes-Simulated	Yes-Simulated	Yes-generated in scenarios	Yes- only collect those triggered in production.	Yes- only collect those triggered in production.
UC-07	Multiple toll Zone Transponders in the car	A customer drives in a vehicle with two transponders (one FLEX and one FPT), one transponder belongs to home agency and the other on away agency account. The RTCS identifies 2 transponders in a vehicle and determines a primary transponder and flushes the secondary transponder transaction. <i>Who manages this queue?</i> The transactions are reviewed, found to be duplicate transactions for a single vehicle, and written off.	X	X	X		
UC-08	Monitor ITMS systems alerts and conduct Maintenance Operations	Maintenance operations monitor alerts and dispatch technicians for full 24/7 operations during UAT. Monthly Maintenance Reports provided for 2-week UAT.	X	X	X		
UC-09	Identify Roadside system fault, replace failed equipment, and update inventory	ITSM generate an alert for an equipment malfunction and CEM failures. ITMS operators identify faulty equipment, dispatches technicians to the field to replace faulty equipment. Note: CES failures may be simulated for the purpose of the testing.	X	X	X		
UC-10	Toll Zone Generates CES and ITSM alarms	Take an entire Toll Zone offline. ITSM generates alarms, and maintenance staffresponds, dispatching technician(s) to bring the Toll Point back online and close out the ticket in ITSM.	X	X	X		
UC-11	Data Center offline	Bring the TRH offline and demonstrate failover to Disaster Recovery, and operators can continue to work. Validate all system alerts messages are received when done, on DR and upon recovery.	X	X	X		
UC-12	Queue Images from Roadside	Disconnect roadside systems from all outside communication for 4 hours, transactions queue at TOLL ZONES, reconnect to show proper presentation of images and processing to TRH based on FIFO of Revenue Day time stamp.		X	X	X	
UC-13	Automatic prioritization of failures.	Observe the prioritization of the alerts during multiple toll zones with simultaneous failures of the system based on the priorities defined in the business rules.	X	X	X		
UC-14	Provision users for RTCS system	Provision (add, modify and delete) users for the RTCS system, including 1) Roadside, 2) service management 3) Pricing and all ITS requirement and 4) NCTA administrative staff.	X	X	X	X	X
UC-15	DMS shows no toll rate on the sign.	DMS does not have any toll rate on the sign for 15 minutes. What rates are used for during an outage? How is the customer service center notified in case of customer calls? What is displayed on the web? What exceptions are reported in the transactions? Are any ITSM alerts generated?	X	X	X	X	X
UC-16	Modify/add/delete toll rate plan	The operator selects to modify/add/delete a toll rate plan. Users must confirm the modification/addition/deletion via the web interface. Upload spreadsheet with new toll rate plan.	X	X	X	X	X

Use Case Number	Scenario	Scenario Description The number of Transactions is outlined in each of the test columns on the right. For FAT, OI, SIT, Transaction Variables defined in this document shall be tested in each of the tests.	FAT	OIT	SIT	OAT	SAT
UC-17	Configure Tolling Zone Data	Authorized system administrators shall modify, enter and store tolling point configuration data for one more roadways. Demonstrate the data modified includes: Tolling point identifiers, assets, direction and sequence, location description, link distance (from upstream toll point), fast and slow link travel time variations, minimum and maximum ‘look-back’ times to entry TRS.	X= simulated interfaces	X= simulated interfaces	X= simulated interfaces	X – production interfaces	X – production interfaces
UC-18	Toll Suspension Messages	Modify the messages sent to the sign to replace the calculated rate for the subject segment with ‘Suspended’ (or any other designated message) based on a state-dependent text string of “BLOCKED” or “CLOSED”, verify “Signed Confirmed” status, and systems alert message generated	X= simulated interfaces	X= simulated interfaces	X= simulated interfaces	X – production interfaces	X – production interfaces
UC-19	Dynamic Pricing Displays	Demonstrate the dynamic pricing system provides a history of DPS-computed and STOC-displayed prices to the CSC operator and OBO/CBOS. Demonstrate the DPS provides a display of prevailing traffic conditions and toll prices to the toll operator.	X= simulated interfaces	X= simulated interfaces	X= simulated interfaces	X – production interfaces	X – production interfaces
UC-20	Toll Pricing Configurability	Verify toll prices are configurable and are modified within the configurable ranges: <ul style="list-style-type: none">• Configurable to apply for a specific range of dates• Configurable to apply to specific days of the week, weekdays, weekends and holidays• Configurable to set minimum and maximum toll rate for each segment	X	X	X		
UC-21	Speeds Dashboard for pricing Determination	Verify the road map with icons for DMS, cameras and current speeds on the I-485 Express lanes Verify at least XX O-D Pairs and confirm service level colors are in accordance with the speeds and colors below: <ul style="list-style-type: none">• Green – 80% (44 mph) or greater of speed limit• Yellow – 60% (33 mph) to 80% (43 mph) of speed limit• Red – 40% (22 mph) to 60% (32 mph) of speed limit• Black – less than 40% (22 mph) of speed limit				X-100	X-100
UC-22	End to End Transaction processing	NCTA auditor reviews transactions generated by the RSS and posts to the TRH, OBO/CBOS. NCTA audits a single Transaction and 500 transactions in bulk. The Auditor reviews the transactions against the CCTV/DVAS video with the transactions. The Auditor reviews the 100 exception transactions where vehicle classification or other data is out of range or invalid data.	X	X	X		
UC-23	Dispute Class	Initiate 100 vehicle class disputes where the wrong classes are charged. The use case shall demonstrate how the dispute is initiated, reviewed and resolved within the RTCS. NCTA understands that additional processes may exist outside of the RTCS in its OBO/CBOS system. NCTA may include those processes in this test.	X	X	X	X	X
UC-024	Discount Plan	NCTA implements a discount plan that takes 25% off of all transactions. Conduct one-time or reoccurring promotional for specific time frame or specific transponders and discount or charge premium	X	X	X		

Table 1-Transactions Variables

The variables listed below are used to identify the roadway transaction and transaction configurations to be tested during use case testing. The variables shall be applied to Toll Transactions created at the roadside toll location, priced and sent to the back office to be posted.

Variable	Valid ETC (Home)	Invalid ETC (Invalid or Lost Stolen)- Home	Valid ETC (Away)	Invalid ETC(Invalid or Lost Stolen) – Away	Image only
License plate from VA, WV, MD (standard plate), and SC					X
Tag type - SeGo, TDM, 6C (exterior, transit and emergency vehicle), and pre-register	X	X	X	X	
Nighttime vehicle transactions for dusk	X	X	X	X	X
License plate obscured by trailer hitch		X		X	X
License plate with a frame that partially obscures numbers.		X			X
License plate with a frame that partially obscures state jurisdiction	X	X			X
Multiple Transponders in car	X				
Associate adjacent lane transactions	X	X	X	X	
Speeds < 20 MPH (with Vehicle spacing at 6 feet)	X				X
Speeds greater or equal to 55 MPH	X	X	X	X	X
Vehicle speed stopped under gantry for more than 10 minutes- simulating an accident.	X		X		X
Vehicle spacing at 15 feet (typical)	X	X	X	X	X
Vehicle spacing < 5 feet	X				X

Variable	Valid ETC (Home)	Invalid ETC (Invalid or Lost Stolen)- Home	Valid ETC (Away)	Invalid ETC(Invalid or Lost Stolen) – Away	Image only
Vehicles in a pack side by side passing while under the toll gantry.	X				X
Vehicles straddling the lanes	X				X
One vehicle in the express lane and one vehicle in GP with a transponder	X				X
Motorcycle Discounted per business rules.	X				X

Traffic Management Operational Scenarios

Scenario Description								
TUC-25	Normal operations for Operator and Supervisor	Two (2) Operators and one (1) Supervisor login and simultaneously perform typical day normal operations. Activities to include accessing field devices including DMS, CCTV and vehicle detectors; manipulating cameras and video wall; posting messages to DMS; monitoring traffic. The Use case shall demonstrate	X	X	X	x		
TUC-26	Operations for Operator and Supervisor – STOC roadside device conditions and Fault / Alarm monitoring	Operators and Supervisors to monitor roadside equipment (DMS, CCTV, MVD’s) conditions/faults as well as various alarms.	X	X	X	X	x	
TUC-27	Manage Incident in Express Lanes: Slow-moving vehicle, stopped vehicle, multiple incidents in close proximity	Camera-generated and Operator-generated Express Lane incidents involving single lane and multiple lanes and secondary incidents all lanes in Express lanes are closed, all toll signs are updated.		X	X	X		
TUC-28	Manage Incident in Express Lanes: Fatality, Hazmat, Evacuation	Express Lane incidents involving fatality, hazmat, area evacuation, resulting in toll suspension Operator reduces speed on and closes 1 lane. Few transactions have queued in TRH with non-Zero toll amount but will require override before they are sent to OBO/CBOS.	X		X			
TUC-29	Switching Control during Incident Management: Operator workstation goes down, handover	Operator switches to another workstation while managing an Express Lane incident due to workstation going down; Operator takes control of an Express Lane incident due to unavailability of the original Operator	X		X	X		

Scenario Description							
	control to another Operator						
TUC-30	End of Shift Operations / Reports	Operator and Supervisor runs all daily STOC reports and validates results. Note: need to get a list of all reports from Operator.	X	X	X		
TUC-31	Blocked lane due to incident on roadway	An incident on the roadblocks access to all but one toll lane near middle of express lanes. (What is the communication protocol from the TMC to toll operations? How does toll operations respond to the incident?) What details are on the reports regarding the incident?	X	X	X		
TUC-32	Wrong way detection	Generate scenario where wrong way traffic is picked up and reported to the STOC. How many seconds after the vehicle clears the toll point does the ETC subsystem report the detected wrong-way vehicle?	X	X	X		

Attachment 5

NCTA Reports and Analytics Templates

AET Lane Availability

Search Parameters

Year 2019
Month March
Plaza T-34, T-33 (multi-select)

		Up Time			Down Time			Exception Time					
Plaza	Lane	Days	Hours	Minutes	Days	Hours	Minutes	Days	Hours	Minutes	Percentage Available	Points	
T-34	Lane 0	30	23		16	0	0	43	0	0	14	99.903%	0
T-34	Lane 1	30	22		8	0	1	51	0	0	39	99.750%	2
T-34	Lane 2	30	21		32	0	2	27	0	1	35	99.669%	2
T-33	Lane 0	30	23		21	0	0	38	0	1	3	99.914%	0
T-33	Lane 1	30	23		37	0	0	22	0	0	49	99.950%	0
T-33	Lane 2	30	22		26	0	1	33	0	0	24	99.790%	1

[all plazas, all lanes]

Total		92	18	57	0	5		2	0	2	29	99.321%	5
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*Footnote indicating timestamp of last processed transaction

580	Availability – AET Lanes: This report will show each travel lane by location along with uptime, downtime, exception time, availability percentage calculated to 0.001 percent for the reporting period, and points assessed per travel lane. The report shall contain a summary, the information from which the Contractor’s Monthly Performance Scorecard is generated.
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RSS Availability

Search Parameters

Year

2019

Month

April

Drill down list	Functional Area	Up Time			Down Time			Exception Time			Percentage Available	Points
		Days	Hours	Minutes	Days	Hours	Minutes	Days	Hours	Minutes		
RSS												
Toll Host System	Facility/DVR	30	23	16	0	0	43	0	0	14	99.903%	
Toll Host subsystem 1	Facility/DVR/Toll Zone/Camera 1	30	22	8	0	1	51	0	0	39	99.750%	
Toll Host subsystem 2	Facility/DVR/Toll Zone/Camera 2	30	21	32	0	2	27	0	1	35	99.669%	
Toll Host subsystem 3		30	22	26	0	1	33	0	0	24	99.790%	
DVAS												
DVAS 1												
DVR												
Camera 1												
Camera 2												
DVAS 2												
DVAS 3												
DVAS 4												
DVAS 5												
ROMS												
NETWORKS												
CEMS												
ACMS												

581 Availability – RSS: This report shall display a list of functional areas (to be determined during System Design) within the RSS along with a drill down to each of the components therein that contribute to the availability of the RSS along with uptime, downtime, exception time, and availability percentage calculated to 0.001 percent for the reporting period, and points assessed per line item. The report shall contain a summary, the information from which the Contractor's Monthly Performance Scorecard is generated.

Points calculation detail TBD

AVI Transaction Timeliness
Search Parameters
Year 2019
Month March

Replaced by TRXN Timeliness (reformat) report

Daily Transmission Timeliness

Transaction Date	Transmission Time > 120 minutes	Transmission < 120 minutes	Total	Percentage sent after 120 minutes
3/1/2019	10	442,150	442,160	0.002%
3/2/2019	2	132,250	132,252	0.002%
3/3/2019	5	112,800	112,805	0.004%
3/4/2019	1	393,850	393,851	0.000%
3/5/2019	15	396,700	396,715	0.004%
3/6/2019	8	427,800	427,808	0.002%
3/7/2019	8	433,500	433,508	0.002%
3/8/2019	9	360,400	360,409	0.002%
3/9/2019	4	133,750	133,754	0.003%
3/10/2019	0	115,400	115,400	0.000%
3/11/2019	16	447,750	447,766	0.004%
3/12/2019	22	451,100	451,122	0.005%
3/13/2019	11	447,750	447,761	0.002%
3/14/2019	8	417,250	417,258	0.002%
3/15/2019	12	438,550	438,562	0.003%
3/16/2019	4	143,350	143,354	0.003%
3/17/2019	2	110,750	110,752	0.002%
3/18/2019	12	423,300	423,312	0.003%
3/19/2019	15	395,400	395,415	0.004%
3/20/2019	21	401,200	401,221	0.005%
3/21/2019	7	407,150	407,157	0.002%
3/22/2019	8	435,550	435,558	0.002%
3/23/2019	4	104,350	104,354	0.004%
3/24/2019	9	139,500	139,509	0.006%
3/25/2019	12	423,150	423,162	0.003%
3/26/2019	16	447,750	447,766	0.004%
3/27/2019	9	399,900	399,909	0.002%
3/28/2019	23	447,750	447,773	0.005%
3/29/2019	15	447,750	447,765	0.003%
3/30/2019	0	145,350	145,350	0.000%
3/31/2019	6	126,650	126,656	0.005%

*Footnote indicating timestamp of last processed transaction

Monthly Transmission Timeliness

Month	Transmission Time > 120 minutes	Transmission < 120 minutes	Total	Average of Daily Percentages	Points
Mar-19	294	10,149,850	10,150,144	0.003%	

*Footnote indicating timestamp of last processed transaction

584	Operations – AVI Transaction Transmission Timeliness: This report shall show for each day in the reporting period total AVI transactions sent to the CSC, total number of transactions not sent to the CSC within 120 minutes, and the percentage of transactions sent to the CSC later than 120 minutes. This report will also contain a summary showing the monthly totals for the counted items and the average for the calculated percentages. The summary information will be used on the Contractor's Monthly Performance Scorecard.
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Image Transaction Transmission Timeliness

Search Parameters

Year 2019
Month April

Replaced by TRXN Timeliness (reformat) report

Daily Transmission Timeliness

Transaction Date	Transmission Time > 72	Transmission < 72 hours	Total	Percentage sent after 72 hours
4/1/2019	0	157,540	157,540	0.000%
4/2/2019	0	158,680	158,680	0.000%
4/3/2019	0	171,120	171,120	0.000%
4/4/2019	0	173,400	173,400	0.000%
4/5/2019	2	144,160	144,162	0.001%
4/6/2019	0	53,500	53,500	0.000%
4/7/2019	0	46,160	46,160	0.000%
4/8/2019	0	179,100	179,100	0.000%
4/9/2019	3	180,440	180,443	0.002%
4/10/2019	0	179,100	179,100	0.000%
4/11/2019	0	166,900	166,900	0.000%
4/12/2019	0	175,420	175,420	0.000%
4/13/2019	0	57,340	57,340	0.000%
4/14/2019	0	44,300	44,300	0.000%
4/15/2019	2	169,320	169,322	0.001%
4/16/2019	0	158,160	158,160	0.000%
4/17/2019	0	160,480	160,480	0.000%
4/18/2019	1	162,860	162,861	0.001%
4/19/2019	0	174,220	174,220	0.000%
4/20/2019	0	41,740	41,740	0.000%
4/21/2019	0	55,800	55,800	0.000%
4/22/2019	0	169,260	169,260	0.000%
4/23/2019	0	179,100	179,100	0.000%
4/24/2019	3	159,960	159,963	0.002%
4/25/2019	0	179,100	179,100	0.000%
4/26/2019	0	179,100	179,100	0.000%
4/27/2019	0	58,140	58,140	0.000%
4/28/2019	1	52,900	52,901	0.002%
4/29/2019	0	176,860	176,860	0.000%
4/30/2019	0	174,220	174,220	0.000%

*Footnote indicating timestamp of last processed transaction

Monthly Transmission Timeliness

Year	Transmission Time > 72	Transmission < 72 hours	Total	Percentage sent after 72 hours	Points
Apr-19	12	4,138,380	4,138,392	0.000%	1

*Footnote indicating timestamp of last processed transaction

585 Operations – Image Transaction Transmission Timeliness: This report shall show for each day in the reporting period total image transactions sent to CSC, total number of image transactions not sent to the CSC within 72 hours, and the percentage of transactions sent to the CSC later than 72 hours. This report will also contain a summary showing the monthly totals for the counted items and the average for the calculated percentages. The summary information will be used on the Contractor's Monthly Performance Scorecard.

Statewide Roadside Toll Collection System RFP

Attachment 5 - NCTA Reports and Analytics Templates

Transaction Transaction Timeliness
Search Parameters
Year
Month

2019
March

Daily Transmission Timeliness

Transaction Date	Total AVI Trx	Total Image Trx	AVI Transaction > 120 minutes	Image Transaction > 72 Hours	% AVI not sent within 120 minutes	% Image not sent within 72 Hours
3/1/2019	442,160	132,648	10	10	0.002%	0.008%
3/2/2019	132,252	39,676	2	2	0.002%	0.005%
3/3/2019	112,805	33,842	5	5	0.004%	0.015%
3/4/2019	393,851	118,155	1	1	0.000%	0.001%
3/5/2019	396,715	119,015	15	15	0.004%	0.013%
3/6/2019	427,808	128,342	8	8	0.002%	0.006%
3/7/2019	433,508	130,052	8	8	0.002%	0.006%
3/8/2019	360,409	108,123	9	9	0.002%	0.008%
3/9/2019	133,754	40,126	4	4	0.003%	0.010%
3/10/2019	115,400	34,620	0	0	0.000%	0.000%
3/11/2019	447,766	134,330	16	16	0.004%	0.012%
3/12/2019	451,122	135,337	22	22	0.005%	0.016%
3/13/2019	447,761	134,328	11	11	0.002%	0.008%
3/14/2019	417,258	125,177	8	8	0.002%	0.006%
3/15/2019	438,562	131,569	12	12	0.003%	0.009%
3/16/2019	143,354	43,006	4	4	0.003%	0.009%
3/17/2019	110,752	33,226	2	2	0.002%	0.006%
3/18/2019	423,312	126,994	12	12	0.003%	0.009%
3/19/2019	395,415	118,625	15	15	0.004%	0.013%
3/20/2019	401,221	120,366	21	21	0.005%	0.017%
3/21/2019	407,157	122,147	7	7	0.002%	0.006%
3/22/2019	435,558	130,667	8	8	0.002%	0.006%
3/23/2019	104,354	31,306	4	4	0.004%	0.013%
3/24/2019	139,509	41,853	9	9	0.006%	0.022%
3/25/2019	423,162	126,949	12	12	0.003%	0.009%
3/26/2019	447,766	134,330	16	16	0.004%	0.012%
3/27/2019	399,909	119,973	9	9	0.002%	0.008%
3/28/2019	447,773	134,332	23	23	0.005%	0.017%
3/29/2019	447,765	134,330	15	15	0.003%	0.011%
3/30/2019	145,350	43,605	0	0	0.000%	0.000%
3/31/2019	126,656	37,997	6	6	0.005%	0.016%

*Footnote indicating timestamp of last processed transaction

Monthly Transmission Timeliness

Month	Total AVI Transactions	Total Image Transactions	AVI Transaction > 120 minutes	Image Transaction > 72 Hours	% AVI not sent within 120 minutes	% Image not sent within 72 Hours
Mar-19	10,150,144	3,045,043	294	294	0.003%	0.010%

*Footnote indicating timestamp of last processed transaction

584	Operations – AVI Transaction Transmission Timeliness: This report shall show for each day in the reporting period total AVI transactions sent to the CSC, total number of transactions not sent to the CSC within 120 minutes, and the percentage of transactions sent to the CSC later than 120 minutes. This report will also contain a summary showing the monthly totals for the counted items and the average for the calculated percentages. The summary information will be used on the Contractor's Monthly Performance Scorecard.
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Image Quality
Search Parameters
Year 2019
Month January

Daily Image Quality

Date	Total Image Transactions	Rejections under control of contractor	Percentage at fault	KPI	
1/1/2019	81,234	80	0.098%	99.902%	
1/2/2019	82,156	70	0.085%	99.915%	
1/3/2019	83,078	60	0.072%	99.928%	
1/4/2019	84,000	100	0.119%	99.881%	
1/5/2019	84,922	80	0.094%	99.906%	
1/6/2019	85,844	70	0.081%	99.919%	
1/7/2019	86,766	60	0.069%	99.931%	
1/8/2019	87,688	100	0.114%	99.886%	
1/9/2019	88,610	80	0.090%	99.910%	
1/10/2019	89,532	70	0.078%	99.922%	
1/11/2019	90,454	60	0.066%	99.934%	
1/12/2019	91,376	100	0.109%	99.891%	
1/13/2019	92,298	80	0.087%	99.913%	
1/14/2019	93,220	70	0.075%	99.925%	
1/15/2019	94,142	60	0.064%	99.936%	
1/16/2019	95,064	100	0.105%	99.895%	
1/17/2019	95,986	80	0.083%	99.917%	
1/18/2019	96,908	70	0.072%	99.928%	
1/19/2019	97,830	60	0.061%	99.939%	
1/20/2019	98,752	100	0.101%	99.899%	
1/21/2019	99,674	80	0.080%	99.920%	
1/22/2019	100,596	70	0.070%	99.930%	
1/23/2019	101,518	60	0.059%	99.941%	
1/24/2019	102,440	100	0.098%	99.902%	
1/25/2019	103,362	80	0.077%	99.923%	
1/26/2019	104,284	70	0.067%	99.933%	
1/27/2019	105,206	60	0.057%	99.943%	
1/28/2019	106,128	60	0.057%	99.943%	
1/29/2019	107,050	60	0.056%	99.944%	
1/30/2019	107,972	60	0.056%	99.944%	
1/31/2019	108,894	60	0.055%	99.945%	

*Footnote indicating timestamp of last processed transaction

Monthly Transmission Timeliness

Year	Total Image Transactions	Rejections under control of contractor	Percentage at fault	Points	Points
Jan-19	2,946,984	2,310	0.078%	99.922%	0

*Footnote indicating timestamp of last processed transaction

589	Operations – Image Quality: This report will display for each day in the reporting period, the total number of images rejected, total number of images rejected for reasons under control of contractor (to be determined during System Design phase), and the percentage calculated to 0.001 percent. The report shall also have a summary showing the monthly totals of each plus the assessed points for the month. The summary information will be used on the Contractor's Monthly Performance Scorecard.
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Monthly Contractor's Performance Scorecard

Report parameters

Year 2019
Month January

Category	Key Performance Indicator	Performance Requirement	Adj. System Performance	Base Points	Escalation Multiplier	Total Points
Availability	AET Lanes	99.95%		0	1	0
	Roadway Support System	99.95%		1	1	1
	TOTAL No. of Points Assessed			1		1
Completeness	Toll Facility Maintenance			0	1	0
	TOTAL No. of Points Assessed			0		0
Operations	ITS Complete and Timely Data Transmission			0	1	0
	AVI Transaction Complete and Timely Transmission			2	2	4
	Image Transaction Complete and Timely Transmission			1	4	4
	AVI Transaction Accuracy			1	1	1
	Image Transaction Accuracy			1	1	1
	Image Rejection Accuracy			1	2	2
	Image Quality			1	1	1
	Back Office File Receipt and Processing			1	4	4
	Wrong-Way Vehicle Detection and Notification			1	1	1
	TOTAL No. of Points Assessed			9		18
	TOTAL No. of Points Assessed – ALL CATEGORIES			10		19
	PERFORMANCE ADJUSTMENT PERCENTAGE BASED ON PERFORMANCE LEVEL			0%		0%

591	Performance Reporting – Monthly Contractor's Performance Scorecard: This report is intended to be a single page quick look at the performance of the contractor and System for the reporting period. The aforementioned reports will provide the data that will be used to populate this report, as sample of which is shown in Table 6.
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Historical Performance

Year	Month	AET Lane Availability	RSS Availability	AVI Transaction Timeliness	Image Transaction Timeliness	Image Quality	Points Asse	% Adjustment
2018	July	99.989%	99.992%	0.003%	0.001%	0.002%	7	0%
2018	August	99.989%	99.992%	0.003%	0.001%	0.002%	12	0%
2018	September	99.989%	99.992%	0.003%	0.001%	0.002%	35	5%
2018	October	99.989%	99.992%	0.003%	0.001%	0.002%	16	0%
2018	November	99.989%	99.992%	0.003%	0.001%	0.002%	22	0%
2018	December	99.989%	99.992%	0.003%	0.001%	0.002%	30	5%
2019	January	99.989%	99.992%	0.003%	0.001%	0.002%	21	0%
2019	February	99.989%	99.992%	0.003%	0.001%	0.002%	3	0%
2019	March	99.989%	99.992%	0.003%	0.001%	0.002%	4	0%
2019	April	99.989%	99.992%	0.003%	0.001%	0.002%	12	0%
2019	May	99.989%	99.992%	0.003%	0.001%	0.002%	9	0%
2019	June	99.989%	99.992%	0.003%	0.001%	0.002%	6	0%

592	Performance Reporting – Historical Performance: This report will show the Contractor's performance on each of the Performance Standards for the last twelve (12) months.
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Monthly Contractor's Performance Scorecard

Report parameters

Year 2019
Month December

Category	Key Performance Indicator	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sept 2019	Oct 2019	Nov 2019	Dec 2019
Availability	AET Lanes	0	0	1	2	4	0	0	1	0	1	2	0
	Roadway Support System	1	1	0	1	0	0	1	4	8	0	3	0
	TOTAL No. of Points Assessed	1	1	1	3	4	0	1	5	8	1	5	0
Completeness	Toll Facility Maintenance	0	0	0	0	1	4	0	3	5	6	0	1
	TOTAL No. of Points Assessed	0	0	0	0	1	4	0	3	5	6	0	1
Operations	ITS Complete and Timely Data Transmission	0	0	0	1	4	4	0	3	2	8	0	1
	AVI Transaction Complete and Timely Transmission	4	2	8	0	1	0	5	6	0	2	1	0
	Image Transaction Complete and Timely Transmission	4	2	12	0	5	2	0	1	0	3	2	12
	AVI Transaction Accuracy	1	2	0	4	6	0	1	4	8	12	0	1
	Image Transaction Accuracy	1	6	16	0	2	0	6	4	12	0	1	10
	Image Rejection Accuracy	2	0	5	10	20	0	1	6	0	8	4	6
	Image Quality	1	2	4	0	6	12	0	1	2	4	0	6
	Back Office File Receipt and Processing	4	0	0	0	0	0	0	0	0	0	0	0
	Wrong-Way Vehicle Detection and Notification	1	0	0	1	0	0	1	0	1	1	0	0
	TOTAL No. of Points Assessed	18	14	45	16	44	18	14	25	25	38	8	36
	TOTAL No. of Points Assessed – ALL CATEGORIES	19	15	46	19	49	22	15	33	38	45	13	37
	PERFORMANCE ADJUSTMENT PERCENTAGE BASED ON PERFORMANCE LEVEL	0%	0%	10%	0%	10%	0%	0%	5%	5%	10%	0%	5%

592 Performance Reporting – Historical Performance: This report will show the Contractor's performance on each of the Performance Standards for the last twelve (12) months.



Finance Traffic Detail Report

Search Parameters
Facility: TriX

Start Date/Time: 6/7/2019
End Date/Time: 6/9/2019
Time Reference: Transaction Timestamp or Time sent to BOS
Group By: By Facility, By Direction, By Zone or By Lane
Interval: Hour, Day, Monthly or Yearly

		AVI Transactions									Image-Based Transactions									
Date	Per Zone	Class 1 Transactions	Class 1 Expected Revenue	Class 2 Transactions	Class 2 Expected Revenue	Class 3 Transactions	Class 3 Expected Revenue	Total AVI Transactions	Total AVI Expected Revenue	Class 1 Transactions	Class 1 Expected Revenue	Class 2 Transactions	Class 2 Expected Revenue	Class 3 Transactions	Class 3 Expected Revenue	Total Image-Based Transactions	Total Image-Based Expected Revenue	Total Transactions	Total Expected Revenue	
6/7/2019	T01	20,000	\$ 3,000.00	5,000	\$ 2,000.00	12,000	\$ 6,000.00	37,000	\$ 11,000.00	18,000	\$ 4,000.00	5,000	\$ 2,500.00	15,000	\$ 4,500.00	38,000	\$ 11,000.00	75,000	\$ 22,000.00	
6/7/2019	T02	21,000	\$ 3,000.00	4,000	\$ 2,000.00	13,000	\$ 6,000.00	38,000	\$ 11,000.00	19,000	\$ 4,000.00	4,000	\$ 2,500.00	14,000	\$ 4,500.00	37,000	\$ 11,000.00	75,000	\$ 22,000.00	
6/7/2019	T05	22,000	\$ 3,000.00	5,000	\$ 2,000.00	14,000	\$ 6,000.00	41,000	\$ 11,000.00	20,000	\$ 4,000.00	5,000	\$ 2,500.00	13,000	\$ 4,500.00	38,000	\$ 11,000.00	79,000	\$ 22,000.00	
6/7/2019	T06	23,000	\$ 3,000.00	4,667	\$ 2,000.00	15,000	\$ 6,000.00	42,667	\$ 11,000.00	21,000	\$ 4,000.00	4,000	\$ 2,500.00	12,000	\$ 4,500.00	37,000	\$ 11,000.00	79,667	\$ 22,000.00	
6/7/2019	T09	24,000	\$ 3,000.00	4,667	\$ 2,000.00	16,000	\$ 6,000.00	44,667	\$ 11,000.00	22,000	\$ 4,000.00	5,000	\$ 2,500.00	11,000	\$ 4,500.00	38,000	\$ 11,000.00	82,667	\$ 22,000.00	
6/7/2019	T10	25,000	\$ 3,000.00	4,667	\$ 2,000.00	17,000	\$ 6,000.00	46,667	\$ 11,000.00	23,000	\$ 4,000.00	4,600	\$ 2,500.00	10,000	\$ 4,500.00	37,600	\$ 11,000.00	84,267	\$ 22,000.00	
6/7/2019	T13	26,000	\$ 3,000.00	4,667	\$ 2,000.00	18,000	\$ 6,000.00	48,667	\$ 11,000.00	24,000	\$ 4,000.00	4,600	\$ 2,500.00	9,000	\$ 4,500.00	37,600	\$ 11,000.00	86,267	\$ 22,000.00	
6/7/2019	T14	27,000	\$ 3,000.00	4,667	\$ 2,000.00	19,000	\$ 6,000.00	50,667	\$ 11,000.00	25,000	\$ 4,000.00	4,600	\$ 2,500.00	8,000	\$ 4,500.00	37,600	\$ 11,000.00	88,267	\$ 22,000.00	
6/7/2019	T17	28,000	\$ 3,000.00	4,667	\$ 2,000.00	20,000	\$ 6,000.00	52,667	\$ 11,000.00	26,000	\$ 4,000.00	4,600	\$ 2,500.00	7,000	\$ 4,500.00	37,600	\$ 11,000.00	90,267	\$ 22,000.00	
6/7/2019	T18																			
6/7/2019	T21																			
6/7/2019	T22																			
6/7/2019	T25																			
6/7/2019	T26																			
6/7/2019	T29																			
6/7/2019	T30																			
6/7/2019	T31																			
6/7/2019	T32																			
6/7/2019	T33																			
6/7/2019	T34																			
6/7/2019	Totals	216,000	\$ 27,000.00	42,000	\$ 18,000.00	144,000	\$ 54,000.00	402,000	\$ 99,000.00	198,000	\$ 36,000.00	41,400	\$ 22,500.00	99,000	\$ 40,500.00	338,400	\$ 99,000.00	740,400	\$ 198,000.00	
6/8/2019	T01	20,000	\$ 3,000.00	5,000	\$ 2,000.00	12,000	\$ 6,000.00	37,000	\$ 11,000.00	18,000	\$ 4,000.00	5,000	\$ 2,500.00	15,000	\$ 4,500.00	38,000	\$ 11,000.00	75,000	\$ 22,000.00	
6/8/2019	T02	21,000	\$ 3,000.00	4,000	\$ 2,000.00	13,000	\$ 6,000.00	38,000	\$ 11,000.00	19,000	\$ 4,000.00	4,000	\$ 2,500.00	14,000	\$ 4,500.00	37,000	\$ 11,000.00	75,000	\$ 22,000.00	
6/8/2019	T05	22,000	\$ 3,000.00	5,000	\$ 2,000.00	14,000	\$ 6,000.00	41,000	\$ 11,000.00	20,000	\$ 4,000.00	5,000	\$ 2,500.00	13,000	\$ 4,500.00	38,000	\$ 11,000.00	79,000	\$ 22,000.00	
6/8/2019	T06	23,000	\$ 3,000.00	4,667	\$ 2,000.00	15,000	\$ 6,000.00	42,667	\$ 11,000.00	21,000	\$ 4,000.00	4,000	\$ 2,500.00	12,000	\$ 4,500.00	37,000	\$ 11,000.00	79,667	\$ 22,000.00	
6/8/2019	T09																			
6/8/2019	T10																			
6/8/2019	T13																			
6/8/2019	T14																			
6/8/2019	T17																			
6/8/2019	T18																			
6/8/2019	T21																			
6/8/2019	T22																			
6/8/2019	T25																			
6/8/2019	T26																			
6/8/2019	T29																			
6/8/2019	T30																			
6/8/2019	T31																			
6/8/2019	T32																			
6/8/2019	T33																			
6/8/2019	T34																			
6/8/2019	Totals	86,000	\$ 12,000.00	18,667	\$ 8,000.00	54,000	\$ 24,000.00	158,667	\$ 44,000.00	78,000	\$ 16,000.00	18,000	\$ 10,000.00	54,000	\$ 18,000.00	150,000	\$ 44,000.00	308,667	\$ 88,000.00	
6/9/2019	T01																			
6/9/2019	T02																			
6/9/2019	T05																			
6/9/2019	T06																			
6/9/2019	T09																			
6/9/2019	T10																			
6/9/2019	T13																			
6/9/2019	T14																			
6/9/2019	T17																			
6/9/2019	T18																			
6/9/2019	T21																			
6/9/2019	T22																			
6/9/2019	T25																			
6/9/2019	T26																			
6/9/2019	T29																			
6/9/2019	T30																			
6/9/2019	T31																			
6/9/2019	T32																			
6/9/2019	T33																			
6/9/2019	T34																			
6/9/2019	Totals	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	

544 Finance Traffic Details Report: This report shall display traffic counts grouped by tolling point and vehicle class category and include grand totals for each vehicle class category.

570 Finance Traffic and Revenue Details Report: This report shows traffic and revenue counts by tolling point and is grouped by vehicle class categories for the specified highway(s) selected. This report provides Operations and management with traffic and revenue totals for each tolling point by vehicle class categories for a specified date range.

Totals:	216,000	\$	27,000.00	42,000	\$	18,000.00	144,000	\$	54,000.00	402,000	\$	99,000.00	198,000	\$	36,000.00	41,400	\$	22,500.00	99,000	\$	40,500.00	338,400	\$	99,000.00	740,400	\$	198,000.00	
544	Finance Traffic Details Report: This report shall display traffic counts grouped by tolling point and vehicle class category and include grand totals for each vehicle class category.																											

Performace by US States Report



State	Image-Based Transactions Processed		ALPR		MIR	
	Count	% of ALL	Count	% of State	Count	% of State
ALL	xxxx	100%				
NC						
SC						
FL						
VA						
GA						
TX						
OH						
TN						
NY						
...						

Remaining States in alphabetical order

Totals:

151	The Image Review System shall provide reports that display image review trends.
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Unique Vehicle Report

Search Parameters:

Facility: TriEx and C540 (MS)

Start Date:

5/1/2019

End Date:

5/31/2019



Date	Unique AVI	Unique Image-Based	Total
5/1/2019	7,741	5,345	13,086
5/2/2019	7,644	5,595	13,239
5/3/2019	6,935	5,125	12,060
5/4/2019	8,493	5,831	14,324
5/5/2019	10,457	5,742	16,199
5/6/2019	7,978	3,530	11,508
5/7/2019	8,157	3,323	11,480
5/8/2019	7,338	5,298	12,636
5/9/2019	7,181	5,500	12,681
5/10/2019	7,728	5,730	13,458
5/11/2019	8,439	5,927	14,366
5/12/2019	11,032	6,112	17,144
5/13/2019	8,398	3,544	11,942
5/14/2019	7,795	3,130	10,925
5/15/2019	8,424	5,626	14,050
5/16/2019	8,430	5,971	14,401
5/17/2019	9,086	5,944	15,030
5/18/2019	11,578	6,469	18,047
5/19/2019	10,615	4,514	15,129
5/20/2019	9,353	3,423	12,776
5/21/2019	10,680	3,461	14,141
5/22/2019	9,606	5,402	15,008
5/23/2019	8,448	5,414	13,862
5/24/2019	8,498	5,602	14,100
5/25/2019	9,411	5,699	15,110
5/26/2019	11,408	5,860	17,268
5/27/2019	9,384	3,580	12,964
5/28/2019	10,419	3,575	13,994
5/29/2019	7,809	5,740	13,549
5/30/2019	7,642	5,899	13,541
5/31/2019	7,475	6,058	13,533
Total:	273,582	157,969	431,551

Notes:

Use transaction data sent to BOS for these numbers. MIR rejects and flush transponders should not be included.

ADHOC Report.

Host Dashboard Report

Parameters: Date Range (default to previous day) Facility (NCTA default to T700) Toll Plaza (NCTA default to all)

Class 0 - Disabled Transponder

Date	Location	All Transactions	Total AVI Transactions	Total Image-Based Transactions	Total AVI Autoflush	Total Image-Based Autoflush	AVI Transactions %	Image-Based Transaction %	033-NCDP Transactions	Total Class 1 Transactions	Total Class 2 Transactions	Total Class 3 Transactions	Class 0 Transactions %	Class 1 Transactions %	Class 2 Transactions %	Class 3 Transactions %	Daily OCR Average	Reject Reason 1	Reject Reason 2	Reject Reason 3	Reject Reason 4	Reject Reason 5	Reject Reason 6	Reject Reason 7	Reject Reason XX
06/24/2019	T01	2,889	1,791	1,238	14	2	58.58%	41.42%	1,574	2,911	25	37	0.00%	97.39%	0.84%	1.24%	95.46%								
06/24/2019	T02	2,778	1,690	1,088	18	5	60.84%	39.16%	1,500	2,708	20	27	0.00%	97.48%	0.72%	0.97%	99.90%								
06/24/2019	T05	9,028	5,507	3,521	56	7	61.00%	39.00%	5,061	8,543	111	309	0.00%	94.61%	1.25%	3.42%	99.60%								
06/24/2019	T06	9,611	5,832	3,779	54	11	60.68%	39.32%	5,422	9,106	122	118	0.00%	94.75%	1.27%	3.11%	99.44%								
06/24/2019	T09	3,363	1,845	1,518	19	2	54.86%	45.14%	1,696	3,265	22	55	0.00%	97.09%	0.65%	1.64%	99.19%								
06/24/2019	T10	1,896	2,193	1,703	39	7	56.29%	43.71%	1,971	3,798	16	36	0.00%	97.48%	0.41%	0.92%	98.96%								
06/24/2019	T13	18,619	11,204	7,415	155	36	60.18%	39.82%	10,481	17,403	240	785	0.00%	93.47%	1.29%	4.22%	98.73%								
06/24/2019	T14	19,180	11,474	7,706	73	34	59.82%	40.18%	10,838	18,061	465	547	0.00%	94.17%	2.42%	2.85%	98.50%								
06/24/2019	T17	22,021	13,078	8,943	144	28	59.39%	40.61%	12,360	20,712	395	742	0.00%	94.06%	1.79%	3.37%	98.27%								
06/24/2019	T18	23,083	13,982	9,111	193	35	60.55%	39.45%	13,238	21,658	305	902	0.00%	93.79%	1.32%	3.91%	98.04%								
06/24/2019	T21	6,452	4,124	2,328	47	12	61.92%	38.08%	3,907	6,069	100	224	0.00%	94.06%	1.55%	3.47%	97.81%								
06/24/2019	T22	7,057	4,410	2,647	50	7	61.49%	37.51%	4,167	6,653	92	215	0.00%	94.28%	1.30%	3.61%	97.58%								
06/24/2019	T25	18,317	10,861	7,456	133	23	59.29%	40.71%	10,142	17,059	357	745	0.00%	93.13%	1.95%	4.07%	97.35%								
06/24/2019	T26	18,151	10,760	7,391	173	24	59.28%	40.72%	10,022	16,885	308	761	0.00%	93.03%	1.70%	4.19%	97.12%								
06/24/2019	T29	1,756	1,211	545	13	2	68.96%	31.04%	1,138	1,684	17	40	0.00%	95.90%	0.97%	2.28%	96.89%								
06/24/2019	T30	1,993	1,358	995	9	2	69.53%	30.47%	1,283	1,887	26	29	0.00%	96.62%	1.33%	1.48%	96.66%								
06/24/2019	T31	1,536	1,092	444	13	5	71.09%	28.91%	991	1,482	8	28	0.00%	96.48%	0.52%	1.82%	96.43%								
06/24/2019	T32	1,857	1,118	519	19	4	70.97%	29.03%	1,224	1,797	10	27	0.00%	96.77%	0.54%	1.45%	96.20%								
06/24/2019	T33	10,594	6,546	4,048	56	12	61.79%	38.21%	6,244	9,900	269	357	0.00%	93.45%	2.54%	3.37%	95.97%								
06/24/2019	T34	9,799	6,027	3,771	71	16	61.51%	38.49%	5,731	9,114	182	395	0.00%	93.22%	1.86%	4.03%	95.74%								
System Total		192,049	116,263	75,786	1,349	174	60.54%	39.46%	109,084	180,715	3,092	6,619	0.00%	94.10%	1.61%	3.45%	97.49%								

Author: Fatareanu



Lane Host Integrity Report

Search Parameters: Start Date: End Date:
Facility: TriEx and CS40 (MS)

	Lane-side Data			RTCS Dispositions							BOS Dispositions							
	AVI	Image-Based	Total	Sent to BOS	Autoflush	Total	Sent to BOS	Image Reject	Autoflush	Total	Processed	Rejected	No DISP	Total	Processed	Rejected	No DISP	Total
Plaza 1																		
Class 1																		
Class 2																		
Class 3																		
Plaza 1 TOTAL																		
Plaza 2																		
Class 1																		
Class 2																		
Class 3																		
Plaza 2 TOTAL																		

557 Transactions Reconciliation Reports: Yearly, quarterly, monthly, weekly, and daily reports that show AVI and image-based transaction transmission reconciliation for all of the tolling points. These reports shall validate that all of the AVI and image-based transactions received from the lanes were posted to the R55 and transmitted to the existing NCTA CSC Back Office System. Reports shall be available by transaction day and transmit day, and transmit day reports shall show the files transmitted and acknowledged by the receiving system.

TRANS File Data Exchange Summary and Detailed Report

Search Parameters

Facility: TriEx

Start Date/Time 6/7/2019 15:12

End Date/Time: 6/7/2019 16:25



RTCS Transaction File					BOS ACK File		Disposition File					
TRANS File Name	Date Time Transmitted	Transaction Count	Charged Amount	Difference from Collected	File Name	Date	Response File Name	Response Date	Transaction Count	Collected Amount	Rejected Count	Rejected Amount
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	123,000	\$75,000	(\$74,589)					\$	411.50		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	5/123000	\$ 10.00	\$ -			C33_20190717072517.DISP	7/17/2019	5/7	\$ 10.00	1	\$ (0.34)
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	352/123000	\$ 250.00	\$ (8.00)			C33_20190719072017.DISP	7/19/2019	352/777	\$ 242.00	2	\$ (0.94)
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	52/123000	\$ 98.00	\$ -			C33_20190720072017.DISP			\$ 98.00		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	7/123000	\$ 12.00	\$ -			C33_20190717041017.DISP			\$ 12.00		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	7/123000	\$ 12.00	\$ -			C33_20190827072017.DISP			\$ 12.00		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	7/123000	\$ 12.00	\$ -						\$ 12.00		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	7/123000	\$ 12.00	\$ (0.50)						\$ 11.50		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	7/123000	\$ 12.00	\$ -						\$ 12.00		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	7/123000	\$ 2.00	\$ -						\$ 2.00		
T33_20190607213000.TRAN	6/7/2019 21:30:00 PM	122549/123000	\$ 74,580.00	\$ (74,580.00)						-		
T33_20190608003000.TRAN	6/8/2019 00:30:00 PM	287,000	\$ 78,000.00	\$ (76,120.00)						\$ 1,880.00		
T33_20190608003000.TRAN	6/8/2019 00:30:00 PM	8/287000	\$ 800.00	\$ (120.00)						\$ 680.00		
T33_20190608003000.TRAN	6/8/2019 00:30:00 PM	7/287000	\$ 700.00	\$ (100.00)						\$ 600.00		
T33_20190608003000.TRAN	6/8/2019 00:30:00 PM	102/287000	\$ 7,500.00	\$ (6,900.00)						\$ 600.00		
T33_20190608053000.TRAN	6/8/2019 05:30:00 PM	132,000	\$83,000									
579	File Transfer Performance: This operational report lists files that have been created and sent from the RSS by component for either the created date range or sent date range selected by the user. Information displayed include, file information, created date and time, sent date and time and process time. This report verifies System compliance to Performance Requirements. File/data transmissions to the lanes shall include confirmation of successful delivery at each lane.											

Transactions Sent to BOS Summary Report

Search Parameters:
Facility: TriEx
Time Reference: Transaction Timestamp or Time sent to BOS
Interval: daily/weekly/monthly/quarterly/annually

Start Date: 7/1/2019
End Date: 7/6/2019



Day	TRANS Files Sent	Total Transactions Sent to BOS	Total Expected Revenue	Total AVI Transactions	Total Expected AVI Revenue	Total Image-Based Transactions	Total Expected Image-Based Revenue
7/1/2019	20	123,456	\$75,000.00	38,000	\$20,000.00	50,000	\$55,000.00
7/2/2019	21	123,654	\$76,000.00	39,000	\$20,000.00	51,000	\$55,000.00
7/3/2019	22	123,789	\$77,000.00	40,000	\$20,000.00	52,000	\$55,000.00
7/4/2019	20	123,987	\$78,000.00	41,000	\$20,000.00	53,000	\$55,000.00
7/5/2019	21	123,654	\$79,000.00	42,000	\$20,000.00	54,000	\$55,000.00
7/6/2019	22	123,456	\$80,000.00	43,000	\$20,000.00	55,000	\$55,000.00
Total:	6	741,996	\$465,000.00	243,000	\$120,000.00	315,000	\$330,000.00

579	File Transfer Performance: This operational report lists files that have been created and sent from the RSS by component for either the created date range or sent date range selected by the user. Information displayed include, file information, created date and time, sent date and time and process time. This report verifies System compliance to Performance Requirements. File/data transmissions to the lanes shall include confirmation of successful delivery at each lane.
-----	---

Discussion points:

Summary of Transaction TRANS File Summary

Transactions Sent to BOS Summary Report -> Transaction TRANS File Status -> Detailed Trans Report

Transaction Audit Report

Search Parameters

Facility: TriEx
Zone: Zone 1
Lane Direction: East/West

Start Date/Time: 6/7/2019: HH:MM
End Date/Time: 6/9/2019 HH:MM
Group By: By Zone or Date



Transaction ID	Transaction Date and Time	Received by RTCS	Received by RSS	RSS Lag	Transaction Status	Sent to BOS	TRANS Folder ID	BOS Lag	Disposition
123456789321	6/7/19 12:00 AM	6/7/19 12:00 AM	6/7/19 12:01 AM	01:09.0	Sent to BOS	6/7/19 12:11 AM		10:04.0	
654987654745	6/8/19 12:00 AM	6/8/19 12:00 AM	6/8/19 12:01 AM	01:09.0	Flushed	6/8/19 12:11 AM		10:07.0	
					Rejected in MIR				

552	Transaction Audit Report: This report shows the status of the transaction transmission from the zone controllers to the RSS, the audit status, the failed transactions, all exceptions, and missing transaction sequence numbers at each of the Tolling Locations. The communication status between the zone controllers to all of the subsystems shall be displayed. The report shall also include the date the transactions were received at the RSS and the Days lagging. It also shows the transmission status of the transactions to the existing NCTA CSC Back Office.
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Statewide Roadside Toll Collection System RFP

Attachment 5 - NCTA Reports and Analytics Templates

Detailed Transaction Report Sent to BOS

Search Parameters
Facility: TrEx
Time Reference: Transaction Timestamp or Time sent to BOS
Start Date/Time: 6/7/2019 15:12
End Date/Time: 6/7/2019 16:25



Lane	Transaction Date Time	Transaction ID	Vehicle Class	Transponder Number	Tag Status	License Plate State	License Plate Number	Transaction Type	Image Processing Type	Toll Charged	Toll Collected	TRANS File Name	TRANS File Delivery Time	Is Reconciled with BOS?	Is Accepted by BOS?	Reject Code
71	6/7/2019 3:12:23 PM	1234567891234	1			NC	ABC1234	Image-Based	MIR	\$0.65	\$0.65	T33_20190607213000.TRAN	6/7/2019 9:30:00 PM	Yes	Yes	
71	6/7/2019 3:12:23 PM	1234567891235	1			NC	CDE7896	Image-Based	MIR	\$0.65	\$0.65	T33_20190607213000.TRAN	6/7/2019 9:30:00 PM	Yes	Yes	
56	6/7/2019 3:12:23 PM	1234567891236	1			VA	ABS7896	Image-Based	MIR	\$0.39	--	T33_20190607213000.TRAN	6/7/2019 9:30:00 PM	No	--	
77	6/7/2019 3:12:23 PM	1234567891237	1			SC	CDE1685	Image-Based	MIR	\$0.65	\$0.65	T33_20190607213000.TRAN	6/7/2019 9:30:00 PM	Yes	Yes	
66	6/7/2019 3:12:23 PM	1234567891238	1	57000666666	4 InvFromTr	NC	ABC1235	Image-Based	Automated	\$0.86	\$0.86	T33_20190607213000.TRAN	6/7/2019 9:30:00 PM	Yes	Yes	
61	6/7/2019 3:12:23 PM	1234567891239	3			MT	CDE7897	Image-Based	MIR	\$3.44	\$0.00	T33_20190607213000.TRAN	6/7/2019 9:30:00 PM	Yes	Yes	
36	6/7/2019 3:12:23 PM	1234567891243	3			NC	CDE7898	Image-Based	MIR	\$1.16	\$1.16	T33_20190607233000.TRAN	6/7/2019 11:30:00 PM	Yes	Yes	
66	6/7/2019 3:12:23 PM	1234567891244	1	5786000005	1 Valid			AVI		\$1.04	\$1.04	T33_20190607233000.TRAN	6/7/2019 11:30:00 PM	Yes	Yes	
36	6/7/2019 3:12:23 PM	1234567891245	1		4 Lost/Stolen/Invalid	SC	CDE1687	Image-Based	MIR	\$0.29	\$0.29	T33_20190607233000.TRAN	6/7/2019 11:30:00 PM	Yes	Yes	
76	6/7/2019 3:12:23 PM	1234567891246	1			IL	ABC1237	Image-Based	MIR	\$0.65	\$0.00	T33_20190607233000.TRAN	6/7/2019 11:30:00 PM	Yes	Yes	
Day Total:		10								\$9.78	\$5.30	2				
Grand Total:		10								\$9.78	\$5.30	2				

566	Transaction Detail Report: The transaction details shall be provided in this report including bae status, Equipment status, transaction status and various lane flags. Users shall be able to access the bit descriptions in all cases where information is coded. The report shall be used to investigate discrepancies and issues.
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for this report DO Not show the plate information for valid AVI.

Statewide Roadside Toll Collection System RFP

Attachment 5 - NCTA Reports and Analytics Templates

Lane Detailed Transaction Report

Search Parameters

Facility: TriEx
Time Reference: Transaction Timestamp

Start Date/Time: 6/7/2019 15:12
End Date/Time: 6/7/2019 16:25
Filter: Toll Zone/Lane/Tag Type/Payment Type



Lane	Transaction Date Time	Payment Type	Transaction Type	Lane Mode	Lane Degraded State	Asile Count	Vehicle Class	Tag Class	Transponder Number	Tag Protocol	Tag Status	License Plate State	License Plate Number	OCR Conf	Expected Revenue	Revenue Posted
71	6/7/2019 3:12:23 PM	AVI					1					NC	ABC1234		\$0.65	\$0.65
71	6/7/2019 3:12:23 PM	Image Based					1					NC	CDE7896		\$0.65	\$0.65
56	6/7/2019 3:12:23 PM						1					VA	AB57896		\$0.39	\$0.39
77	6/7/2019 3:12:23 PM						1					SC	CDE1685		\$0.65	\$0.65
66	6/7/2019 3:12:23 PM						1		57000666666		4 InvFromTr	NC	ABC1235		\$0.86	\$0.86
61	6/7/2019 3:12:23 PM						3					MT	CDE7897		\$3.44	\$0.00
36	6/7/2019 3:12:23 PM						3					NC	CDE7898		\$1.16	\$1.16
66	6/7/2019 3:12:23 PM						1		5786000005		1 Valid				\$1.04	\$1.04
36	6/7/2019 3:12:23 PM						1				4 Lost/Stolen/Invalid	SC	CDE1687		\$0.29	\$0.29
76	6/7/2019 3:12:23 PM						1					IL	ABC1237		\$0.65	\$0.00
Day Total:															\$9.78	\$5.69
Grand Total:															\$9.78	\$5.69

564	Transaction Reports: Daily, weekly, monthly, quarterly, and yearly transactions and reports showing traffic and vehicle class by payment type. Class mismatch transactions shall also be identified. Transaction reports shall be summarized and detailed.
-----	--

This report will include the plate information for ALL transactions that have the information.

Average Lane Throughput Report: This report shall display hourly traffic volumes for each lane grouped for each tolling point within the selected Toll Facility.
Hourly traffic volumes shall be totaled by lane for the day for each tolling point to calculate the average lane throughput at each tolling point.

MS = Multiselect
VPH = Vehicles per hour

Search Parameters Facility (MS) Toll Zones (MS) Date

TollZone	Lane	Hourly Total				Daily Total	VPH
		00:00 - 01:00	01:00 - 02:00	02:00 - 03:00	etc...		
T02	0					36	2
T02	1					4600	192
T02	2					5002	208
T02	All					9638	402
T21	0					60	3
T21	1					9234	385
T21	2					8723	363
T21	3					84	4
T21	All					18101	754
All	All					27739	1156

543 - Lane Traffic Counts and Statistics Report

Parameters:	DateRange	Facility(MS)	Direction (MS)
	TollZone(MS)	Lane (MS)	Day Type: Daily

Triangle Expressway	Daily Count	Total AM	Total PM	Hours															
				0	1	2	3	4	5	6	7	20	21	22	23			
Southbound																			
Toll Zone 13	89348																		
All Lanes	89348																		
All Classes	89348																		
AVI	50641																		
Image Based	38707																		
Total Class 1	31845																		
AVI	18538																		
Image Based	13307																		
Total Class 2	26975																		
AVI	14175																		
Imaged- Bas	12800																		
Total Class 3	30528																		
AVI	17928																		
Imaged- Bas	12600																		
Toll Zone 07	89348																		
All Lanes	89348																		
All Classses	89348																		
AVI	50641																		
Image Based	38707																		
Total Class 1	31845																		
AVI	18538																		
Image Based	13307																		
Total Class 2	26975																		
AVI	14175																		
Imaged- Bas	12800																		
Total Class 3	30528																		
AVI	17928																		
Imaged- Bas	12600																		
All Selected Toll Zones																			

Example with Lane granularity

Triangle Expressway	Daily Count	Total AM	Total PM	Hours															
				0	1	2	3	4	5	6	7	20	21	22	23			
Southbound																			
Toll Zone 13	268044																		
All Lanes	268044																		
Lane 1																			
All Classes	89348																		
AVI	50641																		
Image Based	38707																		
Total Class 1	31845																		
AVI	18538																		
Image Based	13307																		
Total Class 2	26975																		
AVI	14175																		
Imaged- Bas	12800																		
Total Class 3	30528																		
AVI	17928																		
Imaged- Bas	12600																		

Lane 2																	
All Classes	89348																
AVI	50641																
Image Based	38707																
Total Class 1	31845																
AVI	18538																
Image Based	13307																
Total Class 2	26975																
AVI	14175																
Imaged- Bas	12800																
Total Class 3	30528																
AVI	17928																
Imaged- Bas	12600																
Lane 3																	
All Classes	89348																
AVI	50641																
Image Based	38707																
Total Class 1	31845																
AVI	18538																
Image Based	13307																
Total Class 2	26975																
AVI	14175																
Imaged- Bas	12800																
Total Class 3	30528																
AVI	17928																
Imaged- Bas	12600																
All Selected Toll Zones																	

Counts and Percentages Report: This report shall display vehicle counts and percentages of each count grouped by vehicle class category and vehicle class for each revenue category for example AVI and Image-based for each tolling point. This is a daily report and is grouped by tolling point for the selected Toll Facility. This report shall drill down to the Counts and Percentages by Direction Report.

Parameters:	DateRange	Facility(MS)	Direction	TollZone(MS)	Lane (MS)	Lane Detail
Example: 07/12/2019 - 07/14/2019	TriEx	Southbound	T07, T13	ALL	No	

Triangle Expressway	Daily Count	% of total
Southbound		
Toll Zone 13	89348	100
All Lanes	89348	100
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	35.64
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	30.1909388
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384
Total Class 3	30528	34.16752473
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491
Toll Zone 07	89348	100
All Lanes	89348	100
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	35.64
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	30.1909388
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384
Total Class 3	30528	34.16752473
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491
All Selected Toll Zones		
All Classes		
AVI		
Image Based		
Total Class 1		
AVI	69179	
Image Based	26614	
Total Class 2		
AVI		
Imaged- Based		
Total Class 3		
AVI		
Imaged- Based		

Example: 07/12/2019 - 07/14/2019	TriEx	Southbound
----------------------------------	-------	------------

Triangle Expressway	Daily Count	% of total
Southbound		
Toll Zone 13	89348	100
All Lanes	89348	100
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	35.64
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	30.1909388
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384

Total Class 3	30528	34.16752473
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491
Lane 1	89348	100
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	35.64
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	30.1909388
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384
Total Class 3	30528	34.16752473
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491
Lane 2	12600	41.27358491
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	252.74
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	214.0873016
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384
Total Class 3	30528	242.2857143
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491
Toll Zone 07	89348	100
All Lanes	89348	100
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	35.64
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	30.1909388
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384
Total Class 3	30528	34.16752473
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491
Lane 1	89348	100
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	35.64
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	30.1909388
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384
Total Class 3	30528	34.16752473
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491
Lane 2	12600	41.27358491
All Classes	89348	100
AVI	50641	0.566783812
Image Based	38707	0.433216188
Total Class 1	31845	252.74
AVI	18538	58.21322029
Image Based	13307	41.78677971
Total Class 2	26975	214.0873016
AVI	14175	52.54865616
Imaged- Based	12800	47.45134384
Total Class 3	30528	242.2857143
AVI	17928	58.72641509
Imaged- Based	12600	41.27358491

All Selected Toll Zones		
All Classes		
AVI		
Image Based		
Total Class 1		
AVI	82486	
Image Based	31845	
Total Class 2		
AVI		
Imaged- Based		
Total Class 3		
AVI		
Imaged- Based		

Tolling Location by Lane Report: This report shows traffic counts by lane for each tolling point by vehicle class categories and vehicle classes. This report includes the summary by tolling point for the selected Toll Facility. This report is used by Operations staff in analyzing traffic volumes by lane and vehicle class.

Filters:		From Date	To Date	Direction(N/S)	Toll Zone(MS)	Lane Select (MS)
						(TZ/Ln#)

Toll Zone	Lane	Class Category	Count
Toll Zone 1	Lane 1	Class 1	3453
Toll Zone 1	Lane 1	Class 2	6545
Toll Zone 1	Lane 1	Class 3	6656
Toll Zone 1	Lane 2	Class 1	7765
Toll Zone 1	Lane 2	Class 2	4567
Toll Zone 1	Lane 2	Class 3	4565
Toll Zone 1	Lane 3	Class 1	4435
Toll Zone 1	Lane 3	Class 2	4533
Toll Zone 1	Lane 3	Class 3	4565
Toll Zone 1	Lane 4	Class 1	4435
Toll Zone 1	Lane 4	Class 2	6657
Toll Zone 1	Lane 4	Class 3	5545
Toll Zone 2	Lane 1	Class 1	7776
Toll Zone 2	Lane 1	Class 2	4444
Toll Zone 2	Lane 1	Class 3	3454
Toll Zone 2	Lane 2	Class 1	3451
Toll Zone 2	Lane 2	Class 2	2345
Toll Zone 2	Lane 2	Class 3	5436
Toll Zone 2	Lane 3	Class 1	6545
Toll Zone 2	Lane 3	Class 2	3455
Toll Zone 2	Lane 3	Class 3	3432
Toll Zone 2	Lane 4	Class 1	2345
Toll Zone 2	Lane 4	Class 2	7658
Toll Zone 2	Lane 4	Class 3	6754

Toll Zone	Lane	Total
Toll Zone 1	Lane 1	16654
Toll Zone 1	Lane 2	16897
Toll Zone 1	Lane 3	13533
Toll Zone 1	Lane 4	16637
Toll Zone 2	Lane 1	15674
Toll Zone 2	Lane 2	11232
Toll Zone 2	Lane 3	13432
Toll Zone 2	Lane 4	16757

Toll Zone	Total
Toll Zone 1	63721
Toll Zone 2	57095

		Class Category			
Toll Zone	Lane	Class 1	Class 2	Class 3	Lane Total
Toll Zone 1	Lane 1	3453	6545	6656	16654
Toll Zone 1	Lane 2	7765	4435	2345	14545
Toll Zone 1	Lane 3	4567	6657	5436	16660
Toll Zone 1	Lane 4	4565	5545	6545	16655
Toll Zone 1	ALL	20350	23182	20982	64514
Toll Zone 2	Lane 1	4435	7776	3455	15666
Toll Zone 2	Lane 2	4533	4444	3432	12409
Toll Zone 2	Lane 3	4565	3454	2345	10364
Toll Zone 2	Lane 4	6754	3451	7658	17863
Toll Zone 2	ALL	20287	19125	16890	56302
Toll Zone 3	Lane 1				
Toll Zone 3	Lane 2				
Toll Zone 3	Lane 3				
Toll Zone 3	Lane 4				
Toll Zone 3	ALL	0	0	0	0
Toll Zone 4	Lane 1				
Toll Zone 4	Lane 2				
Toll Zone 4	Lane 3				
Toll Zone 4	Lane 4				
Toll Zone 4	ALL	0	0	0	0
Triex	ALL	40637	42307	37872	120816

Market Penetration Report: This report shows traffic counts by revenue category, for example AVI and Image-based for AM/PM peak hours and includes the AVI penetration percentage, and comparisons shown for EL, GP lanes and any other lane AVI penetration percentages available.

AM Peak Hour: 6:00-08:59
PM Peak Hour: 3:00 - 6:59

Filters: Date TimeByHour (MS) Toll Zone (MS)

Toll Zone	Lane	Date	Time	AVI Count	Img-Based Count
TollZone1	Lane-1	5/23/2019	8:00 AM	2452	2121
TollZone1	Lane-2	5/23/2019	8:00 AM	2465	3221
TollZone1	Lane-3	5/23/2019	8:00 AM	2343	4332
TollZone1	Lane-1	5/23/2019	9:00 AM	6675	2154
TollZone1	Lane-2	5/23/2019	9:00 AM	4565	3265
TollZone1	Lane-3	5/23/2019	9:00 AM	2354	2121
TollZone1	Lane-1	5/23/2019	10:00 AM	7654	3221
TollZone1	Lane-2	5/23/2019	10:00 AM	4354	4332
TollZone1	Lane-3	5/23/2019	10:00 AM	3453	2154
TollZone2	Lane-1	5/23/2019	8:00 AM	2465	3265
TollZone2	Lane-2	5/23/2019	8:00 AM	2343	3121
TollZone2	Lane-3	5/23/2019	8:00 AM	6675	3221
TollZone2	Lane-1	5/23/2019	9:00 AM	4565	4232
TollZone2	Lane-2	5/23/2019	9:00 AM	2354	2154
TollZone2	Lane-3	5/23/2019	9:00 AM	7654	3265
TollZone2	Lane-1	5/23/2019	10:00 AM	4354	2121
TollZone2	Lane-2	5/23/2019	10:00 AM	2453	3221
TollZone2	Lane-3	5/23/2019	10:00 AM	2465	4332

Toll Zone	Lane	Date	Traffic: ALL Hours					Traffic: AM Peak Hour (6:00-08:59)					Traffic: PM Peak Hour (3:00 - 6:59)				
			Total	AVI Count	AVI (%)	Img-Based Count	Img-Based (%)	Total	AVI Count	AVI (%)	Img-Based Count	Img-Based (%)	Total	AVI Count	AVI (%)	Img-Based Count	Img-Based (%)
TollZone1	Lane 1	5/23/2019															
TollZone1	Lane 2	5/23/2019															
TollZone1	Lane 3	5/23/2019															
TollZone1	ALL	5/23/2019															
TollZone2	Lane 1	5/23/2019															
TollZone2	Lane 2	5/23/2019															
TollZone2	Lane 3	5/23/2019															
TollZone2	ALL																
TollZone3	Lane 1	5/23/2019															
TollZone3	Lane 2	5/23/2019															
TollZone3	Lane 3	5/23/2019															
TollZone3	ALL																
TollZone4	Lane 1	5/23/2019															
TollZone4	Lane 2	5/23/2019															
TollZone4	Lane 3	5/23/2019															
TollZone4	ALL																
Triex	All	5/23/2019															

Speed Bin Reports: This report shows the traffic count information per lane by user-definable speed bins. This report is used by Operations staff to monitor traffic flows at various speeds.

Filters: DateRange

Toll Zone	Lane	Total	0 - 25 MPH	26 - 45 MPH	46 - 55 MPH	56 - 60 MPH	61 - 65 MPH	66 - 70 MPH	71 - 75 MPH	76-80 MPH	80+ MPH
TollZone1	Lane 1	3254									
TollZone1	Lane 2	4565									
TollZone1	Lane 3	7665									
TollZone1	All	15484									
TollZone2	Lane 1	2121									
TollZone2	Lane 2	4332									
TollZone2	Lane 3	6554									
TollZone2	All	13007									
etc...											
Triex	All	28491									

Traffic Counts Report: This report shows traffic count information grouped by revenue category for example AVI and Image-based with breakdown by transaction types and sub-totaled by tolling point and vehicle class categories. The combined counts include a breakdown by revenue and nonrevenue transactions. This report shall drill down to the Traffic Counts by Direction Report.

Parameters: **Facility(MS)** **Direction** **TollZone(MS)** **Lane (MS)** **Lane Detail**
Start Date
End Date
Group By Time: Daily, Weekly, Monthly, Quarterly, Yearly

Toll Zone	Direction	Lane	AVI						Image-Based						Grand Total						
			Class 1		Class 2		Class 3		Total Rev	Total Non-Rev	Total AVI	Class 1		Class 2		Class 3		Total Rev	Total Non-Rev	Total Image-Based	
			Revenue	Non-Revenue	Revenue	Non-Revenue	Revenue	Non-Revenue				Revenue	Non-Revenue	Revenue		Non-Revenue	Revenue				Non-Revenue
TollZone 1 - southbound		Lane1	2342	34	2342	34	2342	34	7026	102	7128	2342	34	2342	34	2342	34	7026	102	7128	14256
TollZone 1 - southbound		Lane2	5443	32	5443	32	5443	32	16329	96	16425	5443	32	5443	32	5443	32	16329	96	16425	32850
TollZone 1 - southbound		Lane3	5433	21	5433	21	5433	21	16299	63	16362	5433	21	5433	21	5433	21	16299	63	16362	32724
TollZone 1 - Summary																					
TollZone 2 - Northbound		Lane1	3214	31	3214	31	3214	31	9642	93	9735	3214	31	3214	31	3214	31	9642	93	9735	19470
TollZone 2 - Northbound		Lane2	7654	32	7654	32	7654	32	22962	96	23058	7654	32	7654	32	7654	32	22962	96	23058	46116
TollZone 2 - Northbound		Lane3	4324	54	4324	54	4324	54	12972	162	13134	4324	54	4324	54	4324	54	12972	162	13134	26268
TollZone 2 - Summary																					
TollZone 3 - Southbound		Lane1	4242	32	4242	32	4242	32	12726	96	12822	4242	32	4242	32	4242	32	12726	96	12822	25644
TollZone 3 - Southbound		Lane2	5465	21	5465	21	5465	21	16395	63	16458	5465	21	5465	21	5465	21	16395	63	16458	32516
TollZone 3 - Southbound		Lane3	2134	43	2134	43	2134	43	6402	129	6531	2134	43	2134	43	2134	43	6402	129	6531	13062
TollZone 3 - Summary																					
TollZone 4 - Northbound		Lane1	5464	11	5464	11	5464	11	16392	33	16425	5464	11	5464	11	5464	11	16392	33	16425	32850
TollZone 4 - Northbound		Lane2	4342	32	4342	32	4342	32	13026	96	13122	4342	32	4342	32	4342	32	13026	96	13122	26244
TollZone 4 - Northbound		Lane3	3356	23	3356	23	3356	23	10068	69	10137	3356	23	3356	23	3356	23	10068	69	10137	20274
TollZone 4 - Summary																					
Total			53413	366	53413	366	53413	366	160239	1098	161337	53413	366	53413	366	53413	366	160239	1098	161337	322074

This report to use final transaction disposition data. Include note at bottom listing the timestamp for the oldest transaction not yet dispositioned.

Traffic Counts Report: This report shows traffic count information grouped by revenue category for example AVI and Image-based with breakdown by transaction types and sub-totaled by tolling point and vehicle class categories. The combined counts include a breakdown by revenue and nonrevenue transactions. This report shall drill down to the Traffic Counts by Direction Report.

Parameters: **Facility(MS)** **Direction** **TollZone(MS)** **Lane (MS)** **Lane Detail**
Start Date **DateRange** **Group By Time:** Daily, Weekly, Monthly, Quarterly, Yearly
End Date

Toll Zone	Direction	Lane	AVI									Image-Based									Grand Total					
			Class 1			Class 2			Class 3			Class 1			Class 2			Class 3								
			Revenue	Non-Revenue		Revenue	Non-Revenue		Revenue	Non-Revenue	Total Rev	Total Non-Rev	Total AVI	Revenue	Non-Revenue		Revenue	Non-Revenue		Revenue		Non-Revenue	Total Rev	Total Non-Rev	Total Image-Based	
TollZone 1 - southbound		Lane1	2342		34	2342		34	2342		34	7026		102	7128	2342		34	2342		34	7026		102	7128	14256
TollZone 1 - southbound		Lane2	5443			5443			5443			16329		96	16425	5443		32	5443		32	16329		96	16425	32850
TollZone 1 - southbound		Lane3	5433		21	5433		21	5433		21	16299		63	16362	5433		21	5433		21	16299		63	16362	32724
TollZone 1 - Summary																										
TollZone 2 - Northbound		Lane1	3214		31	3214		31	3214		31	9642		93	9735	3214		31	3214		31	9642		93	9735	19470
TollZone 2 - Northbound		Lane2	7654		32	7654		32	7654		32	22962		96	23058	7654		32	7654		32	22962		96	23058	46116
TollZone 2 - Northbound		Lane3	4324		54	4324		54	4324		54	12972		162	13134	4324		54	4324		54	12972		162	13134	26268
TollZone 2 - Summary																										
TollZone 3 - Southbound		Lane1	4242		32	4242		32	4242		32	12726		96	12822	4242		32	4242		32	12726		96	12822	25644
TollZone 3 - Southbound		Lane2	5465		21	5465		21	5465		21	16395		63	16458	5465		21	5465		21	16395		63	16458	32816
TollZone 3 - Southbound		Lane3	2134		43	2134		43	2134		43	6402		129	6531	2134		43	2134		43	6402		129	6531	13065
TollZone 3 - Summary																										
TollZone 4 - Northbound		Lane1	5464		11	5464		11	5464		11	16392		33	16425	5464		11	5464		11	16392		33	16425	32850
TollZone 4 - Northbound		Lane2	4342		32	4342		32	4342		32	13026		96	13122	4342		32	4342		32	13026		96	13122	26244
TollZone 4 - Northbound		Lane3	3356		23	3356		23	3356		23	10068		69	10137	3356		23	3356		23	10068		69	10137	20274
TollZone 4 - Summary																										
Total			52415	366	52415	366	52415	366	52415	366	160236	1098	161334	52415	366	52415	366	52415	366	52415	366	160236	1098	161334	322074	

This report to use final transaction disposition data. Include note at bottom listing the timestamp for the oldest transaction not yet dispositioned.

This report belongs to BAtch 3

Traffic Counts by Direction Report: This report shows traffic count information grouped by revenue category for example AVI and Image-based with breakdown by transaction types and sub-totaled by tolling point, direction and vehicle class categories. The combined counts include a breakdown by revenue and nonrevenue transactions.

Can be satisfied with report for Traffic Count (RFP 548) as it includes direction

Parameters: Facility(MS) TollZone(MS) TollType(MS) Vehicle Class (MS) DateRange

Facility	TollZone	Direction	TollType	Class 1	Class 2	Class 3	Rev/No Rev	Total
Triex	TollZone 1	SouthBound	AVI	43234	23422	3342	Rev	69998
Triex	TollZone 1	SouthBound	V-Toll	6554	3245	4476	Rev	14275
Triex	TollZone 1			49788	26667	7818	Rev	84273
Triex	TollZone 1	SouthBound	AVI	234	231	11	No Rev	476
Triex	TollZone 1	SouthBound	V-Toll	211	342	15	No Rev	568
Triex	TollZone 1			445	573	26	No Rev	1044
Triex	TollZone 2	NorthBound	AVI	32211	43322	3342	Rev	78875
Triex	TollZone 2	NorthBound	V-Toll	8787	76786	7867	Rev	93440
Triex	TollZone 2			40998	120108	11209	Rev	172315
Triex	TollZone 2	NorthBound	AVI	434	231	13	No Rev	678
Triex	TollZone 2	NorthBound	V-Toll	234	432	43	No Rev	709
Triex	TollZone 2			668	663	56	No Rev	1387

Last Transaction Process Date *

Vehicle Count by Lane Mode Report: This report shall display tolling point, lane and detailed transaction information for vehicles that travel through a lane based on the date range, tolling point, lane and user-selectable lane mode.

Parameter: Facility(MS) TollZone(MS) Lane Mode Date/TimeRange

Facility	TollZone	Lane	Lane Mode	Class 1	Class 2	Class 3	Total
Triex	TollZone 1	Lane 1	Open	43234	23422	3342	69998
Triex	TollZone 1	Lane 2	Open	234	231	11	476
Triex	TollZone 1	Lane 3	Open	32211	43322	3342	78875
Triex	TollZone 1	Lane 4	Open	434	231	13	678
Triex	TollZone 2	Lane 1	Open	43234	23422	3342	69998
Triex	TollZone 2	Lane 2	Open	234	231	11	476
Triex	TollZone 2	Lane 3	Open	32211	43322	3342	78875
Triex	TollZone 2	Lane 4	Open	434	231	13	678

System Audit Trail Reports: Weekly and monthly reports shall be made available that show the modifications made by the users to system parameters and ability shall be provided to obtain the details of the modifications.

Parameters:	Start Date	Start Time	End Date	End Time
-------------	------------	------------	----------	----------

Date/Time	User Name	User IP Address	User Group	Item ID	Item Content	Action
5/13/2019 18:22	ADMIN	xxx.xx.xx.xx	User Management	546	ADMIN	User ADMIN Activated
5/14/2019 18:22	ADMIN	xxx.xx.xx.xx	User Management	234	ADMIN	Role Access Revoked to xyz
5/15/2019 18:22	ADMIN	xxx.xx.xx.xx	User Management	22	ADMIN	User Granted Role to access xyz
5/16/2019 18:22	ADMIN	xxx.xx.xx.xx	User Management	12	ADMIN	
5/17/2019 18:22	ADMIN	xxx.xx.xx.xx	User Management	43	abc	User Updated
5/18/2019 18:22	ADMIN	xxx.xx.xx.xx	User Management	33	ADMIN	User Created

#553

System Exceptions Report: The System Exceptions report shall display transactions that are considered exceptions; including but not limited to duplicate transactions; dual Transponders; RSS filtered transactions and non-interoperable Transponder reads. Exception handling errors and the disposition of these exceptions shall also be displayed along with the transaction.

Combined 554 and 577 Report - Mockup in Batch 7

Parameters:	Facility (MS)	TollZone (MS)	StartDate	StartTime	EndDate	EndTime	ExceptionType	Disposition
-------------	---------------	---------------	-----------	-----------	---------	---------	---------------	-------------

DateTime	TransactionID	TollZone	Lane	Type	Transponder Number	Transponder Protocol	Exception Type	Disposition
5/13/2019 18:22:41	987787654	TollZone-15	11	AVI			Duplicate Transaction	Sent to BOS
5/14/2019 18:22:41	345345345	TollZone-16	12	Imaged-Based			Dual Transponder	Not sent to BOS
5/15/2019 18:22:41	334546654	TollZone-17	11	AVI			Duplicate Transaction	Not sent to BOS
5/16/2019 18:22:41	987787654	TollZone-18	12	Imaged-Based			Duplicate Transaction	Sent to BOS
5/17/2019 18:22:41	345234523	TollZone-19	11	AVI			RSS Filtered Transaction	Not sent to BOS
5/18/2019 18:22:41	987787654	TollZone-20	12	Imaged-Based			Duplicate Transaction	Sent to BOS
5/19/2019 18:22:41	333454654	TollZone-21	13	Imaged-Based			Duplicate Transaction	Sent to BOS
5/20/2019 18:22:41	987787654	TollZone-22	11	Imaged-Based			NI Transponder Read	Rejected in MIR

*Note at bottom of report listing oldest transaction not processed.

Image Reconciliation Report: The Image Reconciliation report shall provide the ability to match transactions by type to images and to help identify missing images. These reports shall not only reconcile the actual images saved to what was expected but also verify that the images were successfully transmitted to the RSS for image review and image review results were obtained back.

Image Reconciliation Detail Report: This operational report list the information on the image-based transaction for a user defined transaction date/time range. Capability shall be provided to show only records where an image is expected and if the image is expected if the image has arrived yet.

Parameters:		TollZone(MS)	Start Date/Time	End Date/Time	Transaction Type - Image Based - MIR/ Transmission Time - Confidence Level Range													
		(+facility+lane)	Transmission Time: Less than 8 hours, 16 hours, 36 hours, 72 hours, more than 72 hours															
Transaction ID	Transaction Date	Transaction Time	Toll Zone	Lane	Transaction Type	ZC Image Count	Host Image Count	Actual Count	Confidence Level	MIR/ALPR Status	MIR/ALPR Date/Time	Plate Number	Plate State	Plate Type	Transaction Status	Image File sent to BOS ID	Time Sent to BOS	
545435234		5/13/2019 18:22:41		2	AVI	2	2	2							Pending ID			
545435225		5/14/2019 18:22:41		2	Image-Based	4		5		Manual Review		XY5444	NC		Sent to BOS			
545435226		5/15/2019 18:22:41		2	Image-Based	4		2		ALPR		XY5445	NC		---			
545435227		5/16/2019 18:22:41		2	Image-Based	4		2		ALPR		XY5446	TX		---			
545435228		5/17/2019 18:22:41		1	Image-Based	4		2		Manual Review		XY5447	NC		---			
545435229		5/18/2019 18:22:41		2	Image-Based	4		2		ALPR		XY5448	FL		---			
545435230		5/19/2019 18:22:41		2	Image-Based	4		2		ALPR		XY5449	AK		---			
545435231		5/20/2019 18:22:41		0	AVI	2		0										
545435232		5/21/2019 18:22:41		2	AVI	2		2										
545435233		5/22/2019 18:22:41		0	AVI	2		0										
545435234		5/23/2019 18:22:41		2	Image-Based	4		2										
545435235		5/24/2019 18:22:41		2	AVI	2		2										
545435236		5/25/2019 18:22:41		2	AVI	2		2										
545435237		5/26/2019 18:22:41		2	AVI	2		2										
545435238		5/27/2019 18:22:41		1	Image-Based	1		1										
545435239		5/28/2019 18:22:41		2	AVI	2		2										
545435240		5/29/2019 18:22:41		2	Image-Based	2		2										
545435241		5/30/2019 18:22:41		0	AVI	2		0										

Fare Schedule Report: This report shall provide user-selectable criteria to include at a minimum, fare schedule and types of fares. The fare amount for each vehicle class will be displayed by tolling point for the effective date selected. The report shall be used by Operations and management staff to verify future, current and past versions of released and unreleased fare schedules based on the effective date selected. Historical fare information shall be used in determining future changes in fares.

Parameters: Facility(MS) TollZone(MS) DateRange

Fare Schedule Name	Toll Zone	Effective Date	Start Time	Expiration Date	End Time	Class 1		Class 2		Class 3	
						AVI	Image	AVI	Image	AVI	Image
Default Fare Schedule	Toll Zone 1	8/19/2019	0:00:00	12/25/2019	0:00:00	\$ 1.50	\$ 2.50	\$ 2.50	\$ 3.50	\$ 3.50	\$ 4.50
	Toll Zone 2	8/19/2019	0:00:00	12/25/2019	0:00:00	\$ 1.50	\$ 2.50	\$ 2.50	\$ 3.50	\$ 3.50	\$ 4.50
	Toll Zone 3	8/19/2019	0:00:00	12/25/2019	0:00:00	\$ 1.50	\$ 2.50	\$ 2.50	\$ 3.50	\$ 3.50	\$ 4.50
	Toll Zone 4	8/19/2019	0:00:00	12/25/2019	0:00:00	\$ 1.50	\$ 2.50	\$ 2.50	\$ 3.50	\$ 3.50	\$ 4.50
...											



Attachment 5 - NCTA Reports and Analytics Templates

Parameters: Start Date End Date
 Facility (MS) TollZone(MS by Direction) Reject Reason (MS) [Image Review Detail](#)

146 The Image Review System shall provide a report that allows NCTA to review and audit Contractor-rejected images (up to 50 per page) that shall be sent daily to NCTA in PDF format. The report shall include relevant information about each rejected image-based transaction, including location, date/time, image reviewer, reject reason, and any available OCR/ALPR information.

1.2.7.5 Image Review System and Image Review Services	The Image Review System shall provide reports that allows NCTA to access the results of the review, including but not limited to:
	a) Contractor/vendor;
	b) number of transactions transmitted;
	c) number of images accepted;
	d) images rejected,
	e) quantity by reject reasons;
	f) accuracy; and
	g) image reviewer.

a) Contractor/vendor;

c) number of images accepted;

Parameters: **By Transaction Date or By Review Date**

Facility(MS) Start Date End Date Reviewer (MS)

Summary

Total Number of Images Reviewed	5000
Total Number of Images Sent to Supervisor	30
Total Sent to Supervisor Due to Mismatch	860
Total Number of Images Skipped	2
Total Number of Images Accepted	4200
Total Number of Images Rejected	800
Average Review Time (seconds)	3.2

Reviewer Name	Images Reviewed	Images Accepted	Images Rejected	Images Sent to Supervisor	Images Sent to Supervisor Due to Mismatch	Images Skipped	%of Total Images Reviewed	% of Total Images Sent to Supervisor	% of Total Images Skipped
John Doe	67	60	7	1	2	0	1.34%	3.33%	0.00%

Summary of Images Transmitted by Location

147 b) number of transactions transmitted;

Parameters: **By Transaction Date or By Review Date**

Facility (MS) **Start Date** **Start Time** **End Time** **End Date** **Location (Zone) (MS)**

Summary

Total Number of Reviews	5,000
Total Transactions Accepted	4,700
Total Transactions Rejected by Operator	300

Facility	Toll Zones	Incoming Transactions Reviewed	Percent of Total Incoming Transactions	Transactions Accepted	Transactions Rejected by Operator
TriEx	T01	2000	40%	1900	100
TriEx	T02	3000	60%	2800	200
All		5,000	100%	4,700	300

d) Images rejected (Detail)
Parameters: By Transaction Date or By Review Date
Facility (MS) Start Date Start Time End Time End Date Reviewer (MS) Location (Zone) (MS)

Image ID	Transaction ID	Final Reviewer	Review Date	Rejection Reason	Transaction Location	Lane	Transaction Date	Transaction Time	OCR Confidence	Plate State	Plate Number	Plate Type
12321	4545515	John Doe	9/16/2019	Damaged License Plate	T18	Lane 1	9/12/2019 0:00	5:34:23 AM				

|e) quantity by reject reasons;

Parameters: **By Transaction Date or By Review Date**

Start Date End Date

Facility: TriEx or C540 (MS)

Summary:		Percent of Total
Total Images Rejected	1030	100%
Total Rejected Images (Controllable)	330	32%
Total Rejected Images (Uncontrollable)	700	68%
Unclear Image: Image Out of Focus/Too Light/Too Dark	180	17%
No Vehicle/Trigger Issue/Camera Alignment Issue	150	15%
Non-pursuable Plate: Obstructed/Damaged/No Plate/Weather	200	19%
Non-pursuable: Temporary / International Plate	300	29%
Non-pursuable: Emergency / First Responder	200	19%

147 g) Image reviewer.

Image-Based Transactions and Reviewers

Facility: TriEx or C540

Start Date

Reject Reason

Note: R1: Reviewer 1

R2: Reviewer 2

SR: Supervisory Review

Parameters: By Transaction Date or By Review D. Toll Zone

Facility	Toll Zones	Lane	Transaction Date/Time	Transaction ID	Image Links	VIP Activity	Image Reviewer #1	Plate Number (R1)	Plate State (R1)	Reject Reason (Code-Off)	Review 1 Date/Time	Image Reviewer #2	Plate Number (R2)	Plate State (R2)	Reject Reason (Code-Off)	Review 2 Date/Time	Image Reviewer Supervisory	Plate Number (SR)	Plate State (SR)	Reject Reason (Code-Off)	Supervisor Review Date/Time
Triex	T01	1	08/23/2019; 11:23:33:52	xxxxx																	
Triex	T02	2	08/23/2019; 11:23:34:45	xxxxx																	
Triex	T18	3	08/23/2019; 11:23:35:22	xxxxx																	
Triex	T18	2	08/23/2019; 11:23:36:45	xxxxx																	
Triex	T06	1	08/23/2019; 11:23:37:44	xxxxx																	
Triex	T07	3	08/23/2019; 11:23:38:20	xxxxx																	
Triex	T18	2	08/23/2019; 11:23:34:45	xxxxx																	
Triex	T06	3	08/23/2019; 11:23:35:22	xxxxx																	

Attachment 5 - NCTA Reports and Analytics Templates

Number of Alerts column should be three columns (Alarms, Alerts, Tickets)
Remove Severity reporting level and Type of Equipment columns
Severity priority needs to be Priority 1, 2, 3 and 4 for lane and RSS. (priority 4 are the tickets for scheduled maintenance)
Priority 1 (SS) for lane tickets, priority 2 (SS) for all alarms/tickets/alerts that do not have a priority assigned. (Asad will research)
Requirement requires both a details and History. (644a20) sheet takes about detailed report
instead of percentage, give count of tickets acknowledged within 30 min.
Rename the Avg time from Detected to acknowledge column to "detected to acknowledged within 30 min"
instead of average in repair time, provide count of tickets repaired within contractual Criteria
Rename the Avg Repair time column to "Detected to Repaired within Contractual Criteria"
Remove Avg Total time column.
Change the name to Alarm/Ticket History Report-Summary
Add progressive parameters for Toll Zone

Design this report - Asad

Maintenance Summary

Add Filter Directives

Facility (+5 others)

Facility

Toll Zone

Start Date09/01/2019

End Date10/23/2019

Start Time00:00

End Time23:59

Filter by Ticket Number

Previous

GOV

Risk

PDF

Test

Maintenance Summary Report

Search

Ticket ID	Detected	Last Updated	Name	Ack Time	Rep Time	Status	Severity	Assigned To	Location
3740	09/21/19 14:48:19.289	09/24/19 20:23:28.003	Time Sync Issue	0.02	77.88	Closed	Critical	Panic ROMS	WCTA Facility/Place TAY/DVR110VAS-LN-03-Rear
3739	09/21/19 13:47:49.283	09/24/19 20:23:28.003	Time Sync Issue	0.02	78.88	Closed	Critical	Panic ROMS	WCTA Facility/Place TAY/DVR110VAS-LN-03-Rear
3732	09/21/19 12:51:19.259	09/24/19 20:23:28.001	FWG	0.02	76.93	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/DVR110VAS-LN-03-Rear
3722	09/21/19 09:50:02.852	09/24/19 20:23:28.990	VDC_CORE_SENSOR_DOWN	0.93	82.44	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3721	09/21/19 09:50:01.032	09/24/19 20:23:28.989	VDC_CORE_SENSOR_DOWN	0.98	82.44	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3881	09/18/19 17:10:04.841	09/18/19 17:53:56.000	Wrs Loop is Unhealthy	0.51	0.57	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3880	09/18/19 17:10:04.832	09/18/19 17:54:01.000	Wrs Detector is Unhealthy	0.5	0.57	Closed	Critical	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3859	09/18/19 17:09:34.048	09/18/19 17:54:00.000	VDC_CORE_SENSOR_DOWN	0.5	0.61	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3858	09/18/19 17:09:34.032	09/18/19 17:54:16.000	VDC_CORE_SENSOR_DOWN	0.5	0.61	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3856	09/18/19 16:29:34.821	09/18/19 16:40:45.000	ORIS Reverse Vehicle	0	5.16	Closed	Warning	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3855	09/18/19 16:24:34.800	09/18/19 16:40:55.000	FWG	0	0.27	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3854	09/18/19 15:17:59.879	09/18/19 16:41:54.000	VDC_CORE_SENSOR_DOWN	0.01	1.38	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3853	09/18/19 15:17:59.860	09/18/19 16:41:59.000	VDC_CORE_SENSOR_DOWN	0.01	1.39	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3852	09/18/19 15:12:59.770	09/18/19 15:29:24.000	Wrs Loop is Unhealthy	0.01	0.27	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3851	09/18/19 15:12:59.805	09/18/19 15:29:20.000	Wrs Detector is Unhealthy	0.01	0.27	Closed	Critical	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3850	09/18/19 15:11:50.501	09/18/19 16:41:10.000	FWG	0.01	1.49	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3849	09/18/19 15:08:59.891	09/18/19 15:10:06.000	VDC_CORE_SENSOR_DOWN	0.01	0.05	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3848	09/18/19 15:08:59.888	09/18/19 15:10:24.000	VDC_CORE_SENSOR_DOWN	0.01	0.06	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3847	09/18/19 15:02:59.831	09/18/19 15:10:13.000	VDC Sensor Unit 4 Error	0.01	0.12	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3846	09/18/19 15:02:59.828	09/18/19 15:10:40.000	VDC Sensor Unit 3 Error	0.01	0.13	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3845	09/18/19 15:02:59.828	09/18/19 15:10:16.000	VDC Sensor Unit 2 Error	0.01	0.12	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3844	09/18/19 15:02:59.822	09/18/19 15:11:11.000	VDC Sensor Unit 1 Error	0.01	0.14	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3843	09/18/19 15:02:59.808	09/18/19 15:10:49.000	VDC Sensor Unit 4 Error	0.01	0.13	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3842	09/18/19 15:02:59.888	09/18/19 15:11:07.000	VDC Sensor Unit 3 Error	0.01	0.14	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH
3841	09/18/19 15:02:59.880	09/18/19 15:10:54.000	VDC Sensor Unit 2 Error	0.01	0.13	Closed	Emergency	Panic ROMS	WCTA Facility/Place TAY/NCTA FAT ZONE/NCTA FAT ZIC11NCTA-FAT-ZC11NVDC3EH

1

2

3

4

5

25

Items per page

1 - 25 of 193 items

Technician Logs					Create Log Update Log	
Technician Logs Items					Export PDF	Export Excel
Employee Name	Category Name	Log Detail	Log Time	Log Duration		
System Administrator	Ticket Closed	Ticket id 3872 Closed: Issue: closing ticket as is no longer an issue fixed. This entry is automatically generated by	10/23/2019 11:13:17.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3871 Closed: Issue: Closing out ticket as this has been fixed. This entry is automatically generated by	10/23/2019 11:12:39.000	0.93 Hr		
System Administrator	Ticket Closed	Ticket id 3834 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:48.000	142.22 Hr		
System Administrator	Ticket Closed	Ticket id 3835 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:44.000	142.20 Hr		
System Administrator	Ticket Closed	Ticket id 3836 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:40.000	142.13 Hr		
System Administrator	Ticket Closed	Ticket id 3837 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:36.000	141.77 Hr		
System Administrator	Ticket Closed	Ticket id 3841 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:31.000	126.93 Hr		
System Administrator	Ticket Closed	Ticket id 3843 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:27.000	126.28 Hr		
System Administrator	Ticket Closed	Ticket id 3845 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:22.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3848 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:18.000	96.38 Hr		
System Administrator	Ticket Closed	Ticket id 3847 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:13.000	96.38 Hr		
System Administrator	Ticket Closed	Ticket id 3865 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:07.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3851 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:16:01.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3862 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:15:56.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3853 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:15:49.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3854 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:15:38.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3860 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:15:32.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3861 Closed: Issue: Clearing Tickets..... This entry is automatically generated by	10/22/2019 16:15:27.000	0.00 Hr		
System Administrator	Ticket Closed	Ticket id 3838 Closed: Issue: Test..... This entry is automatically generated by	10/23/2019 13:06:25.000	134.33 Hr		
System Administrator	Ticket Closed	Ticket id 3842 Closed: Issue: Test..... This entry is automatically generated by	10/22/2019 13:06:19.000	123.37 Hr		

Log time is a timestamp for a change in the ticket status
Log time is that starting time of the new status

Yes, it is a list of actions taken on a ticket by a technician.

Service Issues

Tickets

ID	Updated	Status	Severity	Name	Assigned To	Path
3877	10/23/2019 11:58			ORIS Reverse Vehicle	Head Supervisor	NCTA Facility/Plaza TAVINCTA FAT ZONE/NCTA FAT ZC1199Rack
3878	10/23/2019 11:52			MIS Loop Is Unhealthy	Head Supervisor	NCTA Facility/Plaza TAVINCTA FAT ZONE/NCTA FAT ZC1199Rack
3878	10/23/2019 11:52			MIS Detector Is Unhealthy	Head Supervisor	NCTA Facility/Plaza TAVINCTA FAT ZONE/NCTA FAT ZC1199Rack
3874	10/23/2019 11:50			task	Head Supervisor	NCTA Facility
3873	10/23/2019 11:19			VDC_CORE_SENSOR_DOWN	Head Supervisor	NCTA Facility/Plaza TAVINCTA FAT ZONE/NCTA FAT ZC1199Rack
3870	10/23/2019 10:18			Test ORIS LOOPS	Head Supervisor	NCTA Facility

1 - 6 of 8 items

Ticket ID:

Assignee:

Description:

Detached Time:

Full Path:

Update Ticket

Update Status

Reassign Ticket User (Optional)

Description of Update/Service Performed

Update

Update Time: 4

Status

Description

Updated By

No records available.

Search Entries

Need to add search criteria for ticketid and Location

Search by Assignee

Start Time

10/23/2019 12:31 PM

End Time

10/23/2019 12:31 PM

Search by Status

Search by Severity

Description

Cancel

Submit

Equipment Performance

Location: Unselected

Facility: TAY

Previous

CSV

XLS

PDF

Next

Facility	Equipment ID	Type	Location	Status	Mean Time Between Failure	Failure Cnt	Mean Time To Repair	Repair Cnt
NCTA Facility	402	UPS	TAY, Lane 1	In Storage	0 hours	4	4 hours	4
NCTA Facility	403	ACAMS	Plaza TAY	Broken	0 hours	2	0 hours	1
NCTA Facility	387	ACAMS	Plaza TAY	Repaired	188 hours	5	124 hours	5
NCTA Facility	384	DVR Camera	TAY, Lane 1	Testing	0 hours	2	0 hours	2
NCTA Facility	354	FAT Dry Run	TAY, Lane 1	Repaired	0 hours	5	0 hours	5

Change the title to equipment Availability

Vehicles and Mileage Report: This report shows traffic counts for all vehicle classes in addition to vehicle class category for each revenue category between tolling points, average travel time between tolling points and total distance traveled for the selected criteria. The report includes a summary page with traffic between tolling points and total miles traveled. Each summary shall be grouped by vehicle class category and revenue category, for example AVI and Image-based.

Parameters:	Facility(MS)	Tollzone(MS)	Vehicle Class (MS)		Start Date/Time	End Date/Time
-------------	--------------	--------------	--------------------	--	-----------------	---------------

Analyze the map of the roadway, and propose a way to calculate distances.
Potentially request omission of the report if distances cannot be calculated.

Tollzone	Vehicle Class	Revenue Type	Total Miles	Summary Of Traffic
Toll Point 1	Class 1	AVI	50	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	23	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
	Class 2	AVI	48	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	23	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
	Class 3	AVI	48	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	23	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
Toll Point 2	Class 1	AVI	23	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	48	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
	Class 2	AVI	50	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	50	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
	Class 3	AVI	50	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	23	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
Toll Point 3	Class 1	AVI	48	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	50	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
	Class 2	AVI	23	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	48	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
	Class 3	AVI	23	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum
		IMG	48	Lorem Ipsum Lorem lorem Ipsum sum Lorem sum

Hardware Status Report: This report shows the hardware status codes and descriptions based on the selected date range, Toll Facility, Lane and type of hardware failure. This report allows Maintenance staff to audit the state of all hardware components in the lanes.

Facility	Start Date	End Date	Facility	Hardware	Lane	Type of Error
----------	------------	----------	----------	----------	------	---------------

Date	Facility	Hardware	Lane	Description
11/1/2018	Tolco	TAH	Lane 1	0000
			Lane 2	0000
			Lane 3	0000
11/2/2018	Tolco	TAH	Lane 1	0000
			Lane 2	0000
			Lane 3	0000
11/3/2018	Tolco	TAH	Lane 1	0000
			Lane 2	0000
			Lane 3	0000
11/4/2018	Tolco	TAH	Lane 1	0000
			Lane 2	0000
			Lane 3	0000
11/5/2018	Tolco	TAH	Lane 1	0000
			Lane 2	0000
			Lane 3	0000

This would be the status of ALL hardware on the line. Not just failure. Just status of all equipment
It will be a live report.

Transaction Number Gap Report: This report shall provide information on gaps in transaction numbers based on tolling point and lane for the specified date range.

Parameters:			Start Date		End Date	Tollzone(MS)	Lane(MS)
-------------	--	--	------------	--	----------	--------------	----------

Check if transaction numbers are in sequence. If they are not in sequence, this report cannot be generated.

Date	Transaction Time	Tollzone	Lane	Preceding Transaction	Transaction Expected	Transaction Actual	Transaction Gap
11/1/2019		TAY	1	45645644000	4001	1992	-2009
11/2/2019		TAY	1		4001	4401	400
11/3/2019		TAY	1		4001	3956	-45
11/2/2019		TAY	2		4001	4501	500
11/3/2019		TAY	3		4001	1992	-2009
11/4/2019		TAY	3		4001	1992	-2009
11/3/2019		TAY	2		4001	1992	-2009
11/4/2019		TAY	2		4001	1992	-2009
11/5/2019		TAY	1		4001	1992	-2009

Requirement 561 - Unusual Occurrences (To be used as indicators for potential lane issues)

1. AVI unrecognized or unknown from the BOS XTAG File

2. Class mismatch of transponder versus lane AVC (only applicable to transaction with programmed transponders [6C and TDM])

3. Transaction without images

4. Transaction with unusual number of axes (7+)

5. Wrong Way Vehicle

6. Vehicles over 100 MPH

7. Speed of 0 mph (not including autoflush)

Search Parameters:

Facility	Tollzone(MS)	Lane(MS)	Start Date	Start Time	End Date	End Date	UO Code(MS)
----------	--------------	----------	------------	------------	----------	----------	-------------

Facility	Tollzone	Lane	Lane Status	Date	Transaction Time	Transaction ID	Transaction Type	Degraded Flag	Assigned Fare	Tag Class	AVC Class	Assigned Class	Image Link	UO Description	Disposition
TriEx	TAY	1	Maintenance	11/1/2019		111846128	AVI	N	\$	1	2	1		Class mismatch	Posted by BOS
TriEx	TAY	2	Open	11/1/2019		132546128	Imaged Based	N		3	3	3	-	Transaction w/o Images	Filtered by RSS
TriEx	TAY	1	Open	11/1/2019		645326128	Imaged Based	N			8	3		Unusual Axle Count	Flagged, Sent to BOS
TriEx	TAY	1	Maintenance	11/1/2019		235846128	AVI	N		1	1	1		Unknown Tag	Sent to BOS as Image Based
TriEx	TAY	2	Open	11/1/2019		111846128	AVI	N		1	1	1		Transaction w/o Images	Sent to BOS
TriEx	TAY	1	Open	11/1/2019		132546128	Imaged Based	N	-	-	-	-	-	Wrong Way Vehicle	Flagged
TriEx	TAY	1	Maintenance	11/1/2019		645326128	AVI	N		2	2	2		Speed over 100 MPH	Sent to Bos
TriEx	TAY	2	Open	11/1/2019		235846128	AVI	N		1	1	1		Speed of 0 MPH	Sent to BOS
TriEx	TAY	1	Open	11/1/2019		111846128									
TriEx	TAY	1	Maintenance	11/1/2019		132546128									
TriEx	TAY	2	Open	11/1/2019		645326128									
TriEx	TAY	1	Open	11/1/2019		235846128									

Lane Operations Report: This operational report lists and summarizes vehicle transactions and Equipment messages that are generated in the lanes. This report is an audit tool that presents all lane activity for a specified location and desired transaction date and time period. Numerous selection and filter criteria shall be provided to help identify problems. Detailed information regarding the transaction and event shall be included.

Once degraded status field is added to Detailed Lane transaction report, this report is stasfied. also add a search parameter for that as (MS)

Parameters:	Start Date	Start Time	End Date	End Time	Facility (MS)	Tollzone(MS)	Equipment Code
Date/Time	Facility	Tollzone	Lane	Equipment Code	Equipment Message	Transaction Summary	
11/1/2019	TriEx	TAY	Lane 1	275	Lorem Ipsum Lorem Ipsum sum Lorem sum	Lorem Ipsum Lorem Ipsum sum Lorem sum	
			Lane 2	204	Lorem Ipsum Lorem Ipsum sum Lorem sum	Lorem Ipsum Lorem Ipsum sum Lorem sum	
			Lane 3	128	Lorem Ipsum Lorem Ipsum sum Lorem sum	torem Ipsum Lorem Ipsum sum Lorem sum	
11/2/2019	TriEx	TAY	Lane 1	275	Lorem Ipsum Lorem Ipsum sum Lorem sum	Lorem Ipsum Lorem Ipsum sum Lorem sum	
			Lane 2	204	Lorem Ipsum Lorem Ipsum sum Lorem sum	Lorem Ipsum Lorem Ipsum sum Lorem sum	
			Lane 3	128	Lorem Ipsum Lorem Ipsum sum Lorem sum	torem Ipsum Lorem Ipsum sum Lorem sum	
11/3/2019	TriEx	TAY	Lane 1	375	Lorem Ipsum Lorem Ipsum sum Lorem sum	torem Ipsum Lorem Ipsum sum Lorem sum	
			Lane 2	204	Lorem Ipsum Lorem Ipsum sum Lorem sum	torem Ipsum Lorem Ipsum sum Lorem sum	
			Lane 3	128	Lorem Ipsum Lorem Ipsum sum Lorem sum	torem Ipsum Lorem Ipsum sum Lorem sum	

Transponder Audit Report: This report verifies that Transponders are properly read at each roadside Tolling Location

Current system compares reader logs to the transaction on lane controller
need ot consider how agency coedes complicate this
What data is available in the reader log? look if there is any other datapoint to help compare for this report.

Parameters: Facility Tollzone

Tollzone	Transponder Type	Transponder Status	Plate number	Transponder number	transaction time	transation ID	comparison result
TAY	sego	valid					Both
TAY	TDM						only on reader
TAY	6C	valid					only on ln controller
TAY							
TAY							
TAY							
TAY							
TAY							

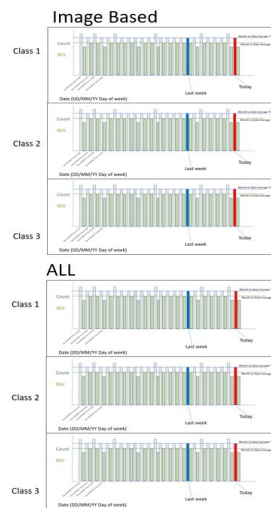
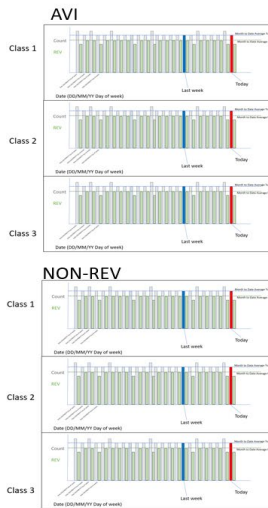
Executive Summary Traffic and Revenue Report
Search Parameters:
Facility
Tolling Point
Day

Revenue Category	Vehicle Class	Selected Day Total	Assigned Fare	Previous Day Total	Assigned Fare	Percent traffic change from previous day	Percent Fare Change from previous day	Month-to-Date Total	Month-to-Date Fare	same day, last week Total	same day, last week Fare	Percent Change from same day last week Total	Percent Change from same day last week Fare
AVI	Class 1												
	Class 2												
	Class 3												
AVI Total													
Image-Based	Class 1												
	Class 2												
	Class 3												
Image-Based Total													
Non-Revenue	Class 1												
	Class 2												
	Class 3												
Non-Rev Total													
ALL	Class 1												
	Class 2												
	Class 3												
All Total													

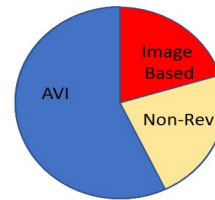
569 2.1.17.4. Roadway Support System (RSS) Reports

Executive Summary Traffic and Revenue Report: This report shows daily traffic counts and revenue amounts by revenue category, for example AVI and Image-based by vehicle class category, grouped by shift, selected day totals, previous day totals, percentage of increase/decrease and month to selected day totals. This report is used to show the increase and/or decrease in traffic counts and revenue compared to the previous Days' totals using the breakdown by revenue types. Data in this report shall also be represented graphically to include selected day traffic and revenue statistics; daily revenue and traffic comparisons by vehicle class and revenue type including selected day; previous day; month to selected day average and prior week day. Backup of the summary data by facility and tolling point shall be included.

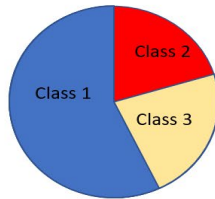
Data in this report shall also be represented graphically



Traffic totals by Revenue Type



Traffic totals by Revenue Class



Traffic and Revenue Report
Search Parameters:
Facility
Tolling Point
Start Date
Start Time
End Date
End Time

571	2.1.17.4. Roadway Support System (RSS) Reports	Traffic and Revenue Report: This report shows transaction by revenue category, for example AVI, Image-based and Non-Revenue for tolling points in each Toll Facility. The data is grouped by vehicle class categories and tolling point. A summary is provided at the end of the report by vehicle class category and transaction type.
-----	--	---

Location	Class	AVI		Non-Rev		Img		All	
		Count	Exp R	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev
	1	xx	xx	xx	xx	xx	xx	xx	xx
	2	xx	xx	xx	xx	xx	xx	xx	xx
	3	xx	xx	xx	xx	xx	xx	xx	xx
	ALL	xx	xx	xx	xx	xx	xx	xx	xx
	1	xx	xx	xx	xx	xx	xx	xx	xx
	2	xx	xx	xx	xx	xx	xx	xx	xx
	3	xx	xx	xx	xx	xx	xx	xx	xx
	ALL	xx	xx	xx	xx	xx	xx	xx	xx
ALL	1	xx	xx	xx	xx	xx	xx	xx	xx
ALL	2	xx	xx	xx	xx	xx	xx	xx	xx
ALL	3	xx	xx	xx	xx	xx	xx	xx	xx
ALL	ALL	xx	xx	xx	xx	xx	xx	xx	xx

make column header Rev = Expected Rev.
Rev column will hold revenue, not count.

Traffic and Revenue Comparison Report
Search Parameters:
Facility (MS)
Tolling Point(MS)
Year
Month

572	2.1.17.4. Roadway Support System (RSS) Reports	Traffic and Revenue Comparison Report: This report shall provide a comparison of current year monthly traffic and revenue data with the previous year with percentage increase/decrease and includes selected Toll Facility and tolling point. Similar to the traffic and revenue report above, the report includes a breakdown by vehicle class category. The report is further divided into sub-groups by revenue category, for example AVI and Image-based.
-----	--	--

	Location	Class	Previous year/Month		Current Year/Month		Percent Change		Previous year/Month		Current Year/Month		Percent Change		Previous year/Month		Current Year/Month		Percent Change		Previous year/Month		Current Year/Month		Percent Change	
			AVI		AVI		AVI		Non-Rev		Non-Rev		Non-Rev		Img		Img		All		All		All			
			Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev	Count	Exp Rev
	1	xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
	1	2	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
	1	3	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
	1	ALL	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
	2	1	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
	2	2	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
	2	3	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
	2	ALL	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
ALL		1	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
ALL		2	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
ALL		3	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		
ALL		ALL	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	xx	xx	xx	xx		

See Mockup in 590, 573

Attachment 5, Page 60 of 105

590 and 573- Operations – CSC File Communications

Recommended Report Name: Transponder Status List Transmission Report

Parameters:
Facility

Start Date

End Date

Note: the Elapsed time
is the time between
when the RTCS host
received the file from
BOS and when the tag
file was in use by the
lane controller

Date TSL Received by RTCS Host	TSL File Name	File Type	Tag Count	File Control Number	Zones	Processed Date/Time in Lane Controller	Elapsed Time (MM:SS)	TSL Received and Applied w/in 10 min	Points Assessed
03/26/2020 14:26:12:00	C33_2020032614261200.XTAG	Full	45,000	Per the ICD	T01	03/26/2020 14:28:12:00	2:00	yes	0
					T02	03/26/2020 14:27:12:00	1:00	yes	0
					...	03/26/2020 14:28:12:00	2:00	yes	0
					...	03/26/2020 14:29:12:00	3:00	yes	0
					T15	03/26/2020 14:28:12:00	2:00	yes	0
					T16	03/26/2020 14:28:12:00	2:00	yes	0
					...	03/26/2020 14:39:12:00	13:00	no	#
					T33	03/26/2020 14:30:12:00	4:00	yes	0
03/26/2020 16:26:12:00	C33_2020032616261200.XTAG	Incremental	3,200	Per the ICD	T01				
					T02				
					...				
					...				
					T15				
					T16				
					...				
					T33				

590	2.1.17.5. Monthly Performance Reports	Operations – CSC File Communications: This report will show for each day in the reporting period any endpoints (zone controllers, etc.) that require the TSL file along with a total number of times within the reporting period that the TSL was not received and applied within ten minutes. Each of these lines will also show the number of Updates not received and applied within ten minutes along with the value equal to the number of Updates received from the CSC minus the number of Updates received and applied. Last column in the body of the report is the number of points assessed for each day, the formula to be finalized during System Design.
-----	--	--

Image Transmission Summary Report
Search Parameters:
Facility (MS)
Tolling Point (MS)
Lane (MS)
Start Date
End Date

574	2.1.17.4. Roadway Support System (RSS) Reports	Image Transmission Summary Report: This operational report counts the number of Images created in the lanes for a user defined image created date range and other criteria. Data displayed include the number of triggered, non-triggered and total images from the lanes and the date the images were received at the image server(s). For each received date, the total images, number of lag Days, the percentage of transactions received each day and a cumulative percentage shall be included.
-----	--	---

Date	Facility	Tolling Point	Lane	Image-Based Transactions count at the Lane	Count of Images sent to Host	Total Images sent to ALPR	Total Images sent to Manual Image Review	MIR ALPR pending (Count)	Rejected Images (MIR)	Staged for BOS	Image-Based Transaction without image	Duplicate/wrong LPN	Images sent to BOS	Percent sent to BOS	Average Time to BOS
	TriEX	T1		1											
	TriEX	T1		2											
	TriEX	T1		3											
Total															
Grand Total															

Image Transmission Detail Report
Search Parameters:
Facility
Tolling Point
Date
Minimum Time to Arrive

575	2.1.17.4. Roadway Support System (RSS) Reports	Image Transmission Detail Report: This operational report lists information on images from the lanes for a user defined lane created date. Capability shall be included to show image records where it took longer than a user defined number of hours for the image to arrive at the image server(s).
-----	--	--

Date	Facility	Tolling Point	Lane	Image	Time to Arrive at Image Server
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Image-Based Transactions and OCR Detail

Parameters: By Transaction Date or By Review Date Facility: TriEx or C540

Start Date

End Date

Toll Zones	Lane	Transaction Date/Time	Transaction ID	Plate State (From KTC OCR)	Plate Number (From KTC OCR)	Confidence Level (From KTC OCR)	Plate State (From KTT OCR)	Plate Number (From KTT OCR)	Confidence Level (From KTT OCR)	Plate state (From Fusion)	Plate Number (From Fusion)	Confidence Level (From Fusion)	VIP Activity	VIP Plate State	VIP Plate number	Plate Type	Final/Posted Plate State	Final/Posted Plate Number	Final/Posted Plate Type
T01	1																		
T01	2																		
T01	3																		

576 Image Processing Performance Report: The Image Processing Performance Report shall display OCR/ALPR and manual review performance statistics by jurisdiction. Problematic lanes, toll locations and jurisdictions shall be identified. The report shall also include a breakdown of the OCR/ALPR performance by confidence levels, if OCR/ALPR is used. The report selection criteria shall include at a minimum jurisdiction, toll locations, lane and sortable by each selected criteria. The selected criteria shall be defined during the Detail Design phase.

Image-Based Transactions OCR Performance Report - By Jurisdiction
Parameters: By Transaction Date

Facility: TriEx or C540 (ms)
Toll Zone: Default All (ms)
OCR System: KTC VRX OCR, KTT HOST, Fusion

Start Date
End Date

Jurisdiction	Image-Based Transaction Count	OCR Confidence								
		>95	90-95	85-90	80-85	75-80	70-75	50-70	25-50	0-25
NC										
VA										
SC										
GA										
FL										
NJ										
MA										
TN										
...										
International										
Government										

576	Image Processing Performance Report: The Image Processing Performance Report shall display OCR/ALPR and manual review performance statistics by jurisdiction. Problematic lanes, toll locations and jurisdictions shall be identified. The report shall also include a breakdown of the OCR/ALPR performance by confidence levels, if OCR/ALPR is used. The report selection criteria shall include at a minimum jurisdiction, toll locations, lane and sortable by each selected criteria. The selected criteria shall be defined during the Detail Design phase.
-----	--

Image-Based Transactions OCR Performance Report - By Lane

Parameters: By Transaction Date

Facility: TriEx or C540 (ms)

Start Date End Date

Toll Zone: Default All (ms)

OCR System: KTC VRX OCR, KTT HOST, Fusion

			OCR Confidence								
Toll Zone	Lane Number	Image-Based Transaction count	>95	90-95	85-90	80-85	75-80	70-75	50-70	25-50	0-25
T01	0										
T01	1										
T01	2										
T01	3										
T02	0										
T02	1										
T02	2										
T02	3										

576 Image Processing Performance Report: The Image Processing Performance Report shall display OCR/ALPR and manual review performance statistics by jurisdiction. Problematic lanes, toll locations and jurisdictions shall be identified. The report shall also include a breakdown of the OCR/ALPR performance by confidence levels, if OCR/ALPR is used. The report selection criteria shall include at a minimum jurisdiction, toll locations, lane and sortable by each selected criteria. The selected criteria shall be defined during the Detail Design phase.

System Exceptions Report

Parameters:

Facility (MS)	TollZone(MS)	Start Date	Start Time	End Date	End Time	Exception Type (MS)	Disposition
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Combined with Requirement 554

System Exceptions (Maps transactions that are not subjected to audit for accuracy):

1. Auto flushes (tags read at the lane that did not correlate to a vehicle or lacks AVC data)
2. Images that were not correlated to a transaction (Video auto flush).
3. Lane unavailable (transactions captured when AVI reader is down, rear camera down, etc.)
4. Transactions captured when in Lane Mode: Maintenance

577	2.1.17.4, Roadway Support System (RSS) Reports	System Exceptions Report: The System Exceptions report shall display transactions that are considered exceptions, including but not limited to duplicate transactions, RSS filtered transactions and non-interoperable Transponder reads. Exception handling errors and the disposition of these exceptions shall also be displayed along with the transaction. Additional information may include but not limited to operational mode schedule, configuration parameters, incident/override.
-----	--	---

Facility	Toll Zone	Lane	Transaction Date	Transaction Time	Transaction ID	Transaction Type	Exception Type	Disposition	Lane-Mode	Device-Failure	Incident-Override	Exception-Handling-Error
						AVI	Auto Flushes	RSS filtered transaction				
						AVI	Lane Unavailable	Sent to BOS				
						Image Based	Lane Unavailable	Rejected at BOS				
							Lane Unavailable	Posted by BOS				
							Lane Unavailable	Flushed at Host				
							Maintenance Lane Mode	Flushed at Host				

Completeness – Toll Facility Maintenance

Search Parameters:

Facility

Tolling Point

Start Date

Start Time

End Date

End Time

Facility	Toll Zone	Maintenance Activity	Scheduled Date / Time	Completed (Y/N)	Point Assessment	Summary
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582	2.1.17.5. Monthly Performance Reports	Completeness – Toll Facility Maintenance: (This report requires Maintenance schedules to be setup in MOMS for System tracking purposes) The report shall list each Toll Facility Maintenance activity scheduled within the reporting period, along with a value indicating if the task was completed or not and the points assessment for each (determined elsewhere). The report shall contain a summary, the information from which the Contractor's Monthly Performance Scorecard is generated.				
-----	---------------------------------------	--	--	--	--	--

Operations – ITS Complete and Timely Data transmission

Parameters:

Day

Date	Data Intervals	Data Sets Received	% Data Sets Received	Max Consecutive Data Sets Lost	% Expected Data Received	Summary
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583	2.1.17.5. Monthly Performance Reports	Operations – ITS Complete and Timely Data transmission: Report shall provide for each day during the reporting period; data statistics such as but not limited to: number of data intervals in period, number of data sets received, percentage of data sets received, max number of consecutive data sets lost, overall percentage of expected data received calculated to 0.01% for each day in the reporting period. The report shall contain a summary containing the monthly calculations which will be used on the Contractor's Monthly Performance Scorecard.				
-----	---------------------------------------	--	--	--	--	--

Operations – AVI Transaction Accuracy
Employee Name (MS)
Year
Month

QA Employee	AVI Transactions Reviewed	Failed QA Accuracy Check	System Calculated Accuracy	Assessed Points
-------------	---------------------------	--------------------------	----------------------------	-----------------

586	2.1.17.5. Monthly Performance Reports	Operations – AVI Transaction Accuracy: This report will display the number of AVI transactions reviewed by the QA person(s), the number of AVI transactions that failed the QA accuracy check, and the System calculated accuracy calculated to 0.001 percent, as well as the amount of assessed points for the month. The data for the report will be provided by the NCTA (or designee) reviewer, and a screen for this information to be entered into the System will be required. This information, once collected and calculated by the System will be used on the Contractor's Monthly Performance Scorecard.		
-----	---------------------------------------	---	--	--

Operations – Image Transaction Accuracy

Parameters:

Employee Name (MS)

Year

Month

QA Employee	Image-Based Transactions Reviewed	Failed QA Accuracy Check	System Calculated Accuracy	Assessed Points
-------------	-----------------------------------	--------------------------	----------------------------	-----------------

587	2.1.17.5. Monthly Performance Reports	Operations – Image Transaction Accuracy: This report will display the number of image based transactions reviewed by the QA person(s), the number of image based transactions that failed the QA accuracy check, and the System calculated accuracy calculated to 0.001 percent, as well as the amount of assessed points for the month. The data for the report will be provided by the NCTA (or designee) reviewer, and a screen for this information to be entered into the System will be required. This information, once collected and calculated by the System will be used on the Contractor’s Monthly Performance Scorecard.		
-----	---------------------------------------	---	--	--

Operations – Image Rejection Accuracy

Parameters:

Employee Name (MS)

Year

Month

QA Employee	Image-Based Transactions Reviewed	Failed QA Image Rejection Accuracy Check	System Calculated Accuracy	Assessed Points
-------------	-----------------------------------	--	----------------------------	-----------------

588	2.1.17.5. Monthly Performance Reports	Operations – Image Rejection Accuracy: This report will display the number of image based transactions reviewed by the QA person(s), the number of image based transactions that failed the QA Image Rejection accuracy check, and the System calculated accuracy calculated to 0.001 percent, as well as the amount of assessed points for the month. The data for the report will be provided by the NCTA (or designee) reviewer, and a screen for this information to be entered into the System will be required. This information, once collected and calculated by the System will be used on the Contractor’s Monthly Performance Scorecard.		
-----	---------------------------------------	---	--	--

Image Review System

Possibly satisfied by Report Image Reconciliation Detail Report in Batch 4

Parameters: Facility Direction Toll Zones Lanes MIR Type OCR Conf Transmission Time: Less than 8 hours, 16 hours, 36 hours, 72 hours, more than 72 hours
Group By: Date or Zone Start Date End Date

Transaction ID	Transaction Date	Transaction Time	Toll Zone	Lane	Lane Controller Image Count	Host Image Count	RTCS Disposition	OCR Confidence	MIR/ALPR Date Time	MIR/ALPR Type	MIR/ALPR Status	MIR/ALPR LP Result	MIR/ALPR LP State
			T01	3	5	2	Batched	95%		Automated	Complete	ABC123	FL
							Batched			MIR	Complete		
							Batched			MIR	In Progress		

144. The Image Review System shall provide reports that track the transmission of image-based transactions and their associated images.

145. The Image Review System shall provide reports that track the errors in the transmission of the image-based transactions and their associated images and their re-transmission.

Image Audit Discrepancy Report

NEW REPORT: mockup pending NCTA

Parameters:
Reviewer/User Status: Accepted/Rejected Date: Last 24 hours, Last 7 Days, Last 30 Days, Last 12 Months, Custom Date Range (Start/End)
By review date/ Transaction Time

Transaction ID	Image 1	ROI 1	Review 1	Image 2	ROI 2	Review 2	Image Final	ROI Final	Final Review	Auditor
12453735			User: John Action: Rejected/Modified Reason: Plate: State: Type:			User: Alex Action: Rejected/Modified Reason: Plate: State: Type:			User: Marcelo Action: Rejected/Modified Reason: Plate: State: Type:	User: Marcelo Action: Rejected/Modified Reason: Plate: State: Type:

The Image Review System shall provide image review performance reports that show how many images were reviewed for the selected criteria and the number of images reviewed by each image reviewer by review status/sub-status. Images that by-passed manual review and those flagged as rejects shall be reported, including but not limited to:

- a) for what reasons;
- b) at what stage;
- c) the errors; and
- d) the stage the error was identified.

VIP > Administration > MLPR Performance Report

Existing Report

PRF-002 Image Review Summary by Reviewer

Params:

From date

To date

User- Name	Reviews	Accepted	Rejected
---------------	---------	----------	----------

The Image Review System shall provide via Dashboard for NCTA use, an image review management tool that displays relevant information, including but not limited to:

a) individual image reviewer performance;

SUMMARY

search

swap_

horiz



Reviewer	Number of Images Reviewed	Number of Images Accepted	Number of Images Rejected	Number of Images Sent to Supervisor	Number of Images Skipped	Review Time (seconds)
297	54	243	80	1	0	19.32

Image Review Summary by Reviewer

search

swap_

horiz



Reviewer	Number of Images Reviewed	Number of Images Accepted	Number of Images Rejected	Number of Images Sent to Supervisor	Number of Images Skipped	Total Images Reviewed	Total Images Sent to Supervisor	Total Images Accepted	Total Images Rejected
Bob Smith				0	0	0	0.00%		0.00%
VIPRE VIEWER R1 Smith	182	39	143	34	1	0	61.28%	42.50%	58.85%
									0.00%

VIP > Administration > ALPR Performance Report

Existing Report

Params:

From date

To date

OCR Engine	Reviews	Scored by OCR	Not Scored by OCR	Accepted by ALPR	Rejected by ALPR	Success Rate
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The Image Review System shall provide via Dashboard for NCTA use, an image review management tool that displays relevant information, including but not limited to:

b) OCR/ALPR performance (if OCR/ALPR is provided);

VIP > Administration > Review Service Performance Report

New Report

RTM TO BE UPDATED, AS KAPSCH PROVIDING ALL IMAGE REVIEW

Params:

From date

To date

Image Review Service	Reviews	Accepted	Rejected
----------------------	---------	----------	----------

The Image Review System shall provide via Dashboard for NCTA use, an image review management tool that displays relevant information, including but not limited to:

~~e) image review performance by entity providing the service, for example, third-party image review service provider #1, third-party image review service provider #2, internal image review;~~

~~e) image review performance broken down by the entity providing image review service;~~

Image Review Summary by Reviewer
Existing Report

SUMMARY						
Total Number of Images Reviewed	Total Number of Images Sent to Supervisor	Total Sent to Supervisor Due to Mismatch	Total Number of Images Skipped	Total Number of Images Accepted	Total Number of Images Rejected	Average Review Time (seconds)

Image Review Summary by Reviewer									
Reviewer Name	Images Reviewed	Images Accepted	Images Rejected	Images Sent to Supervisor	Images Sent to Supervisor Due to Mismatch	Images Skipped	Percent of Total Images Reviewed	Percent of Total Images Sent to Supervisor	Percent of Total Images Skipped

The Image Review System shall provide via Dashboard for NCTA use, an image review management tool that displays relevant information, including but not limited to:

d) overall image review performance;

f) as compared against key performance indicators for each entity providing the service.

The Image Review System shall provide reports that allow NCTA to monitor the image review vendor performance against agreed to KPI, including but not limited to:

- a) number of images that did not meet review KPI;
- b) established accuracy KPI;
- c) variance from accuracy KPI;
- d) image reject rates; and
- e) exceptions to the KPI by license plate state.

1. Image Audit Report

Start Date **End Date** **Date Type: Transaction Date or Review Date**
User **Activity Type**

Summary	
Total Transactions Audited	45
Total Correct	30
Total Incorrect	15
Incorrect License Plate	5
Incorrect State	4
Incorrect LP Type	5
Incorrect Reject Reason	1

Details

Reviewer	Correct	Incorrect	Percent Correct	Percent Incorrect	% Audited of Total Reviewed

The CEMS shall provide a useful variety of historical reports and trends for the monitored conditions.

Traffic Reports: Peak hour (user-selectable); fifteen (15) minute increments, hourly; daily; weekly; monthly and comparative reports shall be provided that help NCTA gauge congestion, mobility, travel times and throughput. Average travel time, average toll rate, and minimum and maximum toll rate shall be included in the traffic reports. Provide the capability for user-selectable criteria for reporting as defined during Detail Design phase.

578 -System Audit Report

Start Date End Date Sort by: Monthly/Weekly

***Discuss if this column makes sense with Kapsch DB set up*

Month or Week	Date of Change	User IP	User Name	Table Name in DB	Identity Column?	Field Name ID	Field Name Changed	Previous Value	New Value	Action
January		2	thomasb	ETC_USERS	Password		LoginUserPassword	admin123	321admin	Changed
January										
January										
January										
February										Deleted
February										
February										
March										
March										
March										
March										
March										
March										
March										
March										
...										
...										

System Audit Reports: Weekly and monthly reports shall be made available that show the user access data and modifications made and ability shall be provided to obtain the details of the modifications.

Toll Host and VIP each contain a number of performance reports that can be configured by any time interval.

Generating (automatically) daily, weekly and monthly
Performance Reports as determined by NCTA during Design.

Inventory Detail

Location	Equipment Type	Cost Estimate	Warranty End	Serial Number	System ID	Status	MTTR	MTBF	Failure Count	Quantity	Comments
----------	----------------	---------------	--------------	---------------	-----------	--------	------	------	---------------	----------	----------

d) Equipment inventory and tracking;

Preventative Maintenance Schedule

Parameters:

Month

Year

TASK ID	Task Name	Task Type	Description	Next Runtime	Previous Runtime	Run Interval	Location	Plaza	Lane	Severity	Active
---------	-----------	-----------	-------------	--------------	------------------	--------------	----------	-------	------	----------	--------

f) preventive Maintenance;

Preventative Maintenance Summary and Status
Parameters:
Month
Year

Ticket ID	Task Name	Task Type	Schedule Date	Completion Date	Run Interval	Estimated Completion Time (Hrs)	Time Elapsed	Technician	Description	Location	Plaza	Lane	Severity	Active	Overdue	Action Plan
-----------	-----------	-----------	---------------	-----------------	--------------	---------------------------------	--------------	------------	-------------	----------	-------	------	----------	--------	---------	-------------

g) pervasive Maintenance;

Corrective Maintenance

Parameters:

Start Date

Start Time

End Date

End Time

Tolling Sites

Lanes

Exception Type

ID	Name	Location	Status	Severity	Assigned To	Detected	Last Updated	Acknowledge Time	Total Ack Time	Repair Time	Total Repair Time	Tech Notes
----	------	----------	--------	----------	-------------	----------	--------------	------------------	----------------	-------------	-------------------	------------

h) corrective Maintenance;

i) response and repair times for each of the priorities;

Inventory History

Parameters:

Start Date

Start Time

End Date

End Time

ID	Equip Type	Mfr Number	Srl Number	Update Time	Status	Who	Qty	Location
----	---------------	---------------	---------------	----------------	--------	-----	-----	----------

j) Equipment use history;

k) Equipment repair history;

l) total System availability;

m) sub-system availability for the Roadside Systems and
RSS;

Equipment Version Report

Location	Equipment Type	Serial Number	Equipment Versions	Software Versions
----------	----------------	---------------	--------------------	-------------------

n) Equipment versions, Software versions, firmware versions and serial numbers for all Equipment installed under this Scope of Work and Requirements;

Maintenance Detail
Parameters:
Start Date
Start Time
End Date
End Time

Ticket	Severity	Name	Maintenance Type	Location	Description	Detected	Dispatched	Acknowledged	Acknowledged Time	Resolved	Repair Time	Closed	Lost Revenue Estimate	Log Detail
--------	----------	------	------------------	----------	-------------	----------	------------	--------------	-------------------	----------	-------------	--------	-----------------------	------------

o) incident logs and lost revenue estimates;

Equipment Performance

Performance													
Equipment ID	Type	Location	Plaza	Units Deployed	MTTR Threshold / Unit	Status	Outages	MTBF - Current Period	MTBF - Previous Period	MTBF - Cumulative	Repair Count	MTTR	Met Threshold ?

Work Orders							
Work Order ID	Location	Severity	Status	Detected Time	Ack Time	Resolved Time	Close Time

p) MTBF for the preceding and current Maintenance periods and cumulative;

q) Performance Reports detailing compliance to the Performance Requirements;

r) detailed list of parts replaced as a result of Maintenance actions, with an identification of warranty versus non-warranty replacement;

Date Replaced	Part Number	Part Name	Warrenty
11/1/2019	XZ432737	ZIC1	Y
11/1/2019	XZ432737	ZIC1	Y
11/5/2019	XZ454737	nVDIC2	N
11/1/2019	XZ432737	ZIC1	Y
11/1/2019	XZ432737	ZIC1	Y
11/1/2019	XZ432737	ZIC1	Y

s) status of removed parts and Equipment with an aging status for parts under repair or replacement (serial numbers, being repaired in Maintenance shop, purchase replacement part);

Part Name	Serial Number	Age	Equipment Status	Replacement Serial Num
nVDIC	XCG37A76	3mo	Under Repair	N/A
VIC1	XFDE2235	2y	Replacement	VSH235566
nVDIC	XCG37A76	3mo	Under Repair	N/A
nVDIC	XCG37A76	3mo	Under Repair	N/A
VIC1	XFDE2235	2y	Replacement	VSH235566
VIC1	XFDE2235	2y	Replacement	VSH235566

t) Performance Reports;

u) an exceptions report summarizing all unusual or significant occurrences during the period;

Parameters:	Start Date	End Date
-------------	------------	----------

Date	Exception Code	Exception Name	Occurance Type
11/1/2019	100	Significant Exception	SO
11/2/2019	100	Significant Exception	SO
11/3/2019	100	Significant Exception	SO
11/4/2019	200	Unusual Occurance	UO
11/5/2019	200	Unusual Occurance	UO
11/6/2019	200	Unusual Occurance	UO
11/7/2019	100	Significant Exception	SO

v) trend analysis for repetitive failure;

Status of spare parts inventory

Part Type	Part Name	Amount in Inventory	On order
Controller	ZIC1	3	N
Camera	nVDIC 2	0	Y
Controller	ZIC2	1	Y
Controller	ZIC3	3	N
Loop	Idris Loop 1	2	N

x) staffing report detailing positions, staff hours worked and performance.

Employee ID	Employee Name	Position	Hours Worked	Performance
111000434	Robert Panir	Janitor	40	Good
123455533	Emma Sander	HR	40	Good
123455534	Bob Lazar	Software Engineer	40	Good
123455523	Padnir Lavakir	Software Engineer	40	Good
554324325	Saul Goodman	Software Engineer	40	Good
654645784	Reese Witherspoon	Lead Developer	40	Good
345257754	Tony Taundman	VP of Engineering	40	Good

Provide data and/or file transmission and reconciliation reports as described in these Requirements.

The Contractor shall provide the Maintenance summary reports to NCTA on a monthly basis in advance of the Monthly Meeting. The format of the Monthly reports shall be Approved by NCTA and included in the Maintenance Plan.

The Contractor shall provide an annual Executive Summary report to NCTA that summarizes the Contractor's performance for the Maintenance Year. The format of the Executive Summary reports shall be Approved by NCTA and included in the Maintenance Plan.

Maintenance summary reports shall also be readily available on-demand through the System in detail or summary format to NCTA authorized personnel via the network on a daily, weekly, or other time period basis determined by NCTA. The Maintenance summary report shall include but not be limited to:

c) MOMS notification: Defined as an automatic notification through the MOMS identifying a problem within the Roadway System that is the Maintenance responsibility of the Contractor and sending out an automatic work order message by email or text to a Contractor's Maintenance staff to respond to the failure. In addition to the Contractor notification, the work order shall be posted on the MOMS and available via reports. The presence of a MOMS notification in the System shall constitute the start of the response time for purposes of measuring the Contractor's response time.

Attachment 6

NCTA CBOS to RSS ICD

BOS RTCS File Exchanges – Interface Control Document

**North Carolina Turnpike Authority Back
Office System**

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Document Updates

Version History

Table 3: Version History

Version Number	Date	Description	Author
1	1/2023	Initial Update	NCTA

File Submission

The following document outlines the specifications of the proposed file format to be used in conjunction with the new I-77 roadway, Monroe Expressway and US74 Express lanes as part of the NCTA BOS project. All the data specified are transmitted over HTTP: JSON (Javascript Object Notation) APIs.

The data will be transmitted in smaller batches to reduce the transmission failure over network.

The following general rules apply to files:

- If column is not applicable in such case the element can be skipped in the JSON object
- All times used in the file name format and in the file contents are designated in GMT (Greenwich Mean Time (Universal Time Zone))
- If the value of a field in a file is outside the list of allowed values, the file / record will be rejected/skipped depending on each files specific rules
- Additional validation rules for non-multiple value fields will be included on the document for each file to determine if a file or record should be rejected/skipped

File Exchange Methodology

XTAG Sent from CSC to Toll Collection System Host

Table 4: Tag Status (XTAG) Data – Header Structure

Field Name	Type/Size	Description/Valid Values
BatchType	String	FULL/INCR (INCR is the incremental tag status file since last update. This is applicable only for Home customers)
FromAgencyId	String	C33
BatchDateTime	DateTime	Date batch created. Format: UTC
BatchControlNumber	Numeric	Unique sequence number for the file Values: 0000000000 – 9999999999
RecordCount	Numeric	Count of all tags in batch.: 00000000 – 99999999

CountStat1	Numeric	Count of all tags with status code 1. Values: 00000000 – 99999999
CountStat2	Numeric	Count of all tags with status code 2. Values: 00000000 – 99999999
CountStat3	Numeric	Count of all tags with status code 3. Values: 00000000 – 99999999
CountStat4	Numeric	Count of all tags with status code 4. Values: 00000000 – 99999999
CountStat5	Numeric	Count of all tags with status code 5. Values: 00000000 – 99999999
CountStat6	Numeric	Count of all tags with status code 6. Values: 00000000 – 99999999
CountStat7	Numeric	Count of all tags with status code 7. Values: 00000000 – 99999999
CountStat8	Numeric	Count of all tags with status code 8. Values: 00000000 – 99999999
CountStat9	Numeric	Count of all tags with status code 9. Values: 00000000 – 99999999

Table 5: Tag Status (XTAG) Data – Detail Structure

Field	Type/Size	Mandatory	Description/Valid Values
TagNumber	String	Y	Tag serial number including the agency id 000-127 (First 3 Characters) 00000001 – 16777216 (Next 8 Characters)
TagStatus	String	Y	1 = Valid (report use to CSC)

			2 = Low Balance (report use to CSC)
			3 = Zero balance (report use to VPC)(Type 1 Violation)
			4 = Invalid or lost/stolen (report use to VPC)(Type 1 Violation)
			5 = non-revenue
			6 = Transit Vehicles tag
			7 = Motorcycle tag
			8 = First Responder tag
			9 = HOV only tag
TagInfo	String	N	Additional Information for future use

Sample JSON

```
{
  "BatchType": "FULL",
  "FromAgencyId": "C33",
  "BatchDateTime": "2023-01-01T23:45:12.012",
  "BatchControlNumber": 123456,
  "RecordCount": 2,
  "CountStat1": 2,
  "CountStat2": 0,
  "CountStat3": 0,
  "CountStat4": 0,
  "CountStat5": 0,
  "CountStat6": 0,
  "CountStat7": 0,
  "CountStat8": 0,
  "CountStat9": 0,
  "Records": [
    {
      "TagNumber": "03300045678",
      "TagStatus": 1,
    },
    {
      "TagNumber": "03300045679",
    }
  ]
}
```

```
        "TagStatus" : 1,  
    }  
]  
}
```

XTAG Ack Sent from Toll Collection System Host to CSC

A tag status acknowledgement is returned by the RTCS for each batch processed.

Table 6: Tag Status Acknowledgement (XTAG_ACK) File

Field Name	Type/Size	Description/Valid Values
ReturnCode	Numeric	<p>A code indicating the status of the XTAG batch being acknowledged. Values:</p> <p>Good ACK</p> <p>00 – Batch was successfully received and verified</p> <p>Bad ACK</p> <p>01 – Header record found with data preventing use.</p> <p>02 – Detail record(s) found with data preventing use.</p> <p>03 – Duplicate Batch sequence</p> <p>06 – Gap in Batch sequence</p>

Transaction Data

Transaction (TRAN) data is created by the Host system to inform Back Office System (BOS) the Host system, the trips constructed by the Host at a detail level. This batch includes a unique sequence number of the transaction that is generated by the Host system, and all the FACILITY codes used as follows:

- T33 – Reserved for Triangle Expressway
- T40 – Used for I-77 Express Lanes
- T41 – Used for Monroe Expressway
- T42 – Used for US74 Express Lanes

Table 7: Transaction (TRAN) Data – Header Structure

Field Name	Type/Size	Description/Valid Values
BatchType	String	TRAN – Used for all transaction file type RSUB – Resubmittal CORR – Correction HOVN – HOV and Non-Revenue IOPX – IOP – Extended Vehicle IOPN – IOP VIDX – Video – Extended Vehicle VIDO – Video TAGX – Tag – Extended Vehicle TAGN – Tag
FromFacility	String	T33 – Reserved for Triangle Expressway T40 – Used for I-77 Express Lanes T41 – Used for Monroe Expressway T42 – Used for US74 Express Lanes
BatchDateTime	DateTime	Date and Time batch created. Format: UTC
RecordCount	CHAR(8)	Count of all detail transaction records in batch. Values: 00000000 – 99999999

Table 8: Transaction (TRAN) Data – Detail Structure

Field Name	Type/Size	Required Field	Description/Valid Values
------------	-----------	----------------	--------------------------

ResubmittalCount	Numeric	N	1-9	The number of times that the Transaction has been resubmitted by the Subscriber/Facility. Required field if Record Type is 'R'.
CorrReason	Numeric	N	07- 05	<p>A code denoting the reason for the correction.</p> <p>Values:</p> <p>01 – Resolved mismatch: class/toll corrected</p> <p>02 – Ignore license plate Transaction</p> <p>03 – Ignore tagged Transaction</p> <p>04 – Corrected plaza/lane information</p> <p>05 – Corrected toll</p> <p>Required field if Record Type is 'C'.</p>
EtcFacility	String	Y		<p>Refer to document "I77MP Lane and Gantry Information" for valid values</p> <p>A code indicating the agency/authority which owns/operates the facility on which the Transaction occurred. For multi-agency CSCs, this code will not represent the CSC but will represent the agency within the CSC which owns/operates the facility.</p> <p>Facility of Originating transactions</p> <p>T33 – Reserved for Triangle Expressway</p> <p>T40 – Used for I-77 Express Lanes</p>

T41 – Used for Monroe Expressway

T42 – Used for US74 Express Lanes

SubscriberId	String	Y	Indicates the Subscriber/Facility providing the transaction for back office processing. C33
EtcEntryPlaza	String	N	Refer to document “I77MP Lane and Gantry Information” for the list of valid values for this field. The ETC_FAC_AGENCY plaza code of the plaza at which the vehicle entered the facility.
EtcEntryLane	String	N	The entry lane number in which the transaction occurred.
EtcEntryDateTime	DateTime	N	UTC including milliseconds
EtcExitPlaza	String	Y	Refer to document “I77MP Lane and Gantry Information” for the list of valid values for this field
EtcExitLane	String	Y	The exit lane number in which the transaction occurred. Valid values 0- 9999
EtcExitDateTime	DateTime	Y	UTC including milliseconds
EtcLaneMode	String	N	The mode the lane was operating in at the time of the Transaction. Values: E – ETC Only (Dedicated) A – ETC/ACM M – Manned/ETCC – Manned/ETC with Carpool confirmation

V – Evacuation

If value not available ignore

EtcTagNumber	String	N	Tag serial number read from the tag. Required field if Transaction Type is 'T'. This includes the agency id prefix
EtcValidationStatus	String	N	<p>1 = Valid (report use to CSC)</p> <p>2 = Low Balance (report use to CSC)</p> <p>3 = Zero balance (report use to VPC)(Type 1 Violation)</p> <p>4 = Invalid or lost/stolen (report use to VPC)(Type 1 Violation)</p> <p>5 = non-revenue</p> <p>6 = Transit Vehicles tag</p> <p>7 = Motorcycle tag</p> <p>8 = First Responder tag</p> <p>9 = HOV only tag</p> <p>If value not available ignore</p>
EtcLicNumber	String	N	<p>Required field if Transaction Type is 'V'.</p> <p>Optional field if Transaction Type is 'T'.</p> <p>If value not available ignore</p>
EtcLicState	String	N	<p>2 Character abbreviation.</p> <p>License plate state for video transaction.</p>

If value not available ignore

Refer to plate type document at
https://connect.ncdot.gov/site/turnpike/LBOS/_layouts/15/DocIdRedir.aspx?ID=73ZKH72W44FM-248895651-8

EtcLicCountry	String	N	<p>3 Character abbreviation.</p> <p>License plate country for video transaction.</p> <p>If value not available ignore.</p> <p>USA</p> <p>CAN</p> <p>MEX</p> <p>OTH</p>
EtcLicPlateType	String	N	<p>Special plate code.</p> <p>Refer to appendix B for Plate Type codes</p> <p>If value not available ignore</p>
EtcClassCharged	String	Y	<p>Vehicle Class used to charge the toll</p> <p>For I77 :</p> <p>Vehicle Classification code (LOV, etc.) according to the user classifications as defined in Exhibit 4 of the Comprehensive Agreement.</p> <ul style="list-style-type: none"> Refer to Appendix Table C -2 for vehicle class. <p>Transactions that are forwarded to IAG customers, the</p>

			<p>ETC_CLASS_CHARGED field will be defaulted to value of 2.</p> <p>For all other RTCS host systems, refer to Table 33: Vehicle Class codes for Triangle and Monroe Expressways</p> <ul style="list-style-type: none"> Refer to Appendix C. Use NCTA class and axle data when transmitting data to IAG.
EtcAxles	Numeric	Y	Actual axles of the vehicle. Can be defaulted to 2 when not available.
EtcTollAmount	Decimal	Y	<p>-999.99 to 999.99</p> <p>Full transponder toll amount due as calculated by the Facility before any discount is applied. For credit transactions this would indicate the new amount to be posted and will not be populated with a delta amount.</p>
EtcDiscountType	Numeric	N	<p>This would be populated with the agreed upon discount codes (between BOS and the HOST systems) before implementation of a discount.</p> <p>l77 :</p> <p>Every time a valid HOV declaration is received from any of the available channels for a transaction with a valid tag status, transaction records will be populated as follows:</p> <ul style="list-style-type: none"> ETC_DISCOUNT_TYPE will be set to 002,: ETC_DISC_TOLL_AMOUNT will be set to zero <p>Not populated if no discount applies.</p>

001, 002 or 003

001 = Facility Discount

002 = HOV

003 = Exempt (Not used by I77)

004 = LOV (Not used by I77)

005 = NRV (Non Revenue) (Not used by I77)

006 – Nonreciprocal ETC Full Fare
("Reserved for future use. Advanced notification will be provided before this option is activated by NCTA".)

007 = HOV violators (Used by I77)

EtcDiscTollAmount	Decimal	N	-999.99 to 999.99The Total Transponder Toll Amount after any discount is applied. The discount type is denoted in Transponder Discount Type. Required field if Transponder Discount Type is populated. . For credit transactions this would indicate the new amount to be posted and will not be populated with a delta amount.
VideoTollAmount	Decimal	Y	-999.99– 999.99 Full video toll amount due as calculated by the Facility before any discount is applied. For credit transactions this would indicate the new amount to be posted and will not be populated with a delta amount.
VideoDiscountType	Numeric	N	This would be populated with the agreed upon discount codes (between BOS and the HOST systems) before implementation of a discount. Not populated if no discount applies.

			001, 002 or 003
			001 = Facility Discount
			002 = HOV
			003 = Exempt (Not used by I77)
			004 = LOV (Not used by I77)
			Not populated if no discount applies.
VideoDiscTollAmount	Decimal	N	-999.99– 999.99
			The Total Video Toll Amount after any discount is applied. The discount type is denoted in Video Discount Type.
			Required field if Video Discount Type is populated. . For credit transactions this would indicate the new amount to be posted and will not be populated with a delta amount.
NumberOfImages	Numeric	N	0-99
			Number of images associated with the Transaction. Required field if Trip Type is 'V'.
ImageSource	Numeric	N	<ul style="list-style-type: none"> 1-OCR – Plate number captured thru OCR read 2-Human Review – Plate number was captured thru Human Review
OcrPlateConfidence Value	Numeric	N	000 to 999 – Represents the OCR confidence level from lane
OcrStateConfidence Value	Numeric	N	000 to 999 – Represents the OCR confidence level of plate

Sample JSON

```
{
  "BatchType " : "TRAN",
  "FromFacility" : "T33",
  "BatchDateTime " : "2022-09-14T09:23:17",
```


"BatchControlNumber" : 1234567,

"RecordCount" : 2,

"Records" : [

{

"RecordIndicator" : "T",

"TransactionType" : "T",

"RecordType" : "O",

"EtcTrxSerialNum" : 12344567,

"ResubmittalReason" : null,

"ResubmittalCount" : null,

"CorrReason" : null,

"EtcFacility" : "T33",

"SubscriberId" : "C33",

"EtcEntryPlaza" : null,

"EtcEntryLane" : null,

"EtcEntryDateTime" : null,

"EtcExitPlaza" : "T14",

"EtcExitLane" : "01N",

"EtcExitDateTime" : "2022-09-14T00:00:00.999",

"EtcLaneMode" : 1,

"EtcTagNumber" : "03300011122",

"EtcValidationStatus" : 1,

"EtcLicNumber" : null,

"EtcLicState" : null,

"EtcLicCountry" : null,

"EtcLicPlateType" : null,

"EtcClassCharged" : 1,

"EtcAxles" : 2,

"EtcTollAmount" : 0.35,

"EtcDiscountType" : null,

"EtcDiscTollAmount" : null,

"VideoTollAmount" : 0.54,

"VideoDiscountType" : null,

"VideoDiscTollAmount" : null,

"NumberOfImages" : 0,

"ImageSource" : null,

"OcrPlateConfidenceValue" : null,

"OcrStateConfidenceValue" : null

},

{

"RecordIndicator" : "T",

"TransactionType" : "V",

"RecordType" : "O",

"EtcTrxSerialNum" : 12344568,

```
        "ResubmittalReason" : null,  
        "ResubmittalCount" : null,  
        "CorrReason" : null,  
        "EtcFacility" : "T33",  
        "SubscriberId" : "C33",  
        "EtcEntryPlaza" : null,  
        "EtcEntryLane" : null,  
        "EtcEntryDateTime" : null,  
        "EtcExitPlaza" : "T15",  
        "EtcExitLane" : "02N",  
        "EtcExitDateTime" : "2022-09-14T01:03:12.769",  
        "EtcLaneMode" : 1,  
        "EtcTagNumber" : null,  
        "EtcValidationStatus" : null,  
        "EtcLicNumber" : "ABC123",  
        "EtcLicState" : "NC",  
        "EtcLicCountry" : "USA",  
        "EtcLicPlateType" : "00",  
        "EtcClassCharged" : 2,  
        "EtcAxles" : 3,  
        "EtcTollAmount" : 1.25,  
        "EtcDiscountType" : null,  
        "EtcDiscTollAmount" : null,  
        "VideoTollAmount" : 1.44,  
        "VideoDiscountType" : null,  
        "VideoDiscTollAmount" : null,  
        "NumberOfImages" : 2,  
        "ImageSource" : 1,  
        "OcrPlateConfidenceValue" : 900,  
        "OcrStateConfidenceValue" : 900  
    }  
]  
}
```

Frequency of transmitting transaction batches from RTCS to BOS is configurable to adapt to transaction volumes and system needs for every 2 to 12 hours. Frequency range of transmission is minimum 12 hours and max every 2 hours.

Frequency of transmitting transaction batches for I77 will be different for each transaction type:

- 1 batch every 4 hours for Tag, Video and Interoperable transaction files
- 1 batch every 12 hours for HOV and Non-Revenue transaction files
- 1 batch every 24 hours for Resubmittal transaction files.

Monroe and US74 Files Transmission Frequency:

- Monroe, Kapsch and US74 agreed to transmit transaction batch every hour.

TRAN_ACK Sent from CSC to Toll Collection System Host

A transaction acknowledgement (TRAN_ACK) returned by the CSC after each TRAN batch is processed by transaction pre-processor.

Table 8: Transaction Acknowledgement (TRAN_ACK)

Field Name	Type/Size	Description/Valid Values
RETURN_CODE	Numeric	<p>A code indicating the status of the TRAN batch being acknowledged.</p> <p>Values:</p> <p>Good ACK</p> <p>00 – Batch was successfully received and verified</p> <p>Bad ACK</p> <p>01 – Header record found with data preventing use.</p> <p>02 – Detail record(s) found with data preventing use of corresponding details.</p> <p>03 – Duplicate Batch sequence</p> <p>06 – Gap in Batch sequence</p>

Transaction Disposition

Transaction Disposition (DISP) batch is created by the Back Office System (BOS) to inform the Host system, the current disposition of a transaction at a detail level. This data includes the unique sequence number of the transaction that was originally submitted by the Host system, its current status and financial associated with the transaction if applicable.

Table 9: Transaction Disposition (DISP) Batch – Header Structure

Field Name	Type/Size	Description/Valid Values
BatchType	String	DISP
FromAgencyId	String	C33
ToAgencyId	String	T33 – Reserved for Triangle Expressway T40 – Used for I-77 Express Lanes T41 – Used for Monroe Expressway T42 – Used for US74 Express Lanes
BatchDateTime	DateTime	Date batch created. Format: UTC
BatchControlNumber	Numeric	Unique sequence number for the file Values: 0000000000 – 9999999999
RecordCount	Numeric	Count of all detail records in batch. Does not include header record. Values: 00000000 – 99999999
DepositId	String	Deposit ID that is used to track the bank deposits . Future Use

Table 10: Transaction Disposition (DISP) Data – Detail Structure

Field Name	Type/Size	Mandatory	Description/Valid Values
TrxSerialNum	Numeric	Y	The unique key of the transaction assigned by the Host system Values: 000000000000 – 999999999999
DispType	Numeric	Y	01 – Informational 02 – Payment 03 – Rejection 04 – Adjustment

			05 – Rejection after payment
			06 – Adjustment after payment
DispStatus	String	Y	The current status of the transaction. Refer to Appendix B for list of values.
PostedAmount	Decimal	Y	<p>Format -999.99 to 999.99</p> <p>The amount posted.</p> <ul style="list-style-type: none"> • New net amount for initial payments and rejections prior to payment. • Delta amount for adjustments and rejections after payment <p>For rejected or Interim updates, this would be 0.00.</p>
PostedDate	DateTime	Y	Transaction posted date at the back office in UTC
DisputeReason	String	N	Dispute reason for customer disputes for which adjustments/reversals are made at BOS. For the complete list of dispute reasons, please refer to the dispute process defined in the business rules.

Frequency of DISP Data is once in a day.

Sample JSON

```
{
  "BatchType " : "DISP",
  "FromAgencyId" : "C33",
  "ToAgencyId" : "T33",
  "BatchDateTime" : "2022-09-14T00:00:00.999",
  "BatchControlNumber" : 11223344,
  "RecordCount " : 1,
  "DepositId " : "000000",
  "Records" : [
    {
      "TrxSerialNum " : 123456
    }
  ]
}
```

```

        "DispType" : 2
        "DispStatus" : 1
        "PostedAmount" : 0.35
        "PostedDate" : "2022-09-15T01:45:00.887",
        "DisputeReason" : null
    }
}
]
}

```

DISP_ACK sent from Toll Collection System Host to CSC

A disposition acknowledgement (DISP_ACK) return code is returned by the toll collection system only after each DISP batch is processed.

Table 11: Transaction Disposition Acknowledgement (DISP_ACK)

Field Name	Type/Size	Description/Valid Values
RETURN_CODE	Numeric	<p>A code indicating the status of the DISP batch being acknowledged.</p> <p>Values:</p> <p>Good ACK</p> <p>00 – Batch was successfully received and verified</p> <p>Bad ACK</p> <p>01 – Header record found with data preventing use.</p> <p>02 – Detail record(s) found with data preventing use of corresponding details.</p> <p>03 – Duplicate Batch sequence</p> <p>06 – Gap in Batch sequence</p>

The DISP_ACK file is not compressed.

DISP_ACK files are securely transmitted by the toll collection system (Host) FTP Client to the CSC FTP Server.

Violation Image File (.JPG)

The Image (.JPG) file is created by the Host system to inform the BOS of the images corresponding to the video transactions generated at the Host. The BOS requires two images per transaction. BOS will request images to the system by passing the unique Transaction Serial Number. The Image interface will return the binary stream of the image to the BOS system.

The following parameters apply to images sent from all RTCS host systems to NCTA BOS system:

- Overview Images. Dimensions: 2048x1628 pixels, Average size 250KB.
- ROI images. Dimensions: 250x90 pixels, Average size 15KB. Manually cropped images with Dimension of around 400x400 would be acceptable for approximately 5% of the transactions.

Image Request

Table 12: Image Request Detail Structure

Field Name	Type/Size	Mandatory	Description/Valid Values
TrxSerialNum	Numeric	Y	The unique key of the transaction assigned by the Host system Values: 000000000000 – 999999999999
ROI	Numeric	Y	0 – Request the overview image 1 – Request the ROI Image

Table 13: Image Request Response Structure

Field Name	Type/Size	Description/Valid Values
RETURN_CODE	Binary	A Binary Image stream of the requested Image

Appendix A: Acronyms

Table 13: List of Acronyms

Acronym	Definition
ACK	Acknowledgement file
BOS	Back Office System
CSC	Customer Service Center
DISP	Transaction Disposition
FTP	File Transfer Protocol
IAG	Interagency Group
ICLP	License Plate File
NCDOT	North Carolina Department of Transportation
NCTA	North Carolina Turnpike Authority
XTAG	Tag Status File

Appendix B: List of DISP Codes

Table 14: List of Codes Applicable to Home Agency Transactions

CSC DISP Code	Status	Valid Disposition Types	Description
1	TOLL	02	Home Agency toll posted successfully as a normal ETC transaction
2	VTOL	02	Home Agency toll posted successfully as a ETC violation transaction
3	EXEMPT	02	Home Agency toll posted successfully as Exempt

601	XTOLL	05, 06	Home Agency toll corrected successfully as a normal ETC transaction
602	XVTOLL	05, 06	Home Agency toll corrected successfully as a ETC violation transaction
22	DUPL	03	Duplicate transaction
31	XLANE	03	Cross Lane – duplicate reject
29	POACHING	03	Poaching – duplicate reject
11	TAGINV	03	Tag Invalid
12	TAGLOST	03	Tag Lost
13	TAGSTOLEN	03	Tag Stolen
14	TAGRETURNED	03	Tag in shipping, Returned Defective, Tag Returned
15	TAGDAMAGED	03	Tag Damaged
24	INVACC	03	Invalid Account
28	INVACCLOS	03	Invalid Account Closed
51	QINVPLAZA	03	Transaction rejected as invalid due to an invalid plaza
52	QINVDATE	03	Transaction rejected as invalid due to invalid date
53	QINVAGENCY	03	Transaction rejected as invalid due to invalid agency code
99	BEYOND	03	Transaction request is beyond posting limit
54	QNONVTRX	03	Transaction rejected as invalid due to invalid agency code
57	QNONNUMVAL	03	Invalid transaction, received non numeric value

Table 15: CSC Reason Codes for Interoperability Transactions

CSC Reason Code	Status	Valid Disposition Types	Description
06	PPST	02	Transaction posted successfully to an Interop Agency account as a pay-by-plate transaction.
07	POST	02	Transaction posted successfully to an Interop Agency account due to a tag read at the lanes.
41	NPST	03	Toll transaction did not post but Home Agency acknowledges that toll is still owed to the Away Agency.
42	INSU	03	Rejected, account has insufficient funds where transaction date/time (ETC_EXIT_DATE/ ETC_EXIT_TIME) is greater than date/time of acknowledgement from that Away Agency/CSC of receipt of full Tag Status File which indicated that the tag was in an Invalid status. See Invalid Tag Customer File for associated name/address information
43	TAGB	03	Invalid tag – Does not belong to any participating agencies
44	ACCB	03	Rejected, tag in bad status (e.g., lost, stolen, etc.) where transaction date/time (ETC_EXIT_DATE/ ETC_EXIT_TIME) is greater than date/time of acknowledgement from that Away Agency/CSC of receipt of full Tag Status File which indicated that the tag was in a Lost/Stolen status.
45	RJDP	03	Rejected, duplicate transaction. Usually associated with a skip read or cross lane read where a tagged transaction and license plate transaction exist for the same customer at the same plaza within "X" minutes. The license plate

			transaction is rejected as the duplicate
46	OLD1	03	Rejected, old transaction – account closed. The difference between the date of the transaction and the date the transaction was received by the Home Agency/CSC exceeded that specified in the Reciprocity Agreement under Account Settlement Process for Valid Tag Transactions when accounts are closed.
47	OLD2	03	Rejected, old transaction – other. The difference between the date of the transaction and the date the transaction was received by the Home Agency/CSC exceeded that specified in the Reciprocity Agreement under Account Settlement Process for Valid Tag Transactions when accounts are not closed.
48	RINV	03	Rejected, the transaction contains invalid data (e.g., invalid agency as defined in IAG spec)
49	RJPL	03	Rejected license plate transaction. The license plate transaction could not be posted.

Table 16: CSC Reason Codes for Video Transactions

CSC Reason Code	Status	Valid Disposition Types	Description
09	ITOL	02	Home Agency toll posted successfully to a valid tag based account using license plate information.
601	VIDEO	02	Transaction posted successfully as a standard video transaction.
602	TVIDEO	02	Tag transaction converted as standard video transaction

609	XITOLL	05, 06	Home Agency toll corrected successfully as a ITOL
611	XVIDEO	05, 06	Home Agency toll corrected successfully as an standard video txn (after a payment was made, DSP_STATUS NNN VIDEO)
104	VNOIMG	03	Image transaction with no image after "X" number of days
117	INVDISS	05	Violation transaction dismissed – used for all violation dismissals.
402	NODMV	03	No DMV agreement
91	NODMVAGRMT	03	No DMV agreement
92	DMVRNOPLT	03	Plate Not found at DMV
142	DMVRTITLE	03	Title date mismatch at DMV
143	DMVRCNCPL	03	Canceled plate at DMV
144	DMVRIADDR	03	Incomplete address at DMV
145	DMVRINVNM	03	Invalid Name at DMV
147	DMV03PLATE	03	Invalid Plate at DMV
149	DMVRINVPLT	03	Invalid Plate type at DMV
155	DMVREJCONF	03	Junk and Abandoned plate at DMV
166	DMVNOREPLY	03	No DMV Reply
140	LOADREJ	03	Load Reject
887	EXCEEDED RES	03	Transaction Resubmit count exceeded
888	W-EXEMPT	03	Exempt Transaction

Table 17: DMV Plate Type Codes

For DMV Plate Type codes Refer below

https://connect.ncdot.gov/site/turnpike/LBOS/_layouts/15/DocIdRedir.aspx?ID=73ZKH72W44FM-248895651-8

Table 18: Informational

CSC Reason Code	Status	Valid Disposition Types	Description
0	INTRANSIT	01	In Transit transactions such as pending to be sent to DMV, awaiting a DMV response, etc.

Appendix C: List of Plaza Codes and Vehicle Classes

Table 19: List of Plaza Codes for NCTA

ETC_FAC_AGENCY	ETC_ENTRY_PLAZA, ETC_EXIT_PLAZA	Plaza Abbreviation for Customer Statements (3 characters max)	Plaza Description for Customer Statements (31 characters max)
033	T01	T01	Ramp - Hopson Rd to NC147
033	T02	T02	Ramp - Hopson Rd from NC147
033	T05	T05	Ramp - NC540 NB to NC147 NB
033	T06	T06	Ramp - NC147 SB to NC540 SB
033	T09	T09	Ramp - NC540 SB to NC147 NB
033	T10	T10	Ramp - NC147 SB to NC540 NB
033	T13	T13	Mainline - NC540 SB at NC147
033	T14	T14	Mainline - NC540 NB at NC147
033	T17	T17	Mainline - NC540 NB at Gr Level
033	T18	T18	Mainline - NC540 SB at Gr Level
033	T21	T21	Ramp - US64 to NC540
033	T22	T22	Ramp - US64 from NC540
033	T25	T25	Mainline - NC540 NB at Old US1

033	T26	T26	Mainline - NC540 SB at Old US1
033	T29	T29	Ramp - S Salem St from NC540
033	T30	T30	Ramp - S Salem St to NC540
033	T31	T31	Ramp – Veridea Pkwy to NC540
033	T32	T32	Ramp – Veridea Pkwy from NC540
033	T33	T33	Mainline - NC540 NB at NC55
033	T34	T34	Mainline - NC540 SB at NC55

- Plazas M01 to M99 used for Monroe Expressway
- Plazas U01 to U99 used for US74 Express Lanes

For Additional codes Refer to “IAG Inter-CSC Files – Appendix 2017-09-14” document and look for below tabs

App B (1) & B (2) – Plaza Codes

Plaza Codes for I77 can be found in document “I77MP Lane and Gantry Information”.

Table 20: Vehicle Class codes for I77

ETC_CLASS_CHARGED	Name	Description
101	Low Occupancy Vehicles	<p>2 axle motor vehicles, other than Motorcycles, without trailers, with the following dimensions:</p> <p>Length <= 20’</p> <p>Width <= 8.5’</p> <p>Height <= 12’</p> <p>Which has not been declared as HOV using one of the accepted channels.</p>
102	High Occupancy Vehicles	<p>2 axle Motor vehicles, without trailers, with the following dimensions:</p>

		<p>Length <= 20'</p> <p>Width <= 8.5'</p> <p>Height <= 12'</p> <p>Which has been declared as HOV using one of the accepted channels.</p>
103	Motorcycles	Motor vehicles, with 2 or 3 wheels not larger than a LOV
104	Special Vehicles	<p>Vehicles meeting one or more of the following characteristics:</p> <ul style="list-style-type: none"> • Length > 22' • Width > 8.5' • Height > 12' • Vehicle with Trailer • More than 2 axles <p>The toll amount is a multiplier of 1. (CSR will be Any transaction before this cutoff date - 2/1/2023, will require I-77 to provide the multiplier amount).</p>
105	Exempt	Vehicles identified as Non Revenue through a Transponder
106	Transit Vehicles	Vehicles with a tag with status "Transit Vehicle" in the relevant XTAG file
107	First Responders	Vehicles with a tag with status "First Responder" in the relevant XTAG file
108	Special Vehicles – Off Peak	<p>Vehicles meeting one or more of the following characteristics:</p> <ul style="list-style-type: none"> • Length > 22' • Width > 8.5' • Height > 12' • Vehicle with Trailer • More than 2 axles <p>The toll amount is a multiplier of 2.</p>

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Special Vehicles – Peak

Vehicles meeting one or more of the following characteristics:

- Length > 22'
- Width > 8.5'
- Height > 12'
- Vehicle with Trailer
- More than 2 axles

The toll amount is a multiplier of 3.

Table 21: Vehicle Class codes for Triangle and Monroe Expressways

ETC_CLASS_CHARGED	Description
021	2 axle vehicles, Axles "02" and Class "1"
032	3 axle vehicles, Axles "03" and Class "2"
043	4 axle vehicles, Axles "04" and Class "3"
053	5 axle vehicles, Axles "05" and Class "3"
063	6 axle vehicles, Axles "06" and Class "3"
073	7+ axle motor vehicles, Axles "07" and Class "3"

Attachment 7

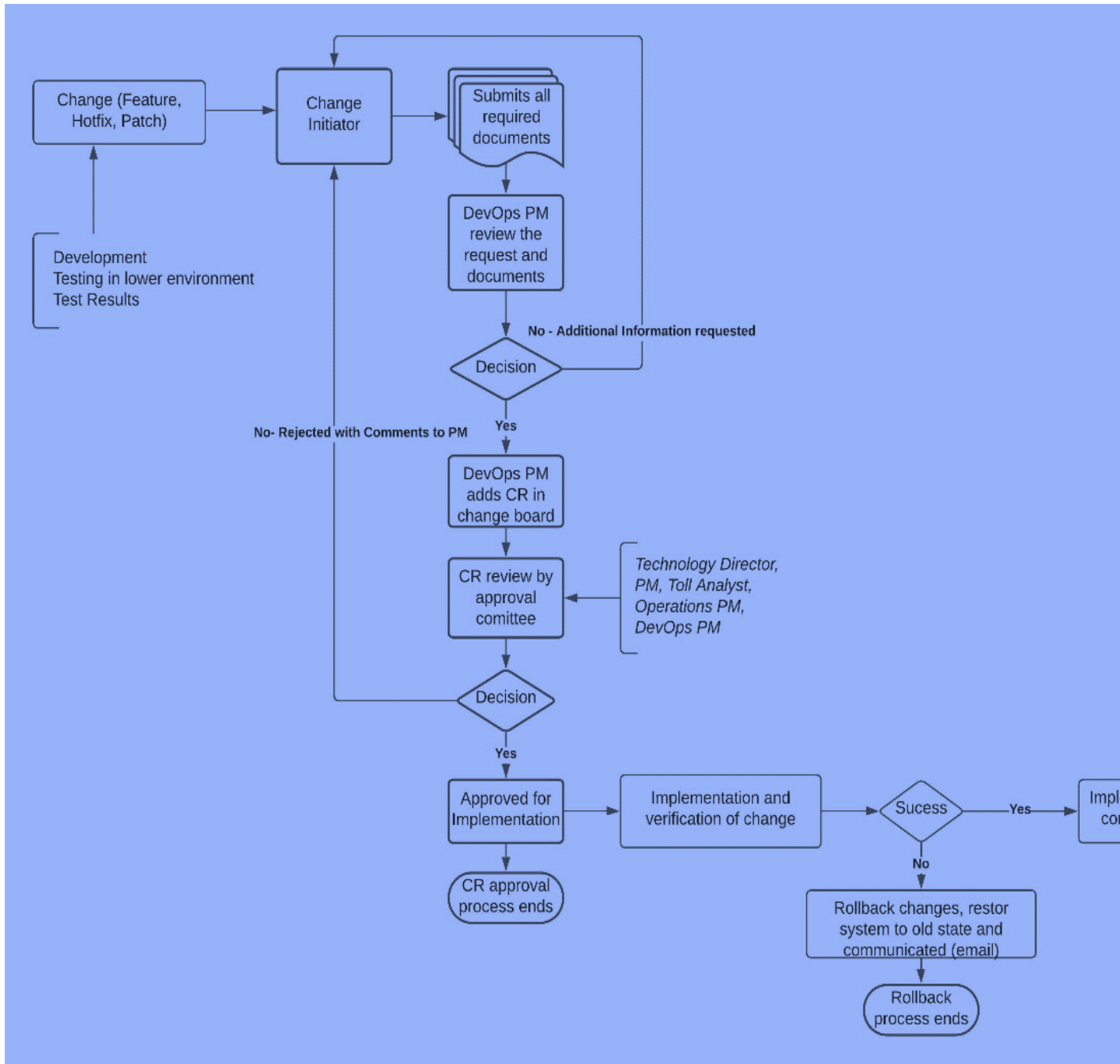
NCTA Change and Release Management Process



NCTA- CHANGE AND RELEASE MANAGEMENT PROCESS, V2.13

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Abstract

This document defines the release and change management process to be followed for projects under NCTA by NCTA resources and vendors. The document is split into two sections, first section focusing on Release and its key components and second section focusing on changes, types of changes, categories, and approval process.

NCTA Roles

Technology Director

NCTA Policy leaders who serves technology champion and reviews all technical scope of work and provides guidance and approval as needed for NCTA. Responsible for budget, quality assurance and ensures project meets all NCTA Policies procedures and strategic goals.

Vendor PM

This role belongs to Vendor who delivers products and services. Point of contact from Vendor side, who is responsible for delivery of scope of work.

NCTA PM

NCTA PM role responsible for project planning, coordination (Between NCAT and Vendor) on scope of work, clarifying requirements, approval of changes and communication on the project or incoming change status

CSC Manager (Customer Service Center)

NCTA role responsible customer facing service-related operations and managing customer service team (Service Center (In-person), Voice and Web). Responsible for customer service, communication, approval of changes.

DevOps Manager

NCTA role responsible for automation (Continuous Integration / Continuous Delivery), release, and change management at NCTA. Ensures all changes are reviewed, documented, and approved by coordinating with stakeholders and conducting change approval board meeting.

Why Release and Change Management?

Release management is required during the implementation of new system features or new technology for which NCTA has a defined scope of work. It ensures that all release milestones are met before its release to production. It also ensures, the scope of the release is kept intact, that the release progress status is properly communicated, that risk and mitigation plans are set in place, and that the release rollout and validation plans are followed when appropriate.

Change management process acts as a gatekeeper in ensuring the change that is getting introduced to production has met all requirements for it to be approved for implementation.

The sections below further elaborate these two functional areas, guidelines to be followed and the ask from NCTA to vendors for successful change and release management.

Release Management

Release Management activities include planning, designing, configuration, rollout planning, testing communication and deployment. The Release Management function provides the schedule and execution whilst the Change Approval Board authorizes the change to controlled environments. Below are the components that fall under release management and DevOps Manager is responsible for tracking these milestones to closure.

- Business Case / Rationale for new release (change driver)
- Release Scope
- Change (Feature)
- Functional and Integration Testing
- Performance Testing
- Security Testing
- User Acceptance Testing
- Release Knowledge Transfer
- Release Notes and Roll-Out and Back-Out Plan
- Release Schedule and Deployment
- Release Validation and Sign Off

Business Case / Rational for New Release

For NCTA to successfully transition to its toll collection system platform, it is important we continuously look out for improvement in our area of business and technology that benefits organization and customers. The release management play an important role at NCTA to be successful with the release roll out process and provide continuous improvement and delivery options to the customer. The following sections of the document will cover important elements of the release management process and guidelines.

Release Scope

The NCTA Project Manager (PM) will define the scope of the work and review it with stake holders and vendor teams to establish a contract and receive funding and approval on the project. Teams will start working on the scope / features as per the approved scope and deliver the solution. Any changes to scope during the development or testing phase should go through review and approval process before pulling in or pulling out any scope. Outcome of this process should be Release scope document and approval from below stakeholders.

Approvers:

- Technology Director
- Vendor – PM
- NCTA - PM
- CSC Manager
- DevOps Manager

Change (Feature)

The Vendor is responsible for reviewing the approved scope of work, clarifying the requirement with NCTA PM, if any, and coming up with effort estimation for development and unit testing of the scope of work and get it approved by stakeholders. Outcome of this process should be development estimation plan, system context diagram, completion of development, unit test case, vulnerability scanner results, and

approval from below stakeholders. Devops manager / PM is responsible for follow up and ensure this is signed off and documented.

Development Estimation

Vendor will estimate the user story or feature work effort using a T-shirt sizing technique. With T-shirt measuring, the development team makes a request to evaluate whether they think a story is small, medium, large. By expelling the numerical score, the development team can think in a more dynamic manner about the exertion associated with a story. The sizes can, if necessary, be given numerical value after the estimation is finished.

- Small = 2 (Up to 16 hours of development effort)
- Medium = 4 (Up to 32 hours of development effort)
- Large = 8 (Up to 64 hours of development effort)
- Extra Large = 12 (Up to 96 hours of development effort)

Notes:

- 1-day effort relates to 8 hours of work by development. NCTA Testing is not included in this sizing.
- Effort greater than extra-large category should be broken down into smaller chunks of work.

Feature

A feature / problem is something that defines the functionality of the software and the business rules associated with it. NCTA PM will create user story with feature definition, rules, dependencies, and acceptance criteria. Development team will engage with NCTA PM to clarify any questions through the development cycle on the user story.

System Context Diagram

System context diagram provides diagrammatic view of the application modules, flows and its infrastructure. Vendor team should update system context diagram and provide the updated diagram when there are changes to any of the modules and infrastructure.

Unit Test Case

Unit test case here talks about the unit test case written by the developer to prove that the code changes developed are behaving as expected and their results are captured. This can be a simple Nunit or Junit test cases and its result should be shared.

Vulnerability Scanner

Static code analysis is a method of debugging by examining source code before a program is run. It is done by analyzing a set of code against a set (or multiple sets) of coding rules. There are several tools (Checkmarks, Sonar cube etc.) available in the market to achieve this. All codes must be scanned, and the results should be shared.

Approvers:

- Technology Director
- Vendor – PM

- NCTA – PM

Functional and Integration Testing

The Vendor is responsible for reviewing the approved scope of work, clarifying the requirements with the NCTA PM, if any, and coming up with detailed test plan and effort estimation for functional and integration testing of the scope of work and getting it approved by stakeholders. The plan should cover testing the feature / bug, test data, test environment and test coverage plan for potential impacted (Upstream / Downstream) modules. Outcome of this process should be QA test plan document, effort estimation with sign off date and approval from the stakeholders listed below. Devops manager / PM is responsible for follow up and ensuring this is signed off and documented. Functional and regression bugs reported during testing phase should be reviewed with NCTA PM, prioritized, and documented as part of sign off document.

Approvers:

- Technology Director
- Vendor – PM
- NCTA PM

Performance Testing

The Vendor is responsible for reviewing the approved scope of work, clarifying the requirements with NCTA PM and development team, if any, and coming up with test plan and effort estimation for performance testing of the scope of work and getting it approved from stakeholders. Outcome of this process should be Performance test plan document, effort estimation with sign off date and approval from the stakeholders listed below. The test plan should cover testing scope, metrics / threshold (Minimum Load, Average Load, Max Load) to be captured as part of testing, test data, test environment and recommendations if any. Devops manager / PM is responsible for follow up and ensure this is signed off and documented. Performance bugs reported during testing phase should be reviewed with NCTA PM, prioritized, and documented as part of sign off document.

Approvers:

- Technology Director
- Vendor – PM
- NCTA PM

Security Testing

The Vendor is responsible for reviewing the approved scope of work, clarifying the requirements with NCTA PM and development team, if any, and coming up with test plan and effort estimation for performance testing of the scope of work and getting it approved from stakeholders. Test plan should cover the security testing coverage, tools used for testing and test environment and recommendations if any. Outcome of this process should be Security test plan document, effort estimation with sign off date and approval from below stakeholders. Devops manager / PM is responsible for follow up and ensure this is signed off and documented. Security bugs reported during testing phase should be reviewed with NCTA PM, prioritized, and documented as part of sign off document.

Approvers:

- Technology Director
- Vendor – PM
- NCTA PM

UAT Testing

UAT testing team is responsible for testing the application functionality on the final build promoted to Higher Level testing environment and provide sign off approval. Devops manager / PM is responsible for follow up and ensuring this is signed off and documented. Bugs reported during the testing phase should be reviewed with NCTA PM, prioritized, and documented as part of the document sign off.

Release Knowledge Transition

The Vendor team is responsible for providing knowledge on the new features and components that are getting changed as part of the release to the operations team. The outcome of this process should be, providing a release knowledge transition plan, if any, and approval from operations team. The plan should contain topics going to be covered as part of transition, change area, validation, alerts, and monitoring details.

Approvers:

- Operations Manager (CSC)
- NCTA PM
- Vendor – PM

Release Notes and Roll-Out and Back-Out Plan

The Vendor PM is responsible for coming up with Release roll-out and back-out plan by working with the Vendor engineering and devops team on release notes. The outcome of this process is a detailed release roll out and back out plan which would be reviewed by the stakeholders listed below before implementing any changes in production.

Approver:

- Technology Director
- Vendor PM
- NCTA PM
- NCTA DevOps PM
- Operations Manager (CSC)

Release Schedule and Deployment

The DevOps PM is responsible for coming up with production roll out schedule by working with NCTA PM and stakeholders. Once the date and window are confirmed, it will be communicated to all required stakeholders. In parallel, the Devops manager will be responsible for working with the change management team and getting the required approvals for the change request.

Post change approval, the Vendor PM will be responsible for scheduling the deployment execution meeting and carrying out the roll out implementation process. Progress on the release installation status will be communicated at the start and end of the activity to keep the stakeholders informed. Any issues observed during roll-out should be communicated and steps to resolve it.

Release Validation and Sign Off

The Vendor is responsible for scheduling and leading the validation call with all the required stakeholders to conduct the post deployment validation and send the communication status to the stakeholders. The newly released system should be monitored for a week from the day of implementation and signed off if no critical or major bug is reported.

Change Management

The objective of change management is to standardize methods and procedures for efficient and prompt handling of all changes in order to minimize the impact of change-related incidents upon service quality, and consequently improve the day-to-day operations of the organization.

What is a Change?

- Addition, removal, or modification of anything in the production environment that could influence Business Partners and/or IT Services. All Production changes must be recorded.
- Scope of a change includes IT Services, Configuration Items, Processes, Documentation, etc.

Examples:

- Software Code Change (New feature and Enhancement)
- OS Patch Upgrades (Windows, Linux, Middleware etc.)
- Database changes (Query, Procedures, Views etc.)
- Network changes (Firewall port opening, Proxy etc.)
- Configuration Changes (New user add, permission updates etc.)

Change Types

Normal Change

Planned change must follow the change management approval process. The change request must be presented in the Change Approval Board (CAB) meeting for review and approval by stakeholders. The following list must be attached to the change request (As applicable) and submitted for the review and approval of the change by NCTA for implementation in production.

Checklist:

- Change / Release scope approval document includes business case and reason for change
- QA sign off document
- Performance sign off document (Only if required)
- Security sign off document (Only if required)
- Rollout and backout plan
- Release Knowledge Transition approval document

Changes Allowed:

- New version of software build
- Database changes (Proc, Views, Queries)
- Network (firewall ports opening)
- OS patch upgrades
- Certificate Renewal
- User Permission / Role Mapping
- Runtime Environment software upgrade (new version)

Change Approval Board Standing Members:

- NCTA Manager
- Technology Director

- Operations Manager (CSC)
- DevOps Manager
- Vendor PM

Emergency Change

An emergency change is made to a production system to restore a service. Implemented to resolve an open incident that requires immediate action. The incident should be Priority 1 or Priority 2 or Priority 3 as defined in the “contract document” and this does not go through change approval board meeting. No approval from NCTA required but vendor should provide RCA and implementation details post the implementation and validation to NCTA.

Checklist:

- RCA
- Rollout and Backout Plan

Changes Allowed:

- Upgraded Build (Code Fix)
- Database Changes
- Certificate Renewal
- User permission / Role Setup (OS / App Level)
- Log Settings – To gather logs for critical production issues (App Level). Should be reversed to original state post log gathering.

Standard Change

A standard change is a pre-approved change that is low risk, and it follows a procedure or work instruction which is proven in the past.

- Need to send notification to NCTA PM, Dev OPS and CSC for tracking standard changes
- Any issues reported as part of change implementation should be communicated so that it will be reviewed and reassessed whether that standard change must be declined or continue to be allowed
- Changes allowed:
 - Rolling server restarts (Associated with a change)
 - Clearing message queues / file transfer (In batches)
 - Data transfer – between offline and primary – Without impacting operations
 - New database standup
 - Database backup
 - New user added and permission (UI level changes)
 - Parameter change using general tool host UI functionality
 - New monitoring job setups
 - Email notification setup and configurations

Change Request Submission Process

Change initiator (Vendor) requesting change, should complete the checklist below when requesting via email to NCTA DevOps and NCTA PM.

Checklist:

- Change Request template.
- Rollout and Backout plan
- Testing sign off (QA, Security, UAT and Performance – As needed)

Change Approval Board

Change approval board meets once a week to review and approve the upcoming planned production changes. For a change to be part of the NCTA review, the change template must be completed and shared with NCTA PM and DevOps Manager (48 hours prior to the weekly Tuesday meeting) with required supporting details. In this meeting, the NCTA PM, DevOps Manager, Operations Manager, and Vendors (as required) are expected to review each change request for approval or rejection. The approval of each participant is needed for each change to be implemented.

Note:

- The vendor may submit urgent change requests to NCTA for review and approval outside of the change approval board meeting if the change required warrants it. NCTA retains the authority to decline or consider these change requests for urgent review and approval. Urgent change requests must be submitted 48 hours prior to the scheduled implementation time and shall not be implemented without formal approval from NCTA.
- For change planning purposes only, during the Weekly Operations Meeting NCTA may issue verbal approval, on a need basis, to Vendors. The Vendor needs to secure formal approval from NCTA for change implementation in production environments by submitting a completed change template.
- Change approval granted applies to the changes presented in the change record only. Enhancements, bug fixes arising from the implementation of approved change record, requires new change request/notification to NCTA for approval with required documentation and test results.
- The approved change request must be implemented within the schedule as presented in the change record. Any changes in the implementation window must be communicated to NCTA immediately and require reapproval if the delay is more than 3 hours.
- The CAB meeting will be vendor-specific and will be scheduled in different slots for each Vendor.

History Records

DevOps manager will help keep track the history of changes implemented in production environment and archive old records from production change request board (Trello). Monthly report will be pulled and shared with NCTA team members on the last working day of the month through email and a copy will be stored in NCTA SharePoint folder.

Path:

<https://ncconnect.sharepoint.com/:f:/r/sites/NorthCarolinaTurnpikeAuthority/OPS%20and%20Technology/Dev-Ops/History%20Change%20Records?csf=1&web=1&e=5G6ive>

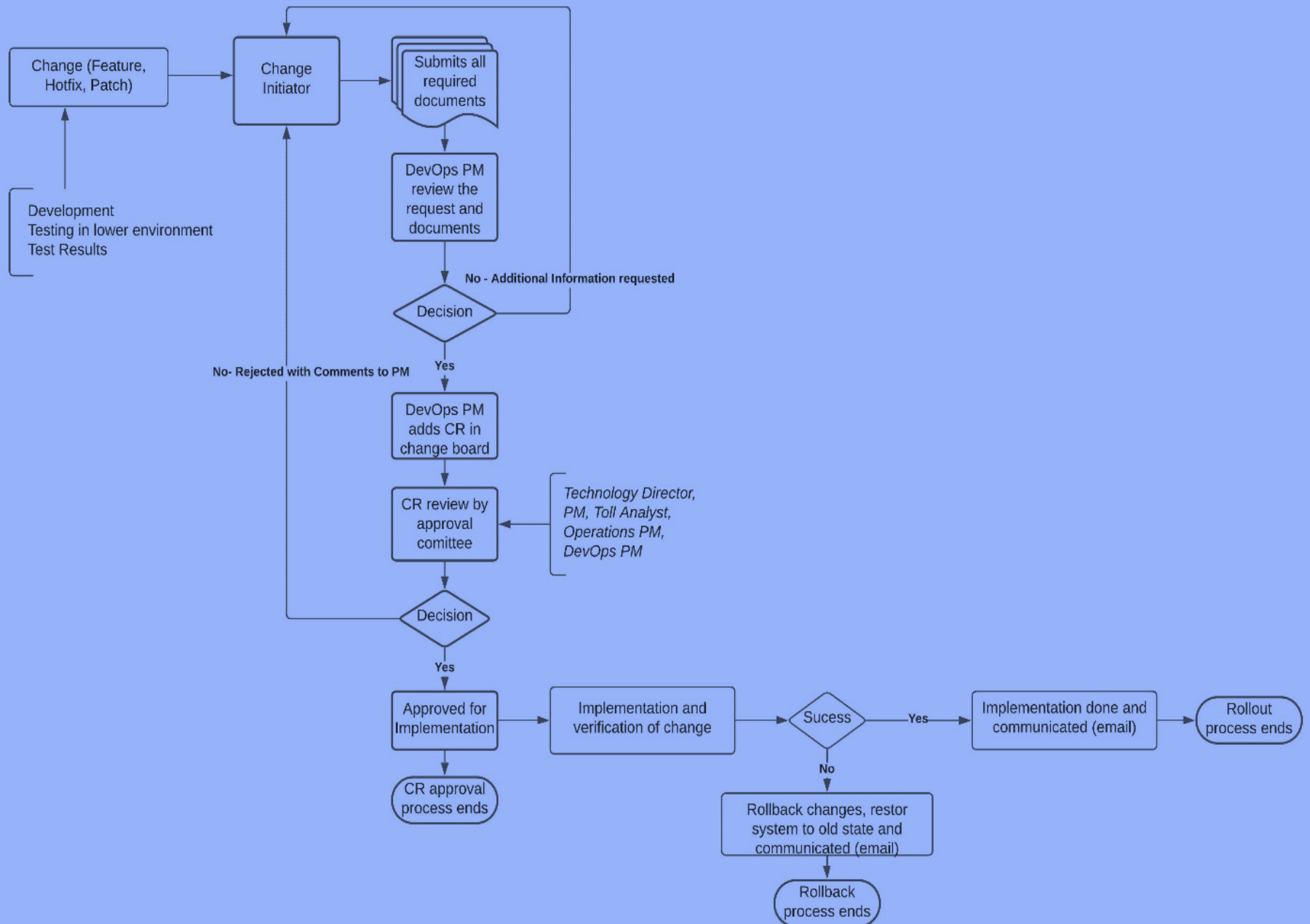
File Name Format: NCTA-ChangeRecords-MMDDYYYY

Change Request Template



NCTA_Change
Template_Revised W

Change Request Workflow



Attachment 8

NCTA Example Change Order

Sheet 1
SRTCS RTCS Project Summary
(Summary Only - No Proposer Input Required)

Implementation Phase	Total Cost Per Unit (\$)
Express Lanes	
EXP-001 Express Lane Zone - (Sheet2)	\$ -
EXP-002 Express Travel Lane - (Sheet2)	\$ -
EXP-003 Express Instrumented Shoulder - (Sheet2)	\$ -
ITSX-002 EXP ITS EXP Out of Pavement Vehicle Detection Device - (Sheet2)	\$ -
ITSX-003 EXP ITS Traffic CCTV Camera - (Sheet2)	\$ -
ITSX-004 EXP ITS Dynamic Message Sign - (Sheet2)	\$ -
ITSX-005 EXP ITS Toll Rate Signs (Dynamic Pricing Sign) - (Sheet2)	\$ -
TRHX-001 EXP Transaction Reconciliation Host - (Sheet3)	\$ -
TRHX-002 EXP Dynamic Pricing System - (Sheet3)	\$ -
TRHX-003 EXP Image Review Service - (Sheet3)	\$ -
Implementation Materials and Installation Total:	
Toll System Implementation	
TSI-001 Total Toll Collection System Project, Design, Testing and Implementation	\$ -
TSI-002 Total Toll System Testing - (Sheet4)	\$ -
TSI-003 Total Development and Testing Environment - (Sheet4)	\$ -
Additional Labor Costs During Implementation	\$ -
Implementation Phase, excluding Installation and Materials, Total Cost:	
Operations and Maintenance Phase - Base Contract	Total Annual 5 Years Cost (\$)
Express Lanes	
EXPM-001 Each Express Lane Zone - (Sheet5)	\$ -
EXPM-002 Each Express Travel Lane - (Sheet5)	\$ -
EXPM-003 Each Express Instrumented Shoulder - (Sheet5)	\$ -
TRHXM-001 EXP TRH Maintenance and Software Support Services Cost - (Sheet6)	\$ -
TRHXM-002 EXP DPS Maintenance and Software Support Services Cost - (Sheet6)	\$ -
TRHXM-003 EXP IVS Maintenance and Software Support Services Cost - (Sheet6)	\$ -
Express Lane RTCS Maintenance Total Cost:	
Facility Maintenance	
FMM-003 - Each Site without Vault or Generator - (Sheet7)	\$ -
Image Verifications Services	
IVS-001 Image Verification Services Operations Cost - (Sheet8)	\$ -
ITS Express Maintenance	
ITSXM-002 EXP Out of Pavement Vehicle Detection Device (for DPS) - (Sheet9)	\$ -
ITSXM-003 Traffic CCTV Camera - (Sheet9)	\$ -
ITSXM-004 Dynamic Message Sign - (Sheet9)	\$ -
ITSXM-005 Dynamic Pricing Sign - (Sheet9)	\$ -
ITSXM-006 Fiber-optic Cable & Conduit System - (Sheet9)	\$ -
ITS Express Maintenance Total Cost:	
Total Maintenance and Operations Cost:	

Officer Signature

Date

Express Lane Cost Summary

(Summary Only - No Proposer Input Required)

Pay Item	Description	Unit	Unit Cost	Labor Cost Per Unit (\$)	Total Cost Per Unit (\$)
EXP-001	Express Lane Zone	Each EXP Zone	\$ -	\$ -	\$ -
EXP-002	Express Travel Lane	Each EXP Lane	\$ -	\$ -	\$ -
EXP-003	Express Instrumented Shoulder	Each EXP Shoulder	\$ -	\$ -	\$ -

EXP ITS Installation & testing

(Summary Only - No Proposer Input Required)

Pay Item	Description	Unit	Unit Cost	Labor Cost Per Unit (\$)	Total Cost Per Unit (\$)
ITSX-001	EXP ITS GP Out of Pavement Vehicle Detection Device	Each Device	\$ -	\$ -	\$ -
ITSX-002	EXP ITS EXP Out of Pavement Vehicle Detection Device	Each Device	\$ -	\$ -	\$ -
ITSX-003	EXP ITS Traffic CCTV Camera	Each Device	\$ -	\$ -	\$ -
ITSX-004	EXP ITS Dynamic Message Sign	Each Device	\$ -	\$ -	\$ -
ITSX-005	EXP ITS Toll Rate Signs (Dynamic Pricing Sign)	Each Device	\$ -	\$ -	\$ -

Sheet 2-3 Backup
EXP RSS Cost Schedule

Item Description	Quantity per Toll Zone	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Cost (\$)
EXP-001: Express Zone					
1. Redundant Toll Zone Controller and In-lane Electronics					
Servers	0	\$ -	\$ -	\$ -	\$ -
Cable and Connectors	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Redundant Toll Zone Controller and In-lane Electronics			\$ -	\$ -	\$ -
2. Communications Equipment					
Hub Switch	0	\$ -	\$ -	\$ -	\$ -
Edge Switches	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Communications Equipment			\$ -	\$ -	\$ -
3. Equipment Cabinets/Enclosures and Racks					
Equipment Cabinets/Enclosure	0	\$ -	\$ -	\$ -	\$ -
Equipment Racks	0	\$ -	\$ -	\$ -	\$ -
Cabinet HVAC	0	\$ -	\$ -	\$ -	\$ -
Beacons	0	\$ -	\$ -	\$ -	\$ -
Portable Generators	0	\$ -	\$ -	\$ -	\$ -
UPS	0	\$ -	\$ -	\$ -	\$ -
Total Equipment Racks			\$ -	\$ -	\$ -
4. DVAS					
Cameras	0	\$ -	\$ -	\$ -	\$ -
Servers	0	\$ -	\$ -	\$ -	\$ -
Cable and Connectors	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total DVAS			\$ -	\$ -	\$ -

Sheet 2-3 Backup
EXP RSS Cost Schedule

Item Description	Quantity per Toll Zone	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Cost (\$)
5. Access Control and Security Monitoring System					
Access Card Encoder	0	\$ -	\$ -	\$ -	\$ -
Card Readers	0	\$ -	\$ -	\$ -	\$ -
Cards	0	\$ -	\$ -	\$ -	\$ -
Critical Environmental Monitoring System	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Access Control and Security Monitoring System			\$ -	\$ -	\$ -
Total AET Zone			\$ -	\$ -	\$ -
EXP-002: Express Travel Lane					
1. AVI System					
ETC Reader Modules	0	\$ -	\$ -	\$ -	\$ -
ETC Antennas	0	\$ -	\$ -	\$ -	\$ -
ODC / Subcontractor Costs	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -		\$ -
	0	\$ -	\$ -		\$ -
	0	\$ -	\$ -		\$ -
Total AVI System			\$ -	\$ -	\$ -
2. AVDC System					
Overhead Sensors	0	\$ -	\$ -	\$ -	\$ -
Cables and Connectors	0	\$ -	\$ -	\$ -	\$ -
ODC / Subcontractor Costs	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total AVC System			\$ -	\$ -	\$ -
3. ICPS					
Rear Cameras	0	\$ -	\$ -	\$ -	\$ -
Illumination	0	\$ -	\$ -	\$ -	\$ -
Servers	0	\$ -	\$ -	\$ -	\$ -
ODC / Subcontractor Costs	0	\$ -	\$ -	\$ -	\$ -
Cables and Connectors	0	\$ -	\$ -	\$ -	\$ -
Total ICPS			\$ -	\$ -	\$ -
4. Other Equipment					
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Other Equipment			\$ -	\$ -	\$ -
Total AET Travel Lane			\$ -	\$ -	\$ -
EXP-003: Express Instrumented Shoulder					
1. AVI System					
ETC Reader Modules	0	\$ -	\$ -	\$ -	\$ -
ETC Antennas	0	\$ -	\$ -	\$ -	\$ -
ODC / Subcontractor Costs	0	\$ -	\$ -	\$ -	\$ -

**Sheet 2-3 Backup
EXP RSS Cost Schedule**

Item Description	Quantity per Toll Zone	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Cost (\$)
	0	\$ -	\$ -		\$ -
	0	\$ -	\$ -		\$ -
	0	\$ -	\$ -		\$ -
Total AVI System			\$ -	\$ -	\$ -
2. AVDC System					
Overhead Sensors	0	\$ -	\$ -	\$ -	\$ -
Cables and Connectors	0	\$ -	\$ -	\$ -	\$ -
ODC / Subcontractor Costs	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total AVC System			\$ -	\$ -	\$ -
3. ICPS					
Rear Cameras	0	\$ -	\$ -	\$ -	\$ -
Illumination	0	\$ -	\$ -	\$ -	\$ -
Servers	0	\$ -	\$ -	\$ -	\$ -
ODC / Subcontractor Costs	0	\$ -	\$ -	\$ -	\$ -
Cables and Connectors	0	\$ -	\$ -	\$ -	\$ -
Total ICPS			\$ -	\$ -	\$ -
4. Other Equipment					
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Other Equipment			\$ -	\$ -	\$ -
Total AET Instrumented Shoulder			\$ -	\$ -	\$ -

Note 1: All hardware/software provided under this Contract should be included in these costs.

Note 2: Use the additional rows as needed to itemize each components

Note 3: All roadways are current Year Cost.

Sheet 2-4 Backup
EXP ITS Equipment Cost Schedule

Description of Items	Quantity Per Location	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Cost (\$)
ITSX-001: GP Out of Pavement Vehicle Detection Device					
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Out of Pavement Vehicle Detection Device			\$ -	\$ -	\$ -
ITSX-002: EXP Out of Pavement Vehicle Detection Device					
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Out of Pavement Vehicle Detection Device			\$ -	\$ -	\$ -
ITSX-003: Traffic CCTV Camera					
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Traffic CCTV Camera			\$ -	\$ -	\$ -
ITSX-004 Dynamic Message Sign					
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Dynamic Message Sign			\$ -	\$ -	\$ -
ITSX-005: Toll Rate Signs					
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Toll Rate Signs			\$ -	\$ -	\$ -

Sheet 3
Express Lane Support Installation Cost Summary
(Summary Only - No Proposer Input Required)

Pay Item	Description	Unit	Unit Cost	Labor Cost Per Unit (\$)	Total Cost Per Unit (\$)
TRHX-001	EXP Transaction Reconciliation Host	TRH	\$ -	\$ -	\$ -
TRHX-002	EXP Dynamic Pricing System	DPS	\$ -	\$ -	\$ -
TRHX-003	EXP Image Review Service	IVS	\$ -	\$ -	\$ -

Sheet 3-2 Backup
TRHX-001 EXP TRH Cost Schedule

Description of Items		# Unit	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Cost (\$)
1	System Hardware: Servers and Peripherals					
	EXP TRH - equipment, purchase, install, configure and test	0	\$ -	\$ -	\$ -	\$ -
		0	\$ -	\$ -	\$ -	\$ -
	Total System Hardware: Servers and Peripherals			\$ -		\$ -
2	Communications Equipment					
	Switches	0	\$ -	\$ -	\$ -	\$ -
	LAN Hardware and Installation	0	\$ -	\$ -	\$ -	\$ -
		0	\$ -	\$ -	\$ -	\$ -
		0	\$ -	\$ -	\$ -	\$ -
	Total Communications Equipment			\$ -	\$ -	\$ -
3	Software (GUI, Back-end), Host System, MOMS, DVAS and License					
	Host Software	0	\$ -	\$ -	\$ -	\$ -
	System Monitoring	0	\$ -	\$ -	\$ -	\$ -
	DVAS	0	\$ -	\$ -	\$ -	\$ -
	Access Control Software	0	\$ -	\$ -	\$ -	\$ -
	Critical Environmental Monitoring System	0	\$ -	\$ -	\$ -	\$ -
	OCR/ALPR Software	0	\$ -	\$ -	\$ -	\$ -
		0	\$ -	\$ -	\$ -	\$ -
	Total Software (GUI, Back-end), Host System, MOMS, DVAS and License			\$ -		\$ -
4	Third Party Warranty and Licenses					
	DB Licenses	0	\$ -	\$ -		\$ -
	OS Licenses	0	\$ -	\$ -		\$ -
	Other	0	\$ -	\$ -		\$ -
		0	\$ -	\$ -		\$ -
		0	\$ -	\$ -		\$ -
	Total Third Party Warranty and Licenses			\$ -	\$ -	\$ -
	Total EXP TRH System Costs			\$ -	\$ -	\$ -

Sheet 4					
AET Lane Cost Summary					
(Summary Only - No Proposer Input Required)					
Pay Item	Description	Unit	Unit Cost	Labor Cost Per Unit (\$)	Total Cost Per Unit (\$)
TSI-001	Total Toll Collection System Project, Design, Testing and Implementation Documentation	Each AET Zone	\$ -	\$ -	\$ -
TSI-002	Total Toll System Testing	Each AET Lane	\$ -	\$ -	\$ -
TSI-003	Total Development and Testing Environment	Each AET Shoulder	\$ -	\$ -	\$ -

Sheet 4-1 Backup
Toll Collection System Project, Design, Testing and Implementation Documentation

Pay Item	Description	Unit	Unit Cost	Labor Cost Per Unit (\$)	Total Cost Per Unit (\$)
DTI-001	Project Management Plan	Lump Sum	\$ -	\$ -	\$ -
DTI-002	Requirements Traceability Matrix	Lump Sum	\$ -	\$ -	\$ -
DTI-003	System Detailed Design Document	Lump Sum	\$ -	\$ -	\$ -
DTI-004	Installation Drawings	Lump Sum	\$ -	\$ -	\$ -
DTI-005	Bill of Materials	Lump Sum	\$ -	\$ -	\$ -
DTI-006	Master Test Plan	Lump Sum	\$ -	\$ -	\$ -
DTI-007	Training Program and Plan	Lump Sum	\$ -	\$ -	\$ -
DTI-008	System and Operations Manuals and Third Party Documentation	Lump Sum	\$ -	\$ -	\$ -
DTI-009	Disaster Recovery Plan	Lump Sum	\$ -	\$ -	\$ -
DTI-010	Maintenance Plan	Lump Sum	\$ -	\$ -	\$ -
DTI-011	As-Built Documentation	Lump Sum	\$ -	\$ -	\$ -
DTI-012	End of Contract Transition Plan	Lump Sum	\$ -	\$ -	\$ -
DTI-013	Factory Acceptance Test Procedures	Lump Sum	\$ -	\$ -	\$ -
DTI-014	Onsite Installation Test Procedures	Lump Sum	\$ -	\$ -	\$ -
DTI-015	Site Installation Test Procedures	Lump Sum	\$ -	\$ -	\$ -
DTI-016	Operations Acceptance Test Procedures	Lump Sum	\$ -	\$ -	\$ -
DTI-017	System Acceptance Test Procedures	Lump Sum	\$ -	\$ -	\$ -
TSI-001	Total Toll Collection System Project, Design, Testing and Implementation Documentation		\$ -	\$ -	\$ -

Sheet 4-1 Backup
Toll System Testing

Pay Item	Description	Unit	Qty.	Unit Cost	Labor Cost Per Unit (\$)	Total Cost Per Unit (\$)	Total Cost (\$)
TEST-001	Factory Acceptance Test	Each System	1	\$ -	\$ -	\$ -	\$ -
TEST-002	Onsite Installation Test	Each System, Each Configuration	1	\$ -	\$ -	\$ -	\$ -
TEST-003	Site Installation Test	Each Toll Zone	9	\$ -	\$ -	\$ -	\$ -
TEST-004	Operations Acceptance Test	Each System	1	\$ -	\$ -	\$ -	\$ -
TEST-005	System Acceptance Test	Each System	1	\$ -	\$ -	\$ -	\$ -
TSI-002	Total Toll System Testing			\$ -	\$ -	\$ -	\$ -

Sheet 4-1 Backup
Development and Testing Environment

Pay Item	Description	Unit	Unit Cost	Labor Cost Per Unit (\$)	Total Cost Per Unit (\$)
DEV-001	Development Environment	Lump Sum	\$ -	\$ -	\$ -
DEV-002	Test Environment	Lump Sum	\$ -	\$ -	\$ -
DEV-003	Integration Test Environment	Lump Sum	\$ -	\$ -	\$ -
DEV-004	UAT / Training Environment	Lump Sum	\$ -	\$ -	\$ -
TSI-003	Total Development and Testing Environment		\$ -	\$ -	\$ -

Sheet 5 Base Contract and Optional Extensions Express Lane Maintenance Cost Summary		EXPM-001 Each Express Lane Zone	EXPM-002 Each Express Travel Lane	EXPM-003 Each Express Instrumented Shoulder
Item #	Description of Items	Total Annual Cost (\$)	Total Annual Cost (\$)	Total Annual Cost (\$)
	Base Contract Maintenance Costs			
1	Year 1 of Maintenance	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -
4	Year 4 of Maintenance	\$ -	\$ -	\$ -
5	Year 5 of Maintenance	\$ -	\$ -	\$ -
	Total Base Contract Cost (Maintenance Years 1-5)	\$ -	\$ -	\$ -
1	Year 1 of Maintenance	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -
	Total Optional Extension 1 Cost (Maintenance Years 6-8)	\$ -	\$ -	\$ -
1	Year 1 of Maintenance	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -
	Total Optional Extension 2 Cost (Maintenance Years 9-11)	\$ -	\$ -	\$ -
	Total Base and Optional Extension	\$ -	\$ -	\$ -

Sheet 5-2 Backup
Base Contract and Optional Extensions
Express Lane Maintenance Cost Summary - Labor and Other Direct Cost Items by Month

Description of Items	Monthly Total (\$) Per Express Lane Zone EXPM-001	Monthly Total (\$) Per Express Travel Lane EXPM-002	Monthly Total (\$) Per Express Lane Shoulder EXPM-003
Base Contract Maintenance Costs			
Year 1 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 1	\$ -	\$ -	\$ -
Year 2 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 2	\$ -	\$ -	\$ -
Year 3 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 3	\$ -	\$ -	\$ -

Sheet 5-2 Backup
Base Contract and Optional Extensions
Express Lane Maintenance Cost Summary - Labor and Other Direct Cost Items by Month

Description of Items	Monthly Total (\$) Per Express Lane Zone EXPM-001	Monthly Total (\$) Per Express Travel Lane EXPM-002	Monthly Total (\$) Per Express Lane Shoulder EXPM-003
Year 4 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 4	\$ -	\$ -	\$ -
Year 5 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 5	\$ -	\$ -	\$ -
Optional Extension 1 Costs			
Year 6 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 6	\$ -	\$ -	\$ -

Sheet 5-2 Backup
Base Contract and Optional Extensions
Express Lane Maintenance Cost Summary - Labor and Other Direct Cost Items by Month

Description of Items	Monthly Total (\$) Per Express Lane Zone EXPM-001	Monthly Total (\$) Per Express Travel Lane EXPM-002	Monthly Total (\$) Per Express Lane Shoulder EXPM-003
Year 7 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 7	\$ -	\$ -	\$ -
Year 8 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 8	\$ -	\$ -	\$ -
Optional Extension 2 Costs			
Year 9 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 9	\$ -	\$ -	\$ -

Sheet 5-2 Backup
Base Contract and Optional Extensions
Express Lane Maintenance Cost Summary - Labor and Other Direct Cost Items by Month

Description of Items	Monthly Total (\$) Per Express Lane Zone EXPM-001	Monthly Total (\$) Per Express Travel Lane EXPM-002	Monthly Total (\$) Per Express Lane Shoulder EXPM-003
Year 10 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 10	\$ -	\$ -	\$ -
Year 11 of Maintenance - Monthly Roadside Hardware Maintenance and Software Support Services			
Labor			
MOT			
Material, Tools and Occupancy			
Spares Replacement			
Other			
Maintenance Payment of Performance Bond (X%)			
Total Monthly Year 11	\$ -	\$ -	\$ -

Sheet 6
Base Contract and Optional Extensions
(Summary Only - No Proposer Input Required)

TRHXM-001 EXP TRH Maintenance and Software Support
Services Cost

TRHXM-002 EXP DPS Maintenance and Software Support
Services Cost

TRHXM-003 EXP IVS Maintenance and Software Support
Services Cost

Item #	Description of Items	Monthly Cost (\$)	Total Annual Cost (\$)	Monthly Cost (\$)	Total Annual Cost (\$)	Monthly Cost (\$)	Total Annual Cost (\$)
	Base Contract Maintenance Costs						
1	Year 1 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	Year 4 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Year 5 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total EXP						
	Base Contract Cost (Maintenance Years 1-5)		\$ -		\$ -		\$ -
1	Year 1 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total EXP						
	Optional Extension 1 Cost (Maintenance Years 6-8)		\$ -		\$ -		\$ -
1	Year 1 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total EXP						
	Optional Extension 2 Cost (Maintenance Years 9-11)		\$ -		\$ -		\$ -
Total Base and Optional EXP Maintenance and Software Support Services			\$ -		\$ -		\$ -

Sheet 6-2 Backup
Base Contract and Optional Extensions
TRHXM-001 EXP TRH Maintenance and Software Support Services - Fixed Cost Items by Month

Description of Items	# Units	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Monthly Cost (\$)
Base Contract	EXP TRH				
Year 1 of Maintenance: TRH Maintenance and Software Support Services					
Management/Supervision	0	\$ -	\$ -	\$ -	\$ -
Virtual Host or Cloud Cost	0	\$ -	\$ -	\$ -	\$ -
System and Database Admin	0	\$ -	\$ -	\$ -	\$ -
System Monitoring	0	\$ -	\$ -	\$ -	\$ -
Patch Management and Testing	0	\$ -	\$ -	\$ -	\$ -
Network Management and ISP Fees	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Year 1 of Maintenance: TRH Maintenance and Software Support Services			\$ -	\$ -	\$ -
Year 2 of Maintenance: TRH Maintenance and Software Support Services					
Management/Supervision	0	\$ -	\$ -	\$ -	\$ -
Virtual Host or Cloud Cost	0	\$ -	\$ -	\$ -	\$ -
System and Database Admin	0	\$ -	\$ -	\$ -	\$ -
System Monitoring	0	\$ -	\$ -	\$ -	\$ -
Upgrades	0	\$ -	\$ -	\$ -	\$ -
Network Management and ISP Fees	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Year 2 of Maintenance: TRH Maintenance and Software Support Services			\$ -	\$ -	\$ -
Year 3 of Maintenance: TRH Maintenance and Software Support Services					
Management/Supervision	0	\$ -	\$ -	\$ -	\$ -
Virtual Host or Cloud Cost	0	\$ -	\$ -	\$ -	\$ -
System and Database Admin	0	\$ -	\$ -	\$ -	\$ -
System Monitoring	0	\$ -	\$ -	\$ -	\$ -
Upgrades	0	\$ -	\$ -	\$ -	\$ -
Network Management and ISP Fees	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -

Sheet 6-2 Backup
Base Contract and Optional Extensions
TRHXM-001 EXP TRH Maintenance and Software Support Services - Fixed Cost Items by Month

Description of Items	# Units	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Monthly Cost (\$)
Total Year 3 of Maintenance: TRH Maintenance and Software Support Services			\$ -	\$ -	\$ -

Sheet 6-2 Backup
Base Contract and Optional Extensions
TRHXM-001 EXP TRH Maintenance and Software Support Services - Fixed Cost Items by Month

Description of Items	# Units	Unit (\$)	Total Unit (\$)	Labor (\$)	Total Monthly Cost (\$)
Year 4 of Maintenance: TRH Maintenance and Software Support Services					
Management/Supervision	0	\$ -	\$ -	\$ -	\$ -
Virtual Host or Cloud Cost	0	\$ -	\$ -	\$ -	\$ -
System and Database Admin	0	\$ -	\$ -	\$ -	\$ -
System Monitoring	0	\$ -	\$ -	\$ -	\$ -
Upgrades	0	\$ -	\$ -	\$ -	\$ -
Network Management and ISP Fees	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Year 4 of Maintenance: TRH Maintenance and Software Support Services			\$ -	\$ -	\$ -
Year 5 of Maintenance: TRH Maintenance and Software Support Services					
Management/Supervision	0	\$ -	\$ -	\$ -	\$ -
Virtual Host or Cloud Cost	0	\$ -	\$ -	\$ -	\$ -
System and Database Admin	0	\$ -	\$ -	\$ -	\$ -
System Monitoring	0	\$ -	\$ -	\$ -	\$ -
Upgrades	0	\$ -	\$ -	\$ -	\$ -
Network Management and ISP Fees	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
Total Year 5 of Maintenance: TRH Maintenance and Software Support Services			\$ -	\$ -	\$ -

Sheet 7 Base Contract and Optional Extensions Facility Maintenance Cost Summary		FMM-003 - Each Site without Vault or Generator	
Item #	Description of Items	Monthly Cost (\$)	Total Annual Cost (\$)
	Base Contract Maintenance Costs		
1	Year 1 of Maintenance	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -
4	Year 4 of Maintenance	\$ -	\$ -
5	Year 5 of Maintenance	\$ -	\$ -
	Total		
	Base Contract Cost (Maintenance Years 1-5)		\$ -
1	Year 6 of Maintenance	\$ -	\$ -
2	Year 7 of Maintenance	\$ -	\$ -
3	Year 8 of Maintenance	\$ -	\$ -
	Total		
	Optional Extension 1 Cost (Maintenance Years 6-8)		\$ -
1	Year 9 of Maintenance	\$ -	\$ -
2	Year 10 of Maintenance	\$ -	\$ -
3	Year 11 of Maintenance	\$ -	\$ -
	Total		
	Optional Extension 2 Cost (Maintenance Years 9-11)		\$ -
Total Base and Optional			\$ -

Sheet 7-3 Backup
Base Contract and Optional Extensions
Facilities Maintenance
Site without Vault and without Generator FMM-003
Labor and Other Direct Cost Items by Month

Description of Items	Unit	Monthly Total (\$) Per Tolling Location
Base Contract Maintenance Costs		
Year 1 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 1		\$ -
Year 2 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 2		\$ -
Year 3 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 3		\$ -

Sheet 7-3 Backup
Base Contract and Optional Extensions
Facilities Maintenance
Site without Vault and without Generator FMM-003
Labor and Other Direct Cost Items by Month

Description of Items	Unit	Monthly Total (\$) Per Tolling Location
Year 4 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 4		\$ -
Year 5 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 5		\$ -
Optional Extension 1 Costs		
Year 6 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 6		\$ -

Sheet 7-3 Backup
Base Contract and Optional Extensions
Facilities Maintenance
Site without Vault and without Generator FMM-003
Labor and Other Direct Cost Items by Month

Description of Items	Unit	Monthly Total (\$) Per Tolling Location
Year 7 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Toll Facilities Vaults	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 7		\$ -
Year 8 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 8		\$ -
Optional Extension 2 Costs		
Year 9 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 9		\$ -

Sheet 7-3 Backup
Base Contract and Optional Extensions
Facilities Maintenance
Site without Vault and without Generator FMM-003
Labor and Other Direct Cost Items by Month

Description of Items	Unit	Monthly Total (\$) Per Tolling Location
Year 10 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 10		\$ -
Year 11 of Maintenance - Monthly Toll Facilities Maintenance		
Program Management/Administration	LumpSum	
Air Conditioning Equipment	Each System	
Electrical Components	Each System	
Standby Generators	Each System	
Security Components	Each System	
Pressure Cleaning	Each System	
Pest Control	Each System	
Grounding and Ground System Testing	Each System	
Fiber Optic Network (FON) / Utility Locating	Each System	
Maintenance of Traffic (MOT)	LumpSum	
Total Monthly Year 11		\$ -

Sheet 8
Base Contract

IVS-001 Image Verification Services
Operations Cost

IVS-002 OCR/ALPR

(Summary Only - No Proposer Input Required)

Item #	Description of Items	Annual Cost (\$)	Annual Cost (\$)
	Base Contract	Image Verification Services	OCR/ALPR
1	Year 1 of Operations	\$ -	\$ -
2	Year 2 of Operations	\$ -	\$ -
3	Year 3 of Operations	\$ -	\$ -
4	Year 4 of Operations	\$ -	\$ -
5	Year 5 of Operations	\$ -	\$ -
	Total Transaction Processing Operations Base Contract Cost (Operations Years 1 - 5)	\$ -	\$ -
Total Base Transaction Processing Operations Cost		\$ -	\$ -

Sheet 8-1 Backup
Base Contract
(IVS-001) Image Verification Services only Costs
Including all Labor and Other Direct Cost Items per Image Transaction

Description of Items	Sample Monthly Units	Unit (\$)	Total Monthly Cost (\$)	Total Annual Cost (\$)
Base Contract Image Transaction Processing Costs				
Year 1 - Image Verification Services per Vehicle (up to 4 images per vehicle)				
Cost Per Image Verification per Vehicle	50,000	\$ -	\$ -	\$ -
Total Monthly/Annual Year 1	50,000		\$ -	\$ -
Year 2 - Image Verification Services per Vehicle (up to 4 images per vehicle)				
Cost Per Image Verification per Vehicle	75,000	\$ -	\$ -	\$ -
Total Monthly/Annual Year 2	75,000		\$ -	\$ -
Year 3- Image Verification Services per Vehicle (up to 4 images per vehicle)				
Cost Per Image Verification per Vehicle	97,500	\$ -	\$ -	\$ -
Total Monthly/Annual Year 3	97,500		\$ -	\$ -
Year 4- Image Verification Services per Vehicle (up to 8 images per vehicle)				
Cost Per Image Verification per Vehicle	126,750	\$ -	\$ -	\$ -
Total Monthly/Annual Year 4	126,750		\$ -	\$ -
Year 5 - Image Verification Services per Vehicle (up to 4 images per vehicle)				
Cost Per Image Verification per Vehicle	139,425	\$ -	\$ -	\$ -
Total Monthly/Annual Year 5	139,425		\$ -	\$ -
Total Base Contract Image Verification Services Costs			\$ -	\$ -

Note:

1. NCTA does not anticipate extending services with Contractor after initial base. NCTA may transition to its own IVS vendor
2. Image Verification Services cost per transaction should include all costs (e.g., labor, facilities, supplies, etc.)

Sheet 9 Base Contract and Optional Extensions EXP ITS Maintenance Cost Summary		ITSXM-002 EXP Out of Pavement Vehicle Detection Device (for DPS)	ITSXM-003 Traffic CCTV Camera	ITSXM-004 Dynamic Message Sign	ITSXM-005 Dynamic Pricing Sign	ITSXM-006 Fiber-optic Cable & Conduit System
Unit		Each Device	Each Device	Each Sign	Each Sign	Per Mile
Item #	Description of Items	Total Annual Cost (\$)	Total Annual Cost (\$)	Total Annual Cost (\$)	Total Annual Cost (\$)	Total Annual Cost (\$)
	Base Contract Maintenance Costs					
1	Year 1 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
4	Year 4 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
5	Year 5 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Base Contract Cost (Maintenance Years 1-5)	\$ -	\$ -	\$ -	\$ -	\$ -
1	Year 1 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Optional Extension 1 Cost (Maintenance Years 6-8)	\$ -	\$ -	\$ -	\$ -	\$ -
1	Year 1 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
2	Year 2 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
3	Year 3 of Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Optional Extension 2 Cost (Maintenance Years 9-11)	\$ -	\$ -	\$ -	\$ -	\$ -
Total Base and Optional Extension		\$ -	\$ -	\$ -	\$ -	\$ -

Sheet 10-1
Additional Services Rates (2023 Values)

STAFF POSITION/CLASSIFICATION	LOADED HOURLY RATE	Qty of Hours	Total Cost
CADD Technician	\$ -		\$0.00
Database Administrator	\$ -		\$0.00
Database Analyst	\$ -		\$0.00
Devops Engineer	\$ -		\$0.00
Data Engineer	\$ -		\$0.00
Electrician Helper	\$ -		\$0.00
Finance Manager (Design/Implementation)	\$ -		\$0.00
Finance Manager (Operations)	\$ -		\$0.00
Hardware Engineer/Lead	\$ -		\$0.00
Installation Manager	\$ -		\$0.00
Installation Supervisor	\$ -		\$0.00
Installation Technician	\$ -		\$0.00
Licensed Electrical Engineer	\$ -		\$0.00
Licensed Electrician	\$ -		\$0.00
Maintenance Manager	\$ -		\$0.00
Maintenance Supervisor	\$ -		\$0.00
Maintenance Technician	\$ -		\$0.00
Network Administrator	\$ -		\$0.00
Network Engineer	\$ -		\$0.00
Operations Manager	\$ -		\$0.00
Project Manager	\$ -		\$0.00
Project Principal	\$ -		\$0.00
Quality Assurance Manager	\$ -		\$0.00
Senior Maintenance Technician	\$ -		\$0.00
Software Architect	\$ -		\$0.00
Software Development Engineer	\$ -		\$0.00
Software Development Manager	\$ -		\$0.00
Software Lead	\$ -		\$0.00
Software Programmer I	\$ -		\$0.00
Software Programmer II	\$ -		\$0.00
Software Programmer III	\$ -		\$0.00
System Administrator	\$ -		\$0.00
System Analyst	\$ -		\$0.00
Systems Engineer	\$ -		\$0.00
Technical Manager	\$ -		\$0.00
Solution Architect	\$ -		\$0.00
Technical Writer	\$ -		\$0.00
Test Manager	\$ -		\$0.00
Training Manager	\$ -		\$0.00
Transition Manager	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00

Sheet 10-1
Additional Services Rates (2023 Values)

STAFF POSITION/CLASSIFICATION	LOADED HOURLY RATE	Qty of Hours	Total Cost
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
	\$ -		\$0.00
Total Implementation Labor Cost			\$0.00

Note 1: CPI adjustments will be made to the Cost based on actual CPI change for the previous year as further described in the Price Proposal Instructions.