

# State of Florida Department of Transportation, Florida's Tumpike Enterprise

ATTACHMENTS 1-4
Commercial Back Office Project

DOT-ITN-21-8026-SM

FPID: 446410-1-93-01



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Attachment 1
Commercial Back Office - Business Rules

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#### 1 Introduction and Purpose

The Business Rules in this document describe how the Florida's Turnpike Enterprise (FTE) Toll Collection Commercial Backoffice System will operate to post and/or collect tolls and fees for Customer use on toll and parking facilities. The Business Rules support Florida's Department of Transportation (FDOT) and FTE mission, vision, values, and goals. The Business Rules are intended to provide guidance to employees (to include other Department consultant staff and vendors) and assert business behavior about how the Toll Collection Commercial Backoffice System shall operate.

The Business Rules are intended to provide direction on how the system shall operate at the end of the CBO Project and are not intended to be project specific. The Business Rules may be modified throughout the Term of the Contract by customization or configuration. During Phase 1, the Vendor shall work with the Department to implement its proposed solution that 1) minimizes changes to its COTS based solution where possible and 2) meets all Florida Statutes, Florida Administrative Code, and Department Policy as determined solely by the Department.

For the purpose of the Business Rules, FDOT and specifically FTE is the Toll Collection CBO operator as it relates to the CBO System. The Toll Collection CBO operator means an organization that owns and operates systems that collects tolls and related revenue (administrative fees and fines). The Toll Collection CBO operator may designate one or more service providers to perform these duties, but the Toll Collection CBO operator owns the data and is responsible for systems and operations acting on its behalf.

#### 2 Toll Collection System Overview

The Toll Collection System consists of a Roadside System (RSS), Operations Back Office (OBO) and Commercial Back Office (CBO). Brief descriptions of each of these systems are below.

- The RSS detects and captures Toll Transactions and helps to identify the vehicle using the toll facilities. The RSS has Roadside Equipment (RSE) that is used to provide information about the vehicle to collect tolls in the OBO and CBO. Currently RSS is made up of in-lane technologies that capture Radio Frequency Identification (RFID) by way of a Transponder affixed to the vehicle for Pre-Paid Customer Type Account holders and license plate images by way of cameras as the method of identifying customers without Pre-Paid Customer Type Accounts.
- The OBO validates Toll Transactions received from the RSS in accordance with the Toll Collection System Business Rules, performs business processes including license plate image review, express lane trip building and Toll Transaction filtering prior to sending Toll Transactions to the CBO.
- The CBO is the customer account management and financial accounting system including all business interfaces to process payments, Invoice customers, and maintain customer Accounts. The CBO also interfaces with Interoperable Agencies in the SunPass program and interfaces to third party aggregators (e.g., fleet or rental cars). Some fleet aggregators specialize in commercial vehicles.

#### 3 Customer Accounts

Customer Accounts are Accounts assigned to customers who open and provide required information to open the account. An Account can be generated by the System based on the registered owner of the vehicle.

Business Rule Description	Business Rule ID
Unique Account ID assigned per unique customer name, address.	1
Unique Account ID cannot be reused even if Account is subsequently closed. Account ID will not change.	2
Attributes may change throughout the life cycle of each unique Account ID and are tracked by the Department.	3

# 4 Customer Types

Business Rule Description	Business Rule ID
The system shall identify Customer Types for Customer Accounts which will guide	4
the posting of Toll Transactions and business rules and may be Pre-Paid Customer	
Type Accounts or Post-Paid Customer Type Accounts as designated below:	
<ul> <li>SunPass Personal (Pre-Paid)</li> </ul>	
<ul> <li>SunPass Business (Pre-Paid)</li> </ul>	
<ul> <li>SunPass Anonymous (Pre-Paid)</li> </ul>	
SunPass Non-Revenue	
Government Post-Paid	
Rental Car Service Provider (RCSP)/ Intermediate Service Provider (ISP)	
(Pre-Paid)	
Post-Paid TOLL-BY-PLATE (Post-Paid)	
Pre-Paid TOLL-BY-PLATE (Pre-Paid)	
Customer Accounts with certain attributes have restrictions regarding what	5
changes can be made to the Account and who can make those changes	
The maximum number of active vehicles on an Account is configurable by	6
Customer Accounts.	
SunPass account holder assumes responsibility for all tolls for vehicles on the	7
Account, regardless of whether they are the registered owner of the vehicle for	
the specified duration.	
All Customer Accounts should allow for posting different Toll Rates according to	8
Customer Types.	
SunPass (Personal/Business) Customer Type Account can have multiple vehicles	9
associated with it, all of which may or may not have a dedicated Transponder.	
A SunPass (Personal/Business) Customer Type Account can have multiple	10
Transponders associated with it, except for SunPass Anonymous Accounts which	
can only have one transponder per license plate.	

Business Rule Description	Business Rule ID
All Customer Accounts shall be opened with required and optional fields as	11
outlined in the Appendix to this document.	
SunPass Customer Type Accounts are notified of the rules regarding default	12
posting of payments in the Customer Agreement.	
A configured minimum opening balance amount is collected for SunPass Customer	13
Type Accounts, based upon number of transponders.	
The minimum replenishment amount and replenishment threshold for SunPass	14
Customer Type Accounts is based upon the number of vehicles on the Account.	
TOLL-BY-PLATE Customer Type Accounts are either customer-initiated (Pre-Paid)	15
or system-initiated (Postpaid).	
Any Account without a Transponder or with a balance below the insufficient	16
threshold will pay the TOLL-BY-PLATE Toll Rate.	
TOLL-BY-PLATE customers are subject to additional fees such as administrative	17
fees or express lane violation charges.	
All customers with a balance (below the insufficient threshold for SunPass	18
Customers) are Invoiced monthly on the Account Anniversary Date for Toll	
Transactions and an administrative fee.	
RCSP/ISP Customer Type Accounts must update vehicles and transponders on file	19
through an interface to the CBO.	
RCSP/ISP Customer Type Accounts may be charged a configurable fee per Toll	20
Transactions defined in the executed agreement between the RCSP/ISP and the	
Department.	
Prepayment of tolls for qualified Government Customer Type Accounts is not required.	21
Only Authorized Users can perform Account maintenance.	22
The Department supports the special program for non-revenue passage (toll-free	23
passage) in accordance with the Florida Commission for the Transportation	
Disadvantaged as detailed at https://ctd.fdot.gov/.	
All non-revenue Customers shall have Transponders.	24
The Non-Revenue Customer Type Account privilege may also be assigned to a	25
specific license plate and or Transponder for any or all Florida Toll facilities.	
Non-revenue Transponders are not interoperable with out of state Interoperable	26
Agencies.	
Non-Revenue Customer Type Account allows approved governmental agencies to	27
receive a single monthly statement for all usage by the vehicles on the Account.	

Table 1 below summarizes the available Customer Account attributes for the toll collection system.

Table 1: Customer Account and Attributes

			SunPas	s Customer Type Accou				TOLL-BY-PLATE Acco	Customer Type ount
	Attributes	Personal	Business	Anonymous	Non- Rev	Government	RCSP/ISP	Post-Paid	Pre-Paid
Transponder Requir	red	Yes	Yes	Yes	Yes	Yes	Yes	No	No
	ntact provided to open Account	Yes	Yes	No	Yes	Yes	Yes	No	Yes
	e captured, ROV lookup for Name,	No	No	No	No	No	No	Yes	Yes
	paid TBP table content								
FEIN Required		No	Yes	No	No	N/A	Yes	No	No
L Transponder per :	1 License Plate per Account	No	No	Yes	Yes	No	No	n/a	n/a
One License Plate P	Per Account	n/a	n/a	n/a	n/a	n/a	n/a	Yes	n/a
Account Establ <u>ishm</u>	nent Method								
We	eb, Mobile App, IVR, CSC, WIC, Kiosk	Yes	Yes	Yes	No	No	No	No	Yes
Ma	ailed Application	Yes	Yes	No	No	No	No	No	No
Aut	thorized Users Only	n/a	n/a	n/a	Yes	Yes	Yes	n/a	n/a
Sys	stem generated based upon ROV lookup	n/a	n/a	n/a	n/a	n/a	n/a	Yes	No
Toll Rate									
det	SunPass Toll Rate – active transponder tected/matched and Account in good anding	Yes	Yes	Yes	\$0	Yes	Per Agreement	No	No
trai	FOLL-BY-PLATE Toll Rate – no active insponder detected/matched or Account tin good standing	Yes	Yes	Yes	n/a	n/a	Per Agreement	Yes	Yes
• A aut SM 24	Active Accounts with \$0 balance, not on to replenishment, will be notified via 15 text/email (contact on file) and given hours to replenish Account prior to out. BY-PLATE Toll Rates becoming fective.	Yes	Yes	Yes, if SMS text/email provided	n/a	n/a	n/a	n/a	n/a
Minimum Open Bal		\$10 per Transponder	\$10 per Transponder	\$10 per Transponder	\$0	\$0	Per Agreement	n/a	\$0
	Balance is there a disconnect with ance (per transponder versus per								
	L - 4 vehicles on Account	\$10	\$10	\$10	\$0	\$0	Per Agreement	n/a	n/a
• 5	5+ vehicles on Account	\$10 + \$5 per vehicle > 4	\$10 + \$5 per vehicle > 4	\$10	\$0	\$0	Per Agreement	n/a	n/a
Statement/Invoice	Fees								
● E	Electronic Statement	Yes	Yes	Yes	Yes	n/a	Yes	n/a	Yes
• S	SunPass Paper Statement: \$1.50	Yes	Yes	n/a	n/a	n/a	Yes	n/a	n/a

		SunPas	s Customer Type Acco	ounts			TOLL-BY-PLATE Acco	Customer Type ount
Attributes				Non-				
	Personal	Business	Anonymous	Rev	Government	RCSP/ISP	Post-Paid	Pre-Paid
• TOLL-BY-PLATE Administrative fee: \$2.50	Yes	Yes	Yes	n/a	n/a	Yes	Yes	No
<ul><li>USB drive (50+ page paper statements):</li><li>\$5.00</li></ul>	Yes	Yes	n/a	n/a	n/a	Yes	n/a	n/a
Processing fees	n/a	n/a	n/a	n/a	n/a	Per Agreement	N/A	N/A
Account Management (Payment/Access Toll Transactions)				•				
Customers access using Account ID and PIN, Account ID and zip code, or license plate and zip code	Yes	Yes	Yes	n/a	n/a	n/a	Yes	Yes
Web, Mobile App, IVR, CSC, WIC, Kiosk, MSB (payment only)	Yes	Yes	Yes	n/a	n/a	n/a	Yes	Yes
Authorized Department Staff	n/a	n/a	n/a	Yes	Yes	Yes	N/A	N/A
Daily Plate File update required from service provider	n/a	n/a	n/a	n/a	n/a	Yes	n/a	n/a
Account Holder/Authorized Contacts				•				
Number of Account Holders	1	1	1	1	1	Per Agreement	n/a	1
Maximum number of Authorized Contacts	1	2	1	2	2	Per Agreement	n/a	1
Escalation Process (listed in order of occurrence)					•			
Invoice 1	n/a	n/a	n/a	n/a	Yes	Per Agreement	Yes	n/a
Invoice 2	n/a	n/a	n/a	n/a	Yes	Per Agreement	Yes	n/a
Courtesy notification prior to collections assignment	Yes	Yes	Yes	n/a	Yes	Per Agreement	No	n/a
3rd Party Collections	Yes	Yes	Yes	n/a	n/a	Per Agreement	Yes	n/a
Registration Stop or UTC	n/a	n/a	n/a	n/a	n/a	Per Agreement	Yes	n/a
Excessive Image-Based Toll Transactions may post at TOLL-BY-PLATE Toll Rate.	Yes	Yes	n/a	n/a	No	N/A	Yes	n/a

#### 4.1 Account Establishment

Business Rule Description	Business Rule ID
New Customer Accounts are created by two methods: a customer-initiated request	28
or a system-initiated request.	
Customer-initiated account establishment is made through the CEP (SunPass	29
website and mobile application), CSC, Walk in Centers, emailed/mailed application,	
or executed agreements with the Department (in the case of RCSP/ISP,	
Government, Non-Revenue).	
System-initiated Account establishment is made by the CBO system after receipt of	30
Toll Transactions for a license plate not on an existing Account.	
Upon the completion of the SunPass Customer Type Account creation, a	31
confirmation is sent via the preferred communication method on file, confirming	
the Account was successfully established and providing information about the new	
Account and how to access the Account using various communication channels.	
Any changes to the customer's Account are communicated to the customer via the	32
preferred communication method on file. If the preferred electronic (SMS or email)	
address fails, then the CBO will send Customer Correspondence by mail.	
RCSP/ISP Customer Type Accounts are established by the Department and require a	33
contract with the provider.	
If an existing Customer does not exist in the CBO for an Image-Based Toll	34
Transaction, a new Account will be created using the ROV data for the license plate,	
and the customer will get an Invoice.	
If an LPN and jurisdiction (if applicable) is provided in the DHSMV (or other DMV)	35
response for any individual/personal owner, and the plate jurisdiction is Florida, the	
CBO must attempt to identify an existing Account using the plate information	
before creating a new Customer Account.	
Following information is required for the Accounts that can be opened via the CEP:	36
<ul> <li>Customer name (Personal/Business/Pre-Paid TOLL-BY-PLATE only)</li> </ul>	
Company name (Business only)	
<ul> <li>Secondary contact name (if applicable for Business only)</li> </ul>	
FEIN (Business only)	
<ul> <li>Doing Business As (if applicable for Business)</li> </ul>	
Primary email	
Mailing address	
Billing address (if applicable)	
<ul> <li>Phone (mobile phone, office phone, alternate phone) – one is required.</li> </ul>	
Statement delivery & frequency	
Security question & answer	
Username	
<ul> <li>Password</li> </ul>	
4-digit PIN (to access IVR)	
Language preference (English/Spanish) – used for outbound	
correspondence.	
Preferred payment method (if applicable)	

Business Rule Description	Business Rule ID
Required vehicle information	
Preferred Contract method (email or SMS) with required Opt-in	
requirements	
Required vehicle information includes license plate number, license plate type (if	37
applicable), jurisdiction, make/model/color, start date/time and end date/time (if	
applicable).	
Customers can have multiple addresses with different address types and contact	38
information on file, but the primary address and contact must be identified. Address	
types include mailing, billing, and shipping address types.	
The Account holder is the primary contact, but additional Authorized Users can be	39
added to the Account, by the primary Account holder.	
Multiple payment cards and ACH Accounts can be added to the Account for auto	40
replenishment, but the order of preference must be identified by the Customer.	
Payment Cards are first in the default order of preference.	
A notification is provided to the Customer regarding returned payment fees for ACH	41
using the preferred communication method on the Account.	
If the license plate is active on another Account (with exception of RCSP/ISP), the	42
customer is alerted with a message to call CSC.	
If the license plate is active on a Post-Paid TOLL-BY-PLATE Customer Type Account,	43
the customer is alerted that there are outstanding Toll Transactions and payment is	
required.	
An existing Post-Paid TOLL-BY-PLATE Customer Type Account may purchase a	44
transponder and pay tolls at the SunPass Toll Rate that were originally posted at the	
TOLL-BY-PLATE Toll Rate over the past [X] days as long as all tolls are paid to convert	
a Toll-By-Plate Customer Type to a SunPass Customer Type. Administrative fees will	
be waived if paid and incurred over the past [X] days.	
If a Customer Type Account was system-initiated, the Customer may purchase a	45
transponder, provide prepayment funds, the additional information required, and	
benefit from the SunPass Toll Rates.	
A SunPass Customer may add a license plate with pre-existing TOLL-BY-PLATE	46
charges to their SunPass account. The TOLL-BY-PLATE charges over the past [X] days	
will be discounted to the SunPass Toll Rate. Administrative fees will be waived if	
paid and incurred over the past [X] days.	
Customers can open and maintain a Pre-Paid TOLL-BY-PLATE toll account via	47
payment card, cash, check or money order deposits, from which applicable toll	
amounts will be debited. Name, address and a license plate only for a defined start	
and end period should be provided by the Customer. Pre-paid TOLL-BY-PLATE	
Customer Type Accounts must have a balance that is sufficient to cover the monthly	
accumulated toll amounts to be paid within 10 (configurable) calendar days. If a	
Payment is not received in 10 calendar days, the account may be converted to a	
Post-Paid TOLL-BY-PLATE Customer Type Account and an Invoice will be sent to the	
ROV Address for payment.	

## 4.2 Customer Type Account

Business Rule Description	Business Rule ID
The Account status determines which activities should occur on the Account and	
which activities are restricted. At any time, an Account can be in one of the	
following statuses:	
<ul> <li>Active to Post Toll Transactions and allow full access to the Customer;</li> </ul>	
Pending open to Post Toll Transactions and allow full access to the	
Customer;	
Pending close to Post Toll Transactions and allow full access to the	48
Customer until the account is Closed;	
Closed – Authorized Users may not use the account and Toll Transactions	
do not post to the Account; and	
Inactive – Authorized Users may use the account and Toll Transactions do	
post to the Account, but Account is eligible for escheatment process.	
Pending open status applies to Accounts that have begun establishment but have	
not completed the process.	49
An Account can remain in Pending open status for up to 14 days. After seven (7)	
days of the Account status being in Pending open status, a notification is sent to the	50
customer, using the preferred communication method on the Account.	
After 14 days of the Account status being in Pending open, the Account status is	
changed to Pending close. A notification is sent to the customer, using the	51
preferred communication method on the Account.	
Pending close status is applicable to Accounts where a request has been made to	52
close the Account or if the Account was in Pending open status for 14 days.	32
Account closure is not allowed to be initiated if Account has:	
Open Registration Stops	
Open collection notices	
Open UTC notices	53
Open airport parking Toll Transactions	
Negative Account balance	
Open disputes or service requests	
An Account remains in Pending close status for 14 days to ensure all outstanding	
Toll Transactions and payments have cleared, after which the Account closure	54
activities start, including refunds and notifications.	
The pending close status ends all active vehicle subscriptions and changes the	
status of all valid Transponders to invalid effective the date of the status change.	55
Image-based Toll Transactions can still be posted for Toll Transaction dates prior to	
pending close status.	
Toll Transactions continue to post to the Account and replenishments occur as	56
needed on Accounts in pending close status.	
Upon the completion of the Account closure activities, as defined in the Standard	57
Operating Procedures (SOPs), the Account status is changed to Closed.	
Closed Accounts can be reopened by an Authorized User at the Customer's request.	58

Business Rule Description		Business Rule ID
	ntify specific circumstances or attributes and trigger	Basiness rate is
_	. At any time, an Account may have one or more of	
the following flags, including:	. The unity time, an Account may have one of more of	
Bad address		
Bad address     Bad email address		
Inactive Account		
	n status, such as LOST or STOLEN	
<ul> <li>SunPass Plus Parking</li> </ul>	instatus, such as EOST OF STOLEN	
Account is in pending	close status	
Account is in pending     Account has an open		
•	elow Insufficient Balance Threshold [-\$5]	
	evenue Discount Plan applied to any license plates or	
Transponders.	evenue discount Fian applied to any license plates of	
•	s in a Personal non-revenue discount such as the	
	ransportation Disadvantaged (CTD).	
• SFCS	ransportation bisaavantagea (erb).	
<ul><li>Pass Types</li></ul>		
<ul> <li>Phone number on the</li> </ul>	Δccount is unlisted	
<ul> <li>Customer enrolled in</li> </ul>		
Returned check.	Discourie França).	
<ul> <li>Past returned check(s</li> </ul>	1	
-	card identified by the CBO as bad on the Account.	59
	card is expired or is expiring within a specific number	
of days (configurable)		
	one suspended auto- replenishment method.	
<ul> <li>Account has unpaid Ir</li> </ul>		
Account has transacti		
	plates on the Account have been placed on	
Registration Stop.	nates on the recount have been placed on	
•	ate on the Account has an open Uniform Traffic	
Citation (UTC)	ate on the recount has an open officern traine	
, ,	ate on the Account has an open UTC filed with the	
court.		
	ciated with the Account has a scheduled Hearing.	
	tion (non-rental) is about to expire within a specific	
time period (configura	·	
, ,	s expired or is about to expire.	
	the Commercial Account Support Team from the	
operator		
<ul> <li>Bankruptcy</li> </ul>		
<ul><li>Deceased</li></ul>		
<ul> <li>Research/investigate</li> </ul>	Account.	
<ul><li>On Hold</li></ul>		

Business Rule Description	Business Rule ID
Balance adjustment over [\$X.XX] (configurable)	
Based on the Account flag, alternate Business Rules may be applied, and a different	
action may be required. For example, if the Account is flagged as "deceased", the	60
amount due on the Account might not be pursued through collections.	
Flags can be applied for a specific time period, to a specific license plate, a	61
Transponder or applied at the Account level.	01
Any Customer Account may be split into two or more Customer Accounts while	62
retaining the transaction and financial history from the original individual Account.	02
Two (2) or more Customer Accounts of the same type may be merged into a single	
Customer Account while retaining the transaction and financial history from each	63
individual Account.	
Merged Accounts result in one Customer Account designated with the primary	
Unique Account ID. The secondary Customer Account is closed, and the activity is	64
retained and viewable from the primary Customer Account number	
A pending close status can be initiated by the CBO for a Customer Account due to	
inactivity and may not trigger an automatic refund for the positive balance	
remaining on the customer's Account. An inactive Account has no updates to the	65
Account by customer, including login, and no transactions Posting to the Account in	
the most recent last 3 calendar years.	

#### 4.3 Account Maintenance

Business Rule Description	Business Rule ID
Customers can maintain their Accounts 24 hours a day, 7 days a week using the CEP.	66
Customers can maintain their Accounts in either English or Spanish through the CEP or by phone.	67
Use of the CEP requires one of the following sets of user credentials:  Username and password  Account number and password  Transponder number and password  UTC number and license plate number only (No state)  Invoice number and license plate number only (No state); and  License plate number and zip code (Non-customer Login without an Invoice or UTC).  License plate and last name for Registration Stop release payments via agents or self – service computer located at tax collector's office (if available)	68
<ul> <li>The CEP allows a customer to do the following Account maintenance:</li> <li>View Transponders and add/edit Transponder data (including reporting lost/stolen, deactivate, add friendly name, opt in/opt out airport parking and link plate to the Transponder).</li> <li>Activate new Transponder or purchase Transponders on the new or existing SunPass Account.</li> </ul>	69

View and search transactions, Invoices, and statements.	
View/add/edit/remove vehicles.	
File and check status on disputes	
<ul> <li>View/add/edit/remove payment options, Payment Card, and add auto replenishment.</li> </ul>	
Edit Account details, including Account demographics, delivery option,	
phone number, email, SMS, and challenge question/answer. Customer is	
required to confirm current password and answer security questions prior	
to changing the password.	
<ul> <li>Close Accounts and request partial or full refunds.</li> </ul>	
Contact a CSR via chat or email.	
Setup a subscription period that allows the Customer to define a start date	
and end date for use of the facilities.	
Account Toll Transaction activity can be accessed by the customer on the CEP for a	70
period of up to ninety (90) days.	70
Statements, Invoices, and other correspondence may be viewed or downloaded for	71
the past 36 months.	71
The interactive voice response (IVR) system requires user credentials, including:	
Account number and PIN	
Transponder number and PIN	70
Phone Number and PIN	72
UTC number and zip code	
Invoice number and zip code	
The IVR System allows a customer to do the following Account maintenance:	
Check/ replenish Account balances.	
Make a payment (toll enforcement Invoice)	
Manage payment Methods (auto replenishment status or stored payment)	
methods);	
Request a Transponder or Transponder Accessories	
Activate a Transponder	
Check status of a customer dispute	
Add vehicle license plates	73
Update PIN or Phone Number	
Review recent Toll Transaction history and request an emailed statement	
Obtain Information (i.e., hours of operations/locations/after hour, holiday,	
emergency recordings)	
Review frequently asked questions	
Request to speak to an agent	
Request to speak to all agent      Request a call back	
When speaking with a CSR, in person or over the phone, accessing an Account	
requires two of the following and a successful response to a challenge question:	
Account number	74
License plate number and jurisdiction	/4
Transponder number	
• Hansponder number	

Customer name	
Telephone number	
Mailing Address	
Vehicle make and model	
The customer is able to change the license plate associated with a Transponder on a SunPass Customer Type Account.	75
Customers can move or delete Transponders on a SunPass Customer Type Account.	76
License plate(s) cannot be added to the Account with subscription starting prior to [45] days before current date.	77
Historical Toll Transaction data is used to calculate a Customer's suggested replenishment amount. The data is the average tolls over the most recent 90 calendar day period. This functionality is Configurable.	78
As part of SunPass Business type Account maintenance, Accounts with more than 25 vehicles shall use an interface to upload changes to vehicle information and Transponders on the Account.	79
As part of Account maintenance, RCSP/ISP Customer Type Accounts will receive files each day containing Toll Transactions and statements. RCSP/ISP Customer Type Accounts shall provide daily plate files to update vehicle and transponder information.	80

# 5 Toll Rates and other Operated Facilities

## 5.1 Toll Setting

Business Rule Description	Business Rule ID
Toll Rates are established by the Originating Agencies, based upon location, vehicle classification and the Toll Transaction type (Image-based or Transponder-based). Transponder-based Toll Transactions are posted by Transponder and Image-based Toll Transactions are posted by license plate.	81
A schedule of Toll Rates provided by the Originating Agencies is maintained by the Department to calculate the proper charge to post to the Account in case of a toll /axle adjustments or disputes. The toll schedule includes SunPass and TOLL-BY-PLATE fares by Toll Plaza, Axle count, and effective date.	82
Agencies will provide multiple Toll Rates for each type of Toll Transaction. The OBO applies the proper Toll Rate to each qualified Toll Transaction, the CBO will verify the Toll Rate based on the Business Rules. The Toll Rate also may change over the life of the Toll Transaction.	83
Image-base Toll Transactions not matched to an existing Account enters the owner identification process and are posted at the TOLL-BY-PLATE Toll Rate.	84
Transponder-based Toll Transactions can post to a Customer Account at the TOLL-BY-PLATE Toll Rate if the account balance is below the Insufficient Funds Threshold. The Transponder must not have been reported lost/stolen at the time of the Toll Transaction and the Account must not be closed at time of Posting.	85

#### 5.2 Discounts

Business Rule Description	Business Rule ID
Toll discounts or rebates are special circumstances that require adjustments to	
accommodate for resident programs, frequency of travel or other required rebates	86
as directed by the toll operator.	
Image-based Toll Transactions originating on any facility in Florida for which the	
plate is found to match an Account configured as qualifying for toll exemption at	87
time of Toll Transaction occurrence must be posted as exempt, regardless of the	67
fare indicated on the Toll Transaction.	
Transponder-based Toll Transactions originating on any facility in Florida for which	
the Transponder is found to match an Account configured as qualifying for toll	88
exemption at time of Toll Transaction occurrence must be posted as exempt,	88
regardless of the fare indicated on the Toll Transaction.	
Rebates are processed as lump-sum, Account-level credits.	89
All Discount Plans are applicable to eligible Customer Type Account.	90
Usage discounts are not calculated for Accounts that are in closed status, have a	
negative Account balance, or have a bankruptcy or collections flag at the time of	91
travel.	
No promotional discount for Transponder sales shall be given to any Customer	
Accounts with subsequent return of the Transponder for a refund. Any promotional	02
discount given shall be reversed upon subsequent request for refund and return of	92
the Transponder.	

# 6 Transponder Management, Sales and Replenishment

#### 6.1 SunPass Transponders

SunPass Transponders are sold to provide electronic identification of a vehicle and used to link a vehicle to a SunPass Customer for payment of tolls. A Transponder uses dedicated short-range communications to communicate with, identify, and Post Transponder-based Toll Transactions for purposes of toll payments.

Business Rule Description	Business Rule ID
SunPass sells three models of Transponders: a portable windshield mounted model, a bumper mount model, and a windshield sticker model.	93
The SunPass windshield mounted portable model adheres to the inside of the windshield and can be used in multiple vehicles.	94
The SunPass bumper mount model is fastened to the front license plate frame of the vehicle using screws and can be moved from one vehicle to another. This model requires validation against certain license plate makes/models and is available for purchase through the CSC only.	95
The SunPass windshield sticker model must be adhered to the inside of the windshield using the self-adhering tape and is considered damaged and unusable if subsequently removed. This model cannot be used in multiple vehicles and is not suitable for metallic glass windshields, or for motorcycles.	96

Business Rule Description	Business Rule ID
Vehicles with special windshields containing metal oxide in the glass require	
customers to purchase and mount a bumper mount Transponder to the outside	97
of their vehicle.	
SunPass portable, bumper mount, and windshield sticker may be used by the	98
customer for Parking Transactions where SunPass Plus Parking applies.	96
SunPass windshield sticker can only be associated with one vehicle. The customer	99
is permitted to change the license plate associated with the vehicle.	33
Transponders purchased and replenished with ACH are not active for four	100
business days in order to confirm receipt of funds from the bank.	100
If the Transponder status is invalid or the Transponder is removed (the	
Transponder is not present) from the Transponder File sent to the Originating	101
Agencies, an image of the vehicle license plate will be captured for processing as	101
an Imaged-based Toll Transaction.	
A Transponder must be active for a Toll Transaction to Post to an account at the	
SunPass Toll Rate. If Transponder is inactive or terminated, the Toll Transaction	
will post at the TOLL-BY-PLATE Toll Rate if the Account is above the Insufficient	102
Balance Threshold. IF the Account is below the Insufficient Balance Threshold,	
the Toll Transaction shall Post to a Post-Paid TOLL-BY-PLATE Account Type.	
A Transponder can only be active on one Account at a time.	103
A maximum of [configurable amount] license plates can be associated with one	
active Portable Transponder. The current value is 5 license plates with one active	104
Portable Transponder. A maximum of one license plate can be associated with a	104
Sticker Transponder.	
Transponders must be set in the following Configurable Statues for Florida Toll	
Transaction Posting:	
Inactive – prior to Fulfillment;	
Valid on a Customer Account	
<ul> <li>Invalid- Lost/Stolen where the Transponder was reported as Lost/Stolen</li> </ul>	105
<ul> <li>Invalid – Terminated where the Transponder is not valid in all other cases</li> </ul>	103
typically when the account is closed, or the Customer Account is below	
the Insufficient Balance Threshold.	
Diagonafonto interconquebility continue for a delitional attactors	
Please refer to Interoperability section for additional statuses.	

#### 6.2 Transponder Fulfillment

Transponders can be purchased at the following:

- Multiple Retail locations throughout Florida
- Turnpike Service Plazas
- Turnpike Service Plazas Convenience Stores
- SunPass CSCs
- Welcome Centers

- Kiosks
- Walk-In Centers
- Online at sunpass.com
- Mobile application
- By Phone with a CSR

Business Rule Description	Business Rule ID
The Customer may buy a Transponder at authorized Money Service Businesses	106
and retail locations.	100
Every Transponder that has been manufactured must be associated to the CBO	
inventory. The Transponder shall be assigned to the SunPass Customer Type	107
Account when it is activated	
Transponders are activated when distributed to customers from the CSC and are	
available for use in the lanes, as defined within the standard operating	108
procedure(s).	

# 6.3 Transponder Warranty and Returns

Business Rule Description	Business Rule ID
All Transponders found to be defective or damaged and still under the manufacturer's warranty, are returned promptly to the manufacturer according to the specified Returned Material Authorization (RMA) process.	109
Transponders are sold to the customer and carry a manufacturer's warranty.  Transponders are subject to the manufacturer's warranty in effect at the time of purchase.	110
The warranty replacement rules provided to the customer differs from the manufacturer's warranty provided to the Department. The customer warranty replacement period is also configurable for each model and calculated based on when the Transponder was activated on the Account.	111
A Customer can make a warranty claim by email, mail, phone, through the CEP and at the Walk-in Center.	112
Customers can receive a replacement Transponder of the same type immediately at SunPass CSCs and Walk-In Centers.	113
Customers are sent a self-addressed return envelope to send defective Transponders back to the Department.	114
A replacement Transponder is sent upon request for warranty replacement, and the defective Transponder is deactivated.	115
If the Customer is not satisfied with their Transponder, they can return the product for a full refund unless outside of warranty period or purchased at a retailer.	116

Business Rule Description	Business Rule ID
Transponders purchased at a retailer location shall be returned to the retailer based on the retailer's return policy. Transponders that are returned must be subsequently returned to the Department and cannot be resold by the retailer.	117
Transponders purchased through any channel other than a retailer can be returned if done so within 45 calendar days.  Note: Money Services Business is considered a retailer and returns based on the retailer's return policy.	118
A SunPass windshield sticker Transponder model can only be returned if the unit remains in unused condition, since such models are considered destroyed after having been affixed and subsequently removed from a windshield.	119
Customer returns are noted on the Customer Type Account for future reference.	120
Any Transponder issued as replacement of a defective unit must have all configurations of the defective unit carried over to the replacement unit. As an example, if a Bayway commuter or resident pass was configured on the defective device, the pass must be transferred to the replacement device.	121

## 7 Retail Transponder Network

The Department has agreements with commercial and other government agencies to purchase and sell SunPass Transponders or reload money on a Transponder by a Money Service Business provider. SunPass can also be purchased at all Turnpike service plazas, Turnpike gas stations, SunPass Service Centers, select Florida Welcome Centers, Visitor Centers, Rest Areas, and select County Tax Collector's Offices. SunPass is also available from registered retailers at over 3,100 retail locations throughout Florida.

Business Rule Description	Business Rule ID
Transponders purchased from retailers and Money Service Businesses are not active at time of purchase.	122
Transponders are made active as soon as the customer establishes an Account, either by calling the CSC or via the CEP or visiting a retailer authorized by the Money Service Business services.	123
The appropriate sales tax for every Transponder sold must be collected. Retailers are responsible for collecting and remitting the appropriate sales tax for Transponders sold at their retail locations to the appropriate state.	124
The sales tax charged depends on either the county where the customer purchased the Transponder (in the case of a sale made at a Walk-in Center), or the county (or state) to which the Transponder will be delivered. The sales tax is charged in accordance with tax brackets as mandated by the Florida Department of Revenue.	125
Sales tax will not be charged if the customer presents exemption certificate, or if the Transponder was provided free of charge to the customer by the Department.	126
The sales tax filing and reconciliation will be made by the Department.	127

## 8 SunPass Plus Parking

The Department's SunPass® Plus Parking allows eligible customers enrolled in the program to use a SunPass® transponder for electronic payment of parking charges at participating Parking Facilities. Customers will automatically receive the SunPass Plus Parking privilege once they opt-in to auto replenishment. This service and this program have different Account payment requirements.

Business Rule Description	Business Rule ID
The SunPass Plus Parking is open to Pre-Paid SunPass Customer Type Accounts	
with Transponder-equipped vehicles who have elected to automatically replenish	128
their Account (with the exception of ACH auto-replenished Accounts).	
The CBO shall provide a list of Transponder data enrolled in SunPass Plus in file	120
form at a minimum once per day to Orlando Airport parking provider.	129
The Customer must opt in to enroll in SunPass Plus Parking. Customer may opt	
out of SunPass Plus Parking at the Account level or at the Transponder level at any	130
time.	
Customers in good standing, that provide a valid method for auto replenishment	
(with the exception of ACH), are automatically enrolled in SunPass Plus Parking	131
upon successfully establishing their Accounts.	
Transponders must be in active status, and the Account balance must be above \$0	132
at the time of entry.	132
At the time of exit, the Transponder must be in active status and have either	
sufficient funds to cover the charge in the Account balance or have successful	133
authorization of the payment card on file for the full parking charges.	
For airport parking, the Account balance will be checked at the time of entry to	
the parking facility. The CBO will only receive a single transaction for parking fee	134
which will be computed at the time of exit.	
For single point charge parking facility (currently Hard Rock Stadium), real-time	
validation of the Account must be completed at the time of entry. The	
Transponder must be in active status and have either sufficient funds to cover the	135
charge in the Account balance or have successful authorization of the payment	135
card on file for the full parking charges. The CBO will only receive a single	
transaction for parking fee which will be computed at the time of entry itself.	
If the customer has provided an email address or phone number for SMS	
messaging, a parking receipt will be sent once the Parking Transaction is Posted to	136
the CBO.	
The Parking Transaction charge will also appear on the Account activity statement	127
and receipts are available on the self-service customer website.	137
All Parking Facilities that participate in the SunPass Plus Parking must have an	138
executed agreement with the Department.	138
Upon entry, the parking operator can validate the customer's Account in real-time	
or using the latest list of valid Transponders to provide access to the parking	139
facility, but upon exit, real-time validation of the Account must be completed.	

Business Rule Description	Business Rule ID
Parking Facilities are provided with a list of Transponders considered to be in good standing (within the last 48 hours) to reference during entry transactions when communication is down between the CBO and the parking facility.	140
The customer shall request airport parking refunds by calling SunPass CSC or opening a dispute. The CSC will forward the dispute to the parking operator to either confirm or deny the dispute. The parking operator initiates the refund request for any disputes honored.	141
The parking facility shall approve or reject (either partial or full) the refund request.	142
The CBO will process the approved bulk adjustments and declined, or approved refund request Parking Transactions are noted on the SunPass Customer Type Account.	143
The total refund amount for any parking transaction cannot exceed the original transaction amount.	144

#### 9 Express Lanes

Express Lanes are owned by the Department. FTE provides back office system processing for all Express Lanes in the State of Florida.

- The Department operates the roadside Intelligent Transportation Systems and statewide managed lanes software.
- The Districts calculate and send the final Toll Rates to FTE.
- FTE provides image verification, posts all tolls and fees (if applicable) to the SunPass or TOLL-BY-PLATE Customer Type Account.

Business Rule Description	Business Rule ID
All SunPass Transponders can be used to pay for Toll Transactions on the	145
Express Lanes.	
Image-based Toll Transactions are created for vehicles if a valid Transponder is	
not read. Express Lanes are not meant to be used as Image Based, customer	146
should always have Transponder.	
Tolls on select Express Lane facilities are not charged for vehicles registered with	147
South Florida Commuter Services (SFCS).	147
Public transit buses, school buses, over-the-road-buses, and vanpools that are	
properly registered with the Department are exempt from paying the priced	148
Express Lanes toll on the interstate or Other Toll Facilities.	
Emergency vehicles and some Department service vehicles such as roadside	149
assistance may use the facility toll free, for official business only.	149
The CBO must post individual Express Lane Toll Transactions that belong to the	
same trip to the customer's Account using Toll Rates provided in the Toll	
Transaction.	150
	150
Note – Trip building will be done by the Originating Agency OBO and unique trip	
ID and Toll Rates for all Toll Transactions that belong to the same trip will also be	

Business Rule Description	Business Rule ID
assigned by the Originating Agency. CBO would only post the trip Toll	
Transactions to a Customer's Account.	
The CBO must accept late arriving Toll Transactions that might change the way	
prior accepted Toll Transactions for the same trip have been posted. Prior	151
accepted Toll Transactions must be re-Posted when a late arriving transaction	131
results in a change to how such transaction were processed.	
The Department Express Lanes toll operators shall provide a Toll Rate viewer	
that shows the immediately preceding Toll Rate, the Toll Rate during, and the	
Toll Rate immediately following the trip based on location and time of the	152
transaction. Upon receipt of a dispute, the CSR shall use the toll viewer to	132
accept or reject a customer's dispute based on the Toll Rate that was expected	
during that time.	
Any trips or Toll Transactions that do not have an Active Transponder on a	
SunPass Account in good standing or an interoperable Transponder-Based Pre-	153
Paid SunPass Account having sufficient funds) of Express Lanes are considered	133
violators and are subject to an Express Lanes violation fee.	
A single Express Lanes violation fee of [\$25.00] will be applied each usage day	
for trips occurring on Express lanes per Image Based Toll Transactions for the	154
same ROV Account irrespective of direction of travel or Express Lane facility.	
Express Lanes violation trips that start on day 1 and ends on day 2 in the same	
facility, the system applies a single Express Lanes violation fee based on the trip	155
starting point in the facility.	
Express Lane violation fees that have been posted must be reassessed when a	
late arriving transaction results in prior accepted Toll Transactions needing to be	156
Posed again. If it is determined that Express Lane violation fees have been	130
inappropriately posted, they must be reversed.	

### 10 Customer Case Management

Customers communicate payments, disputes or other inquires with the CSC about their Accounts or tolls incurred for travel. The CBO provides support to inbound customer correspondence and send outbound correspondence to customers who travel on the facilities. The CBO also provides dispute management and resolution for disputes received from customers.

#### 10.1 Correspondence

The Department generates and send inbound and outbound customer correspondence to assist with the collection of payments and account management for the SunPass System.

Business Rule Description	Business Rule ID
The Department receives mail at a commercial lockbox service with a P.O. Box in the State of Florida.	157
All Customer requests are tracked based on status and date received and updates made by the CSC or CBO.	158
Responses to correspondence are required within two (2) business days and follow the escalation procedures outlined in the SOPs.	159

Business Rule Description	Business Rule ID
The CSC responds via outgoing communication channels by phone (CSR and	
automated outbound calls) email/mail/text/account alerts/online chats or in	160
person at Walk-In Centers.	
Outgoing communications will be available in both English and Spanish, but	1.61
customers must opt-in for Spanish communications.	161
Each piece of outgoing communication has criteria which triggers its generation	
that is based on a time required of aged transactions and minimum configurable	162
thresholds based to escalate. When an Account meets specified criteria, that	162
Account qualifies for a specific type of communication.	
The CBO distributes outbound customer communication within two (2) business	
days of qualifying for notification. Failures are escalated following the escalation	163
procedures outlined in the SOPs.	
Outbound customer communication is through customer-established preferred	164
methods in English or Spanish, or CBO established methods.	104
Electronic copies of outgoing communication are retained on each associated	
Account. These copies are an exact duplicate of the communication sent to the	165
customer and are retained in accordance with the CBO records retention policy.	
The CBO will use different sources to obtain the most accurate address	
information. The source data will include address information provided by the	
customer, department of motor vehicles in Florida or other jurisdictions, third	166
party collection agencies, third party skip tracing services or the United States	
Postal Service (USPS) National Change of Address (NCOA) service.	
Returned mail is directed, categorized, marked, and attached to Accounts.	167
When returned mail flag is set on the Account, it stops future communications via	
US mail (with the exception of UTCs). The CBO will send customer correspondence	168
via other delivery channels by email or SMS if available.	
If an email is bounced back, then the returned email flag is set, and no future	
emails are sent to that email address. The returned email flag works in the same	
manner as the returned mail flag. Depending on the type of email communication,	169
a mailed communication may be sent, for example a payment card failure	
notification.	
Any update to the customer mailing or email address will remove the returned	170
mail/email flag.	170

#### 10.2 Disputes

Business Rule Description	Business Rule ID
A case is created for a dispute initiated by a Customer or Authorized User.	171
The CEP allows customers to complete the entire dispute form electronically or download a dispute form to submit via mail, email, or hand delivery to the Walkin Center.	172
For disputes involving posted transactions or other unpaid items, any escalation of amounts due must be suspended until the dispute is resolved, and communication of the dispute disposition was provided to the customer.	173

All Toll Transactions, with the exception of axle adjustment, can be disputed within 90 days of the charge being posted to the Account.	174
A case status and all updates must be sent to the originator of the dispute during	
review and final disposition. All communications must be recorded and tracked	
with the original dispute and updates are made to the case from customer	175
inquiries by via mail, email, or hand delivery.	
Disputes shall be tracked from the time a case is opened for the entire length of	
time taken to resolve every dispute, for the purpose of establishing performance	176
metrics.	170
For disputes received when an account is with a Collections, Agency, the	
resolution is provided to the Collection Agency and from the Collection Agency to	177
the customer.	1,,
Any dispute can be accepted, partially accepted, or denied.	178
Every dispute is assigned a final disposition under a configurable list of dispute	1,0
reasons. The list of categories available for selection during the dispute process	
will be managed by Authorized Users and is listed below:	
a) Data entry error	
b) Duplicate charge	
c) Invalid or wrong license plate information	
d) ROV deceased	
e) ROV in bankruptcy	
f) Vehicle sold/leased	
g) Affidavit reasons provided under Florida law:	
a. The vehicle was in the care, custody, and control of another	
individual at the time of the transaction.	
b. The vehicle was reported stolen at the time of the transaction	179
(requires a police report)	
c. The person being Invoiced is not the owner of the vehicle	
associated with the transaction.	
h) Transfer of Responsibility – When customer claims toll does not belong	
to them and provides the name and address of the person whom the toll	
is to be posted along with evidence to prove this claim.	
i) Incorrect axle charge	
j) Wrong plan	
k) Non-Revenue	
l) Paid Cash	
m) Pre-Approved	
n) Returned to Originating Agency (RTOA)	

# 11 Payments

The CBO accepts payments from payment card, ACH, Money Service Business, and cash /check for tolls and fees incurred.

# 11.1 Payment Options

Business Rule Description	Business Rule ID
The Department accepts payments from customers in U.S. funds only.	180
Payment Cards supported are Visa, MasterCard, American Express, Discover,	100
and the same branded debit cards that act like a payment card.	181
Cash and payment cards with a chip that require a PIN are only accepted at	
designated Walk-in Centers and Money Service Business locations.	182
Third-party checks which require the merchant to process a manual verification	
prior to accepting the check are specifically excluded.	183
The CBO must support replenishing Accounts automatically for customers who	
wish to enroll in this feature or are required to enroll by Customer Agreement	184
with the Department.	104
Automatic replenishment must be configurable by Customer Account,	
acceptable payment method, the minimum balance threshold triggering	
automatic payment, and minimum replenishment amount. The Account holder	185
may exceed the minimums configured if desired and add multiple cards to one	103
Account.	
Payment can be made in person at the Walk-in Centers or at any Money Service	
Business locations, over the phone with a CSR, over the phone using the IVR, via	
the self-service customer website, via the SunPass mobile application(s), to a	186
Collection Agency, or via mail to the lockbox.	
Customers can establish auto replenishment, in which payment is made	
automatically at configurable balance levels.	187
Utilizing the customer license plate number and zip code, payment can be made	100
on the self-service customer website before an Invoice has been issued.	188
A single payment can be applied to more than one Account. Account	
replenishments must be traceable to the original, single payment.	
	189
Any subsequent reversal of such a payment must affect all Accounts to which	
the original payment was applied.	
Multiple payment methods can be used to partially or fully pay a single	400
customer's outstanding balance.	190
UTCs that have not yet been filed with the court can be paid in any allowable	
manner. UTCs that have escalated to the Courts must be paid to the Court.	191
When a SunPass Customer Type Account does not have enough funds to pay	
the entire Toll Transaction, the Toll Transaction is posted to the Account at the	
SunPass Toll Rate until the Account balance falls below the Insufficient Balance	192
Threshold. Subsequent to that, any future Toll Transactions shall be posted to	
a TOLL-BY-PLATE Account.	

# 11.2 Payment Exceptions

Business Rule Description	Business Rule ID
Payment Cards and ACH must be used for automatic replenishment. PIN-based	business Rule ID
debit cards cannot be used for automatic replenishment or any one-time	193
payments on the CEP or by Phone.	193
Payments will only be accepted and Posted when sufficient information has	
been obtained corresponding to the form of payment being made. As an	194
example, a verified address may be required before accepting non-cash	
payments.	
During the creation of a SunPass Customer Type Account	105
(Personal/Business/Anonymous), a prepayment of Tolls is required in	195
accordance with Table 1.	
For RCSP/ISP Customer Type Accounts, payment requirements are defined in	
the contract with the RCSP/ISP Customer. When multiple Accounts are	196
needed to support a single contract, each Account must abide by the payment	
rules within the Customer Agreement.	
The minimum replenishment amount and minimum replenishment threshold	
for a SunPass Customer Type Account (Personal/Business) Account is [\$10 and	197
\$10], respectively.	
The CBO will notify the Account holder when their Customer Account balance	
falls below the minimum replenishment threshold or low balance level (e.g.,	198
below \$12.50) or Insufficient Balance Threshold (i.e., between \$0.00 to -\$5.00)	190
and the Customer Type Account is not automatically replenished.	
The minimum replenishment amount and minimum replenishment threshold	
for RCSP and ISP Customer Type Accounts are defined in each respective	199
contract.	
When adding additional Transponders, additional prepayment requirements	
will apply at a configurable threshold, unless a minimum Account balance	200
already exists.	
For Accounts enrolled in automatic replenishment, the CBO must attempt all	
replenishment methods configured on the Account and identify replenishment	201
methods that fail.	
For Accounts enrolled in automatic replenishment, up to three (3) attempts	
are made to replenish an Account if the payment method is posted by an	
approved Payment Card.	
The three (3) attempts are made on consecutive days for the first payment	
method so long as the prior attempt resulted in a soft decline.	
	202
After three (3) failed attempts resulting in soft decline the replenishment	
method must be marked unusable.	
Any attempt resulting in a hard decline immediately marks the replenishment	
method as unusable.	
method as unusable.	

Business Rule Description	Business Rule ID
For Accounts enrolled in automatic replenishment for which a payment	
method is configured as ACH, a decline will immediately mark the payment	203
method as unusable.	
The CBO must inform the Account holder each time a replenishment payment	
method is marked unusable, using the preferred communication method on	204
the Account.	
A Customer will not be allowed to pay with a personal check or ACH after a	
configurable number of returned payments. This can be overridden on	205
exception, in accordance with approved SOPs.	
The CBO must Post returned checks and ACH and issue returned payment fees	
to the customer's Account on the same day notification of the returned	206
payment is received using the preferred communication method on the	206
Account.	

# 11.3 Applying Payments

Business Rule Description	Business Rule ID
Payments made in excess of what is owed (overpayment) on the Account are	
applied to the Account balance and available to pay subsequent Toll	207
Transactions.	
The CBO must support paying specific Toll Transactions in Customer Accounts.	208
The CBO will apply payments using the first in first out method. Payments will	
be applied first to the oldest unpaid Toll Transactions and fees based upon posted date.	209
Unless payment is directed toward specific Toll Transactions, any payment must	
be applied to receivables that if left unpaid on the Account when escalated as	
follows:	
<ul> <li>Tolls on the UTC that have not gone to court</li> </ul>	
<ul> <li>Fees / fines on the UTC that have not gone to court</li> </ul>	
<ul> <li>Tolls in collections / Registration Stops</li> </ul>	
Fees in collections	
Past Due Tolls	210
Past Due fees	
Past due fines	
Current Tolls	
Current fees	
Toll Transactions not yet Invoiced	
<ul> <li>Unapplied (for example an Account-level credit/over payment)</li> </ul>	
<ul> <li>Any remainder is placed on the Account as a Pre-Paid balance</li> </ul>	
Partial payments are accepted but do not prevent the Account from escalating and incurring additional fees.	211
One payment cannot be used to partially pay multiple Toll Transactions or Fees.	212

Business Rule Description	Business Rule ID
For the CBO To Post a payment received by the Lockbox, the lockbox must be	
able to identify the Account for which it was intended, usually through a	213
payment coupon, Invoice number, or Account number.	
Lockbox payments that do not include enough information to identify with the	
Customer Account are sent to the Lockbox processor's exception queue for	
review and manual posting. The payment must be resolved within the	
timeframe agreed upon between the Department and the lockbox processor. If	214
no Account is identified the payment is rejected in the queue and returned for	
manual handling, possible contact, or return to customer. The queue is cleared	
by the operator.	

## 11.4 Payment Reversals

Business Rule Description	Business Rule ID
Returned payments, including payment card chargebacks, ACH Reversals, and	
returned checks, are considered incomplete payments, and will have the same	
net effect as if the payment had never been collected. Any amounts previously	215
transferred to Originating Agencies are netted from the next settlement with	
the Originating Agencies.	
Returned check payments should be able to be reversed manually on Customer	
Type Accounts, with an automatic System reversal of any application of the	216
original payment from customers' Accounts. A note should be automatically	210
added to the Customer Type Account regarding the NSF check.	
For all reversals received, the payment method must be automatically removed	
from any active subscriptions, including auto replenishment and SunPass Plus	217
Parking. A returned payment fee and flag/block must be placed on the Account	217
after a configurable number of reversals.	
When a chargeback or ACH reversal is received, the CBO must automatically	
reverse the initial charge on a customer's Account (Customer Type Account	
must be re-opened, if closed) and reverse any application of the initial payment	
(including the reversal of any related balance transfers or application of	
payment to another Account). For all reversals, any discount or promotional	
credit associated with the payment should be reversed automatically on the	218
Customer's Account. A reversal qualifies for automatic posting if it falls	
underneath a pre-determined dollar limit and does not vary from the original	
charge amount. Those reversals that do not qualify for automatic Posting would	
post to a queue, requiring manual intervention to determine the appropriate	
procedures to follow for posting.	
In the case of the following scenarios, the reversal (whether chargeback or ACH	
reversal) should be automatically posted, however a service request maybe	
created for additional operating procedures:	219
a. Initial charge pays an airport parking charge.	
b. Initial charge pays for a plan sale.	
c. Initial charge has been refunded to customer.	

#### 12 Customer Statements and Invoices

Customer statements provide activity detail that impacts Pre-paid Customer Type Accounts. Invoices are issued to customers with a Post-Paid Customer Type Account. The Department may pursue outstanding debt with Collection Agencies, placement of a Registration Stop on the license plate, and/or issuance of Uniform Traffic Citation(s).

#### 12.1 Customer Statements

Business Rule Description	Business Rule ID
Statements and Invoices are Account-based with each statement/Invoice	
showing the balance or debt for the entire Account on a monthly basis and also	220
includes the previous Account balance.	
Statements that detail the Toll Transactions and financial transactions are	221
available for Accounts with a Pre-Paid Customer Account balance.	221
Pre-Paid-Customer Accounts receive Customer Statements. Customer	
Statements may be sent by text (SMS), email (preferred) or USPS mail (for a fee)	222
to the address on file.	
RCSP/ISP Customer Type Accounts will continue to receive statements, even if	
the Account falls below the Insufficient Balance Threshold. Additional fees may	223
be charged.	
Account activity statements are generated and made available for all Pre-Paid	224
Customer Type Accounts.	224
Statements downloaded, viewed, or printed directly from the CEP are free of	225
charge. Mailed statements will have a Fee.	223
Customer statements with no toll or financial activity will not be mailed to the	226
Customer but will be available online.	220
If a mailing address cannot be validated by the CBO or if mail is returned, then	
all future mailed correspondence for the Account is suspended, and the	227
statement mail fee is not charged.	
SunPass Customer Type Account activity statements are generated on the	
Anniversary Date of the Account establishment. If an Account was opened on	228
June 20th, the Account Anniversary Date is the 20th of the month.	

#### 12.2 Customer Invoices

Business Rule Description	Business Rule ID
The date the first Invoice is generated becomes the Anniversary Date for subsequent Invoices, except if the time to mail the Invoice is beyond the allowed mailing period.	229
An Anniversary Date for Accounts created on 29th, 30th or 31st will be set to 1st of the next month.	230

Pusings Bulg Description	Dusiness Bule ID
Business Rule Description	Business Rule ID
For Post-Paid TOLL-BY-PLATE Customer Type Accounts, the ROV address on the	224
Account in the CBO is checked against the ROV Lookup source prior to issuing	231
the Invoice only if ROV previously obtained is deemed to be old or stale.	
For Post-Paid TOLL-BY-PLATE Customer Type Accounts, Invoices are mailed to	
the ROV address obtained from instate and out-of-state ROV lookup sources	
unless they are marked as NIXIE (returned mail) or on hold.	
If the ROV address is NIXIE and an alternate address is available through NCOA	232
(National Change of Address) or skip tracing, the alternate address is used for	
invoicing.	
Invoices not mailed to the ROV address are escalated to collections and/or	
registration stop only and cannot escalate to the UTC level.	
If the ROV address is NIXIE, then Invoice generation continues (Invoice posts to	
the Account but the Invoice is not mailed), and Toll Transactions and Financial	233
Transactions are escalated to the next level. If the NIXIE address is updated with	255
the correct address, obtained from other sources (skip tracing, customer	
provided mailing address, updated ROV address, collection address), then the	
past due Invoices are generated and mailed.	
The first time a new Post-Paid TOLL-BY-PLATE Customer Type Account is	
Invoiced; the Invoice is generated 14 days after the Account is established and	234
an Invoice is generated if there is at least one (1) unpaid Toll Transaction.	
The payment due date printed on the Invoice must allow for sufficient	
configurable time for payment delivery prior to the next escalation date. The	
escalation and Anniversary Dates of the Account are changed only when a	235
mailing delay occurs that results in insufficient time to receive payment after	
delivery of the Invoice.	
If the Invoice due date falls on a weekend or a state holiday, it must be set to	236
the next business day.	
Any amount that remains unpaid from the previous bill is shown as past due,	237
along with the details of any new Toll Transactions and Financial Transactions.	
Invoices continue to be issued on each Anniversary Date displaying any past due	220
amounts, plus any additional unbilled tolls and fees, so long as the amount	238
presented for payment includes at least one unpaid toll.  The Invoice will include:	
Fees/Charges posted during the Invoice period.	
<ul> <li>Itemized list of Toll Transactions payments and credits posted during the</li> </ul>	
. ,	
Invoice period, by license plate, with location of transaction, date, and	
time of event, posted date of event in the Account and toll amount.	220
The image associated with the most recently posted Toll Transaction.      Provious amounts due including prior levels force.	239
Previous amounts due including prior Invoice fees.      Transport and violeties feed (if any)	
Express Lane violation fees (if any)  Condition (if any)	
Credits (if any)  Part any most history (frame provides a month (a hill) in alceding a grown and a	
Past payment history (from previous month's bill) including payments	
received and credits.	

Business Rule Description	Business Rule ID
Pay by date	
<ul> <li>Current outstanding if UTC escalated to court, customer must pay the court)</li> </ul>	
In the scenario where the second Invoice has no new Toll Transactions	
or Financial Transactions, and the Account has a previous balance, the	
previously used image will be printed on the Invoice.	
ROV can request to remove their vehicle from another Customer Type Account if they pay the outstanding balance for Toll Transactions and Fees on the vehicle. A communication is sent to the Customer Type Account holder notifying them of this action.	240
If an Invoice or other communication is returned by mail with a forwarding	
address, the address is updated in the CBO. The existing Invoice is closed, and a new Invoice is issued, creating a new account Anniversary Date. This includes new Toll Transactions posted to the Account but with no additional fees, as if the original Invoice had never been issued. Other communications, such as a Payment Card expiring notice, will be resent to the customer at the new address.	241
If an Invoice or other communication is returned by mail with no forwarding address, attempts are made to acquire a different address using collections, skip tracing, or electronic mail forwarding services. If a new address is obtained, the address is updated in the System. The existing Invoice is closed, and a new Invoice is issued, including new Toll Transactions posted to the Account but with no additional fees, as if the original Invoice had never been issued. Other communications will be resent to the customer at the new address.	242
An Invoice for which a good mailing address cannot be found is marked as a bad address, and the Account continues to escalate. Invoice will not be mailed when the Account is marked as a bad address but will be attached to the Account. (UTCs must continue to be mailed.) Mailing will resume once address is updated.	243

#### 12.3 Fees

Business Rule Description	Business Rule ID
A paper statement fee [\$1.50] will be applied and deducted from a Customer's	244
Account each time a statement is printed and mailed.	
If the statement requested is 50 pages or more, the statement will be sent via email or on USB flash disk. A [\$5] statement charge will apply and is deducted from the customer's Pre-Paid Customer Account balance each time a USB is mailed.	245
An Invoice fee [\$2.50] will be applied and included on the Invoice each time an Invoice is printed and mailed.	246
A UTC fine of [\$25] is added to each UTC. The UTC fine is recorded in the customer's financial activity and reflected in the new Account balance, and it appears on the next subsequent Invoice.	247

Business Rule Description	Business Rule ID
<b>Note:</b> UTC's presented to the courts may have additional fees assessed by the	
court, but such fees are not recorded or tracked on the Account and the	
customer must pay the UTC and fees to the Court.	
Fees are applied at the Account level but are triggered by activities that occur	248
at the Invoice or the Toll Transaction level.	
Fees can be waived at the Toll Plaza such that if the document only has Toll	
Transactions related to a particular location that is of concern, the fee is	249
waived. (E.g., Toll Plaza needs to operate in a cash-less mode for a period of	249
time and the Originating Agency does not want the \$2.50 Invoice fee applied).	

<sup>\*</sup>All fees are configurable as directed by the Department.

## 13 Enforcement Program

If payment is not received in accordance with the Customer Correspondence with tolls and fees due, the Department may pursue other actions to collect tolls and fees associated with travel on its FTE Toll Facilities or Other Toll Facilities (known as the "Enforcement Program"). The Enforcement Program includes sending all outstanding tolls and fees to a third-party Collection Agency. Additionally, the Department may place a vehicle Registration Stop on license plates associated with vehicles on an Account. Lastly, the Department also may issue a UTC in accordance with Florida Statutes.

#### 13.1 Customer Account Escalations

Business Rule Description	Business Rule ID
Customer failure to pay a toll may result in the referral of the Customer Account to a Collection Agency, Registration Stop, or the issuance of a Uniform Traffic Citation.	250
Any designated Accounts can be excluded from escalation at the discretion of the Department.	251
Pursuing RCSP/ISP Customer Type Accounts for a negative balance will be managed by the operator and not escalated.	252
All Pre-Paid Customer Type Accounts are flagged as having reached Insufficient Balance Threshold when there is no auto replenishment or no valid payment method on file and reaches below [-\$5].	253
For Post-Paid TOLL-BY-PLATE Customer Type Accounts, after two Invoice cycles, ROVs with a minimum of one unpaid toll and total amount unpaid is above configured collections threshold [\$25], are eligible to be sent to Collections Agencies.	254
After two Invoice cycles, ROVs with a minimum of one unpaid toll and total amount unpaid is above configured Registration Stop threshold [\$100], are eligible to have a Registration Stop placed on the vehicle.	255
When Account balance is at sufficient nonzero-dollar balance threshold (meets minimum balance criteria) the Toll Transactions will Post at the SunPass Toll Rate.	256

# 13.2 Third Party Collections

Business Rule Description	Business Rule ID
Toll Transactions that are unpaid past two billing cycles are checked for	257
eligibility to go to collections and/or registration stop.	257
A minimum configurable threshold of [\$25.00] in amount unpaid has been	
established for a debt to be placed in collections and must include at least one	258
unpaid toll.	
Once an Account is placed with a Collection Agency, all subsequent collections	259
placements for that Account will be made to the same Collection Agency.	239
Payment for Toll Transactions and Financial Transactions in collections may be	260
made anytime to the Collection Agency.	200
Collection Agencies may only be provided Accounts information limited to those	261
that have been assigned to that particular Collection Agency.	201
Escalated collection efforts must be made for all unpaid tolls posted to a Pre-	262
Paid Customer Type Account that falls below the Insufficient Balance Threshold.	202
On a [weekly] basis, the CBO will provide the Collection Agency a list of Accounts	
and balances due for pursuit by the assigned Collection Agency. The list must	263
be configurable by full or incremental updates.	
If all of the Toll Transactions and Financial Transactions are either paid, or	
removed from collections for any other reason, the Account will be excluded	264
from the subsequent list to the assigned Collection Agency.	
When an Account has Toll Transactions and Financial Transactions in collections,	
there is a flag on the Account, which indicates the Account has Toll Transactions	
and Financial Transactions in collections. This flag is visible to Authorized Users	265
when they access the Account. Along with the flag, the Collection Agency	
contact information will also be shown.	
Once the customer has made full payment of the amount in collections, the	266
collection flag is removed from the Account.	200
On a [weekly] basis, the CBO shall automatically reconcile Toll Transactions and	
Financial Transactions in collections per the CBO general ledger and Toll	267
Transactions and Financial Transactions in collections per the Third-Party	207
Collection Agency's records. Exceptions should be resolved in a timely manner.	

# 13.3 Registration Stops

Business Rule Description	Business Rule ID
The Department will place a hold on the registration of the vehicle associated with an Invoice past two billing cycles. All Florida license plates are subject to	268
Registration Stops. Invoices identify the potential for a Registration Stop if the	
Invoice remains unpaid.	
Minimum threshold for Registration Stop is configurable by dollar amount of	269
cumulative Toll Transactions by Originating Agency.	203
Originating Agencies may choose to have different thresholds for Registration	270
Stops.	270

Business Rule Description	Business Rule ID
Toll Transactions and Financial Transactions posted for non-FL plates remain with the assigned Collection Agency and do not escalate to Registration Stop.	271
Customers will be notified of Registration Stops by mail.	272
Customers will be notified of the removal of Registration Stops by email, if available. If email is not available, the Customer will be notified by mail.	273
When the Customer's unpaid balance is paid in full or dismissed, the DHSMV is notified by the CBO System to release the Registration Stop.	274
Payments for Accounts with a Registration Stop must be made by approved methods of payment to the Department.	275
If the Customer is onsite at one of Florida County Clerks acting on behalf of DHSMV for vehicle registration renewal, payments can be made by approved methods of payment to the Department. Once payment is made, the customer can request an email notification be sent to the specific County Clerk's office releasing the Registration Stop and allowing the customer to reregister the vehicle.	276
Registration Stops are placed at the license plate level and noted on any Customer Account.	277

## 13.4 Uniform Traffic Citations

Business Rule Description	Business Rule ID
Uniform Traffic Citations (UTCs) will be issued at the Department's discretion on	
qualifying Toll Transactions per license plate on an Account when:	
<ul> <li>ROV Account Toll Transaction is billed twice and remains unpaid and not in dispute status.</li> </ul>	
The amount due on the Toll Transaction is not less than a full Toll.	
Account is not flagged for UTC Hold.	
<ul> <li>Total number of UTC per plate on Account is below maximum configurable [5].</li> </ul>	278
<ul> <li>Toll Transaction identified as eligible for UTC by the Originating Agency where Toll Transactions has occurred.</li> </ul>	276
The outstanding Account balance per plate is above the configurable	
UTC threshold initially defined as [\$1000] and includes at least one	
unpaid Toll Transactions.	
Toll Transaction must be less than X days old.	
Toll Transactions are on FL Plate; and	
Toll Transaction is Invoiced to a DHSMV address.	
UTCs are filed with the court in the county where the Toll Transactions took	279
place.	2,3
The DHSMV provides the CBO with a method of developing the unique UTC	280
number for each UTC issued.	200
Some county courts require UTCs be submitted electronically, using the e-	281
citations.	201

Business Rule Description	Business Rule ID
If a UTC notice is not paid in full, closed by the Department or part of an open	
dispute, it becomes eligible for submittal to the appropriate county court within	282
X days after the UTC issue date (X is configurable and initially set to 45).	
Partial payments are accepted for the amount due on a UTC prior to	283
transmitting it to the court.	
An Account has a flag to identify the Account has one (1) or more UTCs that	284
have been transmitted to the court.	
Payments for UTC notices will be accepted by the Department until the UTC has	285
been transferred/escalated to the county court.	
Once the UTC has been submitted to the court, the Department cannot accept	
payment, and the customer must attempt resolution with the court. Toll	286
Transactions submitted to court must be removed from pursuable customer	200
ledger.	
Personal checks are not accepted for UTC payments. If personal check is	287
received it will be handled operationally by the Department.	207
If the customer disputes the UTCs prior to submittal to the county court, the	
Department will research the issue and, if warranted, close the UTC	288
administratively.	
Once the UTC has been submitted to the court, the Department cannot dismiss	
the UTC, but the Department can request the court dismiss it if necessary.	289
Dismissal is at the sole discretion of the county court.	
The CBO must Account to the DHSMV for all UTCs issued that are not sent to the	
court. The DHSMV must be informed of all UTCs that are closed at the CBO	290
(whether by payment or successful dispute) prior to transmittal to the court.	

## 14 Transaction Posting

Transaction Posting describes rules to Post Toll Transactions from an Originating Agency using a series of rules prior to posting to an Account or rejecting.

#### 14.1 Transaction Posting

· · · · · · · · · · · · · · · · · · ·	
Business Rule Description	Business Rule ID
The CBO posts all Toll Transactions in the order received from the OBO.	291
Toll Transactions must post at the Toll Rates as outlined in Table 1 of this	292
Business Rules document.	
Toll Transactions must be posted with a corresponding Originating Agency,	293
Facility, Toll Plaza, and Lane identified with the Toll Transaction.	
Toll Transactions must be posted with the transaction date, posted date,	294
rejection date (if applicable), disputed date (if applicable), and payment date.	
Toll Transactions are created by each Originating Agency's RSS and then sent to	295
the CBO to Post to an Account.	

Business Rule Description	Business Rule ID
Transponder-based Toll Transactions post to an Account when the transponder number captured by the RSS matches a transponder number on a Customer Account.	296
All Toll Transactions will post to a Non-Revenue Customer Type Account at a zero-Toll Rate.	297
License Plate Data captured by the RSS will be matched to the License Plate Data on existing eligible Accounts.	298
Toll Transaction hierarchy of posting to Accounts is as follows:  Non-revenue Accounts  Government Accounts  Existing SunPass Customer Type Accounts (Personal, Business, Anonymous)  Interoperable Accounts  Existing Pre-Paid TOLL-BY-PLATE Customer Type Accounts  RCSP/ISP Customer Type Accounts  Existing Post-Paid TOLL-BY-PLATE Customer Type Accounts  New Post-Paid TOLL-BY-PLATE Customer Type Account will be created if not found	299
Toll Transactions that Posted to an Account shall never change. Any updates received shall be modified by Adjustments. The original Toll Transactions shall never change, and all history shall be available to Authorized Users.	300
In cases where the transponder is not read and an image of the vehicle's/non-semi trailer's (e.g., Boat, Camper, Utility, etc.) license plate is recorded, and the plate is listed on the User's Prepaid Account, any unpaid charges may still be paid electronically using the vehicle's/trailer's license plate number. If in any given month the User's Prepaid Account records more than ten (10) toll transactions per license plate, the CBO may charge the User the TOLL-BY-PLATE Toll Rate.	301

## 14.2 Owner Identification

Business Rule Description	Business Rule ID
For TOLL-BY-PLATE Post-Paid Customer Accounts, the CBO attempts to identify the first-listed ROV whenever a DMV agreement exists for the license plate jurisdiction provided in the Toll Transaction, and the Toll Transaction is determined to require invoicing. If the first listed is not complete or successful, subsequent ROV information may be used to collect tolls and fees. If no DMV agreement is in place for the jurisdiction provided, the Toll Transaction follows same Posting as when NO ROV can be found.	302
The CBO must attempt multiple times (configurable, set to minimum 3) to obtain the ROV within a configurable timeframe before finally abandoning, and returning the Toll Transaction back to the Originating Agency.	303

Business Rule Description	Business Rule ID
The CBO must facilitate manual image review of all images available from the Originating Agency for a specific Toll Transaction before abandoning identification of ROV.	304
If the ROV cannot be determined, after all efforts are exhausted, and the Image-based Toll Transaction cannot be posted to any Customer Account, the transaction must be returned to the Originating Agency indicating no ROV could be found.	305
The Department does not perform a ROV look up for any zero dollar or exempt Toll Transactions.	306
If no ROV information is found, Image-based Toll Transactions are posted to a System Account for future ROV lookup.	307
For Post-Paid TOLL-BY-PLATE Customer Type Accounts, the CBO must determine if the address is still current. If the address on file is over [60] days old for Florida and over [180] days old for out-of-state plates, the CBO. The most recent address must become the active address.	308

# 14.3 Transaction Rejections

Business Rule Description	Business Rule ID
Toll Transactions that exceed the configurable age limit by Originating Agency	309
must be rejected.	303
Duplicate Toll Transactions must be rejected.	310
Toll Transactions with invalid or future dates must be rejected.	311
Toll Transactions with non-conforming License Plate Data must be rejected.	312
Toll Transactions from unknown Toll Plazas must be rejected.	313
Transponder-based Toll Transactions must be rejected if the Transponder was	
reported lost or stolen and follow the Transaction Posting priority after the	314
License Plate Data is verified by the Department image verification services.	
The Department must have a valid Transponder number to Post Transponder-	315
based Toll Transactions.	313
The Department must have an image of the License Plate Data to Post Image-	316
based Toll Transactions.	310
Image-based Toll Transactions must be rejected if the License Plate Data is not	317
found.	317
Image-based Toll Transactions must be rejected if the SunPass Customer Type	318
Customer Account is closed.	310

# 14.4 Transaction Adjustments

Business Rule Description	Business Rule ID
Toll Transaction adjustments can only be made by Authorized Users.	319
There are three types of Toll Transaction adjustments: Toll Rate, Axle, and	320
Courtesy.	320
Toll Rates can be adjusted at the direction of the Originating Agencies or an	321
Authorized Department staff.	521
Axle adjustments can affect a single Toll Transaction or a group of Toll	322
Transactions at any stage in the life of the Toll Transaction.	322 
Axle adjustments cannot be applied to Toll Transactions older than 180 days.	212
Exceptions to the 180 days rule require approval of the Originating Agencies.	323
Courtesy adjustments are issued at the direction of the Originating Agencies,	324
an individual Originating Agency, or Authorized CSR.	
Courtesy adjustments can be applied at the Account or Toll Transaction level.	325
Credits and promotional offers are offered to customers on an ad hoc basis by	326
the Originating Agencies.	320

# 15 Data Management

Business Rule Description	Business Rule ID
The Department complies with Chapter 119, Florida Statutes, for data retention, archiving and purging of data. For the Toll Collection System, the Department developed Data Retention Requirements that designates the period of time in fiscal years that the data must be retained for each record type. Please refer to the Data Retention Requirements found in Exhibit E for retention time periods.	327

# 16 Financial Processing

Financial processing is the processing of Financial Transactions from an Originating Agency using a series of rules for posting to an Account.

## 16.1 Refunds

Business Rule Description	Business Rule ID
Customers may request a refund of any Pre-Paid Customer Type Account	
balance or overpayment made by the customer to the CSC. Promotional	328
credits cannot be refunded.	
Refunds are not made unless either the customer makes a specific request, or	329
a refund is issued for a positive balance on the Account at the time of closing.	
Refund requests are issued back to the original form of payment, unless	330
payment form was cash, Money Service Business, Collections or ACH (in which	
case a check is issued).	
If the original form of payment, for which a refund has been requested, was a	331
payment card that has been closed, a check refund is issued to the Customer.	
A refund notification is sent to the Account holder upon issuing a refund on	332
the Account using the preferred communication method on the Account.	
Customers who received refunds and whose payment was also subsequently	333
charged back (duplicated refund) must be tracked by the CBO.	

## 16.2 Escheatment

Business Rule Description	Business Rule ID
Funds from inactive Accounts with positive balances are sent to the State of	334
Florida in accordance with Chapter 717 and 338.231, Florida Statutes.	334
An inactive status is defined as an Account that did not have the following	
activity over 3 calendar years as of the preceding December 31st:	
a. Toll Transactions	
b. Replenishments (collection replenishments were excluded)	335
c. Account information changes	333
d. Notes on the Account (excluding system notes)	
e. Reversals and balance adjustments (excluding system	
reversal or adjustment not triggered by a customer request)	

Business Rule Description	Business Rule ID
f. CEP and IVR activity (such as logging in from the web)	
For Accounts outside of the State of Florida, pertinent Account information	
will need to be captured in order for an escheatment vendor to conduct due	336
diligence and file according to each state's applicable laws and regulations.	330
Detailed Account information should be provided in NAUPA format.	
For inactive Accounts, an email (if available) is sent to all Account owners	
with positive Account balances informing the Account owner of the amount	337
and requesting a response.	
Refund checks that have remained outstanding for 36 months from issuance	
will be voided and the funds placed back on the Account or reported to the	338
State of Florida if the Account has been closed.	

# 16.3 Bankruptcy

Business Rule Description	Business Rule ID
Once notified of bankruptcy, unpaid Toll Transactions and Financial	
Transactions up to and including the bankruptcy filing date are protected	339
from pursuit of payment, escalation, and document issuance.	
All unpaid Toll Transactions and Financial Transactions or any unpaid activity	
that occurred after the bankruptcy filing date are not protected and remain	340
subject to normal aging, escalation, collection, and document issuance.	
The Department accepts payments for an Account in bankruptcy, applying	
payment to Toll Transactions and Financial Transactions not protected in	341
bankruptcy.	
Only Authorized Users are able to flag an Account for bankruptcy protection.	342

# 16.4 Write-Off of Unpaid Activity

Business Rule Description	Business Rule ID
The Department requires that a request to write off report be prepared in	
the format prescribed by the Florida Department of Financial Services for all	343
tolls that meet the configurable criteria.	
Toll Transactions and unpaid financial activities are tracked by the	344
Originating Agency.	544
Unpaid amounts are subject to write-off in accordance with Florida Statutes.	
Write-Off amounts must be reported to the Department of Financial Services	345
in accordance with Florida Statute 17.20.	
Originating Agencies can request to have Toll Transactions prior to a	346
specified date returned to the Agency.	340

## 16.5 Reconciliation

Business Rule Description	Business Rule ID
Errors in charges to Accounts can be corrected by Authorized Users.	347

Business Rule Description	Business Rule ID
The general ledger must follow Generally Accepted Accounting Principles.	348
The general ledger must allow for double entry accounting at the Toll	349
Transactions and Financial Transactions level.	549
All funds collected will be reconciled on a daily basis using CBO accounting	350
systems/bank reconciliation modules and standard operating procedures.	330
Payment details are recorded for all funds received.	351
Revenue and Expenses are recognized on a cash basis under Generally	
Accepted Accounting Principles; revenue is earned and payable to the	
Originating Agency when collected from the customer. Only exception exists	352
in agreements with Interoperable Agencies where revenue is guaranteed	
based on the Transponder File provided.	

## 16.6 Settlement

Business Rule Description	Business Rule ID			
Funds received are deposited to Department bank accounts, recorded, and reconciled within the CBO.	353			
Customer Pre-Paid Customer Type Account funds are held in the Department's bank accounts until earned by the Originating Agencies.  354				
The Department is responsible for the transfer of funds to the Originating Agencies, Interoperable Agencies, and Parking Facilities.	3 3 1 355			

# 17 Interoperability

Business Rule Description	Business Rule ID
Transponders must be set in the same Configurable settings for Florida	
Interoperable Agencies. In addition, for Interoperable Agencies out of	
Florida, the Transponder list shall also include a Low Balance on a Customer	356
Account where the Account Balance is less than the low balance threshold	
for the Customer Account.	
Other Toll Facility Toll Transactions identified as belonging to interoperable	
agency customers must be sent to Florida Interoperable Agencies and	357
Interoperable Agencies for posting and revenue collection.	
Interoperable Agency Toll Transactions incurred by CBO customers must be	
Posted by the CBO to Pre-Paid Customer Type Accounts and revenue	358
distribution.	
The CBO must follow transaction Posting hierarchy for any Image-based Toll	
Transactions rejected by an Interoperable Agency for reason other than	359
duplicate.	
For Florida Interoperable Agencies, the CBO must send a complete updated	
list of Transponder data and license plate data to facilitate the resyncing of	260
its local Transponder data to the CBO in accordance with Department	360
policies and no less than every 24 hours.	

Business Rule Description	Business Rule ID
Non-revenue (including CTD) Transponders must be included in the list of	361
Transponder File distributed to Florida Interoperable Agencies only.	301
Plates associated to Accounts that are Non-revenue (including CTD), must be	
included in the list of License Plate Data distributed to Florida Interoperable	362
Agencies only.	
The CBO must send to FTE Toll Facilities, Other Toll Facilities, and Florida	
Interoperable Agencies in near real-time, and Interoperable Agencies daily,	
updated License Plate Data whenever any relevant update is made to the	
Pre-Paid Customer Type Account to which the license plate is associated.	
The frequency must be configurable Relevant updates include:	363
addition of a new plate subscription	
<ul> <li>update of the plate subscription period</li> </ul>	
<ul> <li>update of the plate jurisdictions</li> </ul>	
update of the plate type.	
The CBO will capture the financial activity and record amounts payable to	364
each Originating Agency.	304
Interoperable Non-Revenue Transponder-based Toll Transactions for which	
the Transponder is found to match an Account on the Interoperable	365
Agency's list configured as Non-Revenue at time of Toll Transaction	303
occurrence is sent to the interoperable agency and is stored in the CBO	
Disputes related to Interoperable Toll Transactions are systematically	
handled by the CBO based on configurable pre-approved dispute reasons	366
and dollar thresholds. Disputes not pre-approved must be tracked in the	300
CBO and routed for approval.	

## 17.1 Out-of-State Interoperability

The Department is interoperable with Georgia and North Carolina via the Southeast Interoperable Hub (SE Hub). In the future, the Department will connect the Southeast Interoperable Hub to other regional hubs to achieve nationwide tolling interoperability.

Business Rule Description	Business Rule ID					
At least once each day, the CBO must send a list of Transponder data to the	367					
Southeast Interoperable Hub and E-ZPass Interoperable Agencies.	307					
The list of Transponder data sent to the Southeast Interoperable Hub and E-						
ZPass Interoperable Agencies for reciprocity must provide the status of each						
Transponder as one of the following:						
<ul> <li>valid, and guaranteed</li> </ul>	368					
Low Balance, and guaranteed						
Invalid, not guaranteed, but customer information is provided						
<ul> <li>Invalid, not guaranteed, no customer information is provided</li> </ul>						

Business Rule Description	Business Rule ID
For a Transponder to be considered valid for toll payment guarantee on Interoperable Agency facilities, but in a low-balance state, the Transponder must be in an Active status, associated to an Active Account, the Account balance must be greater than zero. For SunPass Anonymous Customer Type Accounts, the account balance shall not be less than the low balance threshold.	369
For a plate to be considered valid for toll payment guarantee on Interoperable Agency facilities, the plate must satisfy the following criteria:  • Active subscription associated to an Account also in Active status.  • Associated to a SunPass Account with an Account balance above \$0.00.	370
If a Customer's Account balance falls below the Insufficient Balance Threshold, any Active Transponders on the Account will be set to Invalid.	371
The system will record the financial activity and create amounts payable to each of the Interoperable Agencies.	372
Disputes related to out-of-state interoperable Toll Transactions are systematically handled by the CBO based on configurable pre-approved dispute reasons and dollar thresholds. Disputes not pre-approved must be tracked in the CBO and routed for approval.	373

# 18. Appendices

# 18.1 Account Establishment

Account Types	IVR / CSC	WALK IN CENTER	USPS MAIL	Web Mobile App	ROV LOOK UP	Money Service Business	Authorized Department Staff Only	System Generated	Customer or Authorized User Generated
Personal	Х	Х	Х	Х					X
Business	Х	Х	Х	Х					X
Anonymous	Х	Х		Х		Х			X
Government							Х		X
Non-Revenue							Х		X
RCSP/ISP				Х			Х		X
Post-Paid TOLL- BY-PLATE					х			Х	
Pre-Paid TOLL- BY-PLATE	Х	Х		Х					х

# 18.2 Account Required Information

Required Information	SunPass Personal	SunPass Business	SunPass Anonymous	Govt	Non-Revenue	RCSP/ISP	Pre-Paid TOLL-BY- PLATE	Post-Paid TOLL- BY-PLATE
Name (First, Last)	R	R	0	R	R	R	R	R
Company Name	N/A	R	N/A	R	0	R	0	0
Secondary Contact Name	N/A	R	N/A	R	0	R	N/A	N/A
FEIN	N/A	R	N/A	N/A	N/A	R	N/A	N/A

Required Information	SunPass Personal	SunPass Business	SunPass Anonymous	Govt	Non-Revenue	RCSP/ISP	Pre-Paid TOLL-BY- PLATE	Post-Paid TOLL- BY-PLATE
PIN	0	0	R	0	0	N/A	N/A	N/A
Address	R	R	0	R	R	R	R	R
Address Type	R	R	0	R	R	R	R	R
Phone # **	R	R	0	R	R	R	0	0
Email Address***	0	0	0	R	R	R	0	N/A
Username*	0	0	0	0	0	0	0	N/A
Challenge Q & A*	0	0	0	0	0	0	0	N/A
Password*	0	0	0	0	0	0	0	N/A
SMS Opt-in	0	0	0	0	0	0	0	N/A
License Plate	0	0	0	R	R	R	R	R
Vehicle Make	0	0	0	R	R	R	R	R
Vehicle Model	0	0	0	R	R	R	R	R
Vehicle Year	0	0	0	R	R	R	R	R
Vehicle Effective Date	R	R	R	R	R	R	N/A	N/A
Active Transponders	R	R	R	R	R	R	N/A	N/A
Payment Method	R	R	R	R	N/A	R	0	N/A
Correspondence Delivery Method	R	R	0	R	R	R	R	R

R – Required, O – Optional, N/A - Not Applicable

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<sup>\*</sup> Required for customers managing account through website.

<sup>\*\*</sup> Cell phone number required for SMS opt-in.

\*\*\* Required if email is chosen as default correspondence type.

## 18.3 Account Maintenance Functions

Function	Web/Mobile Application	IVR
Query/Review Account balance	X	Х
Review payment history	X	Х
Query/View Toll Transactions	X	Х
Demographic updates	X	
Add, modify or end date vehicle(s) information	X	
Post payments and reversals	X	Х
Close accounts	X	Х
Change transponder status	X	Х
Request additional transponders	X	Х
Update replenishment/payment card information	X	Х
Update statement generation method	X	
PIN requests/updates		Х
Password requests/updates	X	
Username requests	X	
Customer Type conversion	X	
Opt-in/out of mobile alerts	X	Х
Opt-in/out of customer surveys	X	Х

## 18.4 Customer Correspondence

Correspondence Type	Mail	Email	SMS	Criteria for Generation
Payment Card Decline -	0	D	0	Correspondence is sent when payment card has been declined during Account
Replenishment				replenishment
Payment Card Update	0	D	0	Correspondence is sent when payment card update (add or remove) has been
				made on Account

Correspondence Type	Mail	Email	SMS	Criteria for Generation
Payment Card Expiration	0	D	0	Correspondence is sent 25 days prior to payment card expiring
Inactive Account Warning	0	D	0	Correspondence is sent when customer has had no activity for a 12-month period
Inactive Account Notice	D	0	N/A	Correspondence is sent when an Account balance of more than XX remains after
(Unclaimed Property)				XXX days of no customer activity
Low Balance	0	D	0	Correspondence is sent when Account balance has reached below Account
				balance threshold
PIN Reminder	0	D	0	Correspondence is sent in response to requests for a PIN
Password Reminder	0	D	0	Correspondence is sent in response to web request for password
Statement (no balance due)	0	D	N/A	Correspondence is sent when there has been toll activity during a statement period
Statement (balance due)	D	0	0	Correspondence is sent when there has been toll activity during a statement period
Non-Sufficient Funds	D	0	0	Correspondence is sent when payment in the form or a check is returned for insufficient funds
Open Account	0	D	0	Correspondence is sent when an Account is opened
Account Closure (with Refund)	D	0	N/A	Correspondence and refund are sent when Account is closed, and refund is due
Account Closure (no refund)	0	D	0	Correspondence is sent when Account is closed
Account Refund Notice	0	D	0	Correspondence is sent when a refund has been issued on the Account.
Payment Confirmation	0	D	N/A	Correspondence is sent when payment is made to Account
New Enrollment	0	D	0	Correspondence is sent when customer has opened a new Account
Transponder Confirmation	0	D	0	Correspondence is sent when a transponder has been activated
Vehicle Update	0	D	0	Correspondence is sent when vehicle update (add or remove) has been made on
				Account
Toll Dispute	0	D	0	Correspondence is sent in response to a customer dispute
First Invoice	D	0	0	Correspondence is sent within 14 days of Account opening or on monthly
				Anniversary Date if there is an Account balance
Second Invoice	D	0	0	Correspondence is sent on monthly Anniversary Date if there is an Account balance 30 days past due

## Attachment 1 – Business Rules

Correspondence Type	Mail	Email	SMS	Criteria for Generation			
Courtesy Collections Notice	D	0	0	Correspondence is sent 14 days prior to sending Account to third party collections			
Collections D N/A N/A			N/A	Correspondence is sent when an Account is XX days past due with an Account balance of more than XX			
Excessive Image-based Toll Notice	N/A	D	0	Correspondence is sent when Account has met the maximum allowable Image- based Toll Transactions for a month on a specific vehicle.			
Registration Stop	D	N/A	N/A	Correspondence is sent when a vehicle on an Account is XX past due with a balance due of more than XX for Toll Transactions.			

D= Default, O= Optional, N/A = Not Applicable



# State of Florida Department of Transportation, Florida's Tumpike Enterprise

Attachment 2
Commercial Back Office - Security Policies

DOT-ITN-21-8026-SM

FPID: 446410-1-93-01

Due to the sensitive material contained in Attachment 2, Respondents shall complete Form 11 – Exempt Documents and submit to <a href="windy.spatafora@dot.state.fl.us">windy.spatafora@dot.state.fl.us</a>. Once received and reviewed, the Department shall send the documents to the Respondent through a secure file transfer application.



# State of Florida Department of Transportation, Florida's Tumpike Enterprise

Attachment 3
Commercial Back Office – Data Migration Plan

DOT-ITN-21-8026-SM

FPID: 446410-1-93-01

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## Attachment 3 – Data Migration Plan

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## 1 Introduction

The purpose of this Data Migration Plan is to outline the overall Department data migration framework and necessary information required to effectively migrate legacy data and define the testing scope, testing approach, and quality assurance strategy for data migration. The CBO Vendor shall provide the detailed data migration document adhering to the Requirements and guidelines provided in this document.

The following Data Migration Plan details shall be considered standard framework, as such, the Vendor will be required to define, refine, edit, add, or propose alternative approaches to the plan. Any edit or proposed change shall be justified based on efficiencies, cost reduction, increase reliability and quality controls maintaining at all times compliance with the Department Data security and Data privacy requirements. The Department reserves the right to make final decision at its own discretion regarding final Data Migration Plan structure and requirements. The Vendor shall address all Requirements in this plan in the Data Migration Plan and Master Test Plan as Proposed by the Vendor and approved by the Department.

## 2 Goals for Data Migration

The Data must address and treat data as another Department asset at all times throughout the life of the contract and as such, it needs to be maintained, curated and properly migrated from the Department legacy system to the proposed CBO solution, completely and accurately, with no dropped or incomplete records, and no data fields that fail validation or other quality controls in the target CBO environment. The Key goals for the Data Migration for the Department are listed below.

- The Data Migration Plan must be executed and completed no later than the dates approved in the Project Schedule or other dates as approved by the Department.
- The Data Migration Plan should be submitted and approved by the Department prior to execution of the plan.
- Data integrity and security shall be maintained at all times throughout the migration process following the best practices outlined in this Data Migration Plan.
- The Department will establish a clear delineation between Department activities and responsibilities and Vendor related tasks and requirements during Phase 1.
- The Data Migration Plan defines governance and quality control processes necessary to ensure timely and accurate migration in conjunction with the associated documentation, data mapping and other deliverables that will allow for the proper validation, Department visibility and control processes.

## 3 Scope for Data Migration

The following is included in the scope for data migration:

- **Development of a data migration schedule**. Vendor shall define the data migration schedule in collaboration with the Department to ensure all tasks are accounted for and appropriate roles and responsibilities are assigned.
- Data cleanup in legacy system. Identification, execution, and reconciliation of data cleanup on the legacy system. This cleanup activity will be performed on the legacy system production environment prior to the migration activities to the Department staging area. This task will be the responsibility of the Department.
- Data migration to the Department staging area. The Department staging area is
  defined as the storage solution, either on premise or Cloud based used to extract
  cleaned up legacy data. The Department will be responsible for the data migration
  activities from the legacy system into the Department staging area. The CBO vendor
  shall be responsible for the subsequent data migration activities.
- Classification of the data based upon various factors and attributes such as user data, PCI data, PII data, regulatory data, data required to be retained although not migrated to the CBO environment and other factors defined during data mapping. Defining data handling procedures so that every class of data can be handled in the Department's pre-approved manner.
- Data adaptation. The Vendor shall be responsible for defining and executing further
  data cleanup activities over the Department staging area repository that might be
  necessary to fully prepare the legacy data for the CBO solution.
- Definition of Data source systems and associated strategy for the migration considering final destination location. The Department will develop the initial source system Data Definition. The Vendor shall be involved and responsible of complementing that definition initially provided by the Department with any required addition due to the CBO requirements and specs. This analysis shall consider and define both data sets to be migrated and those to be excluded from the migration process.
- Scripts, queries, code, processes. Vendor shall be responsible for the definition of the
  necessary scripts, queries, system code, and processes to be implemented as part of
  the data migration from the Department staging environment and into the CBO
  solution. The Department will review and validate prior to execution.
- **Definition of the data selection** and cut over criteria to adhere to the Department Data Retention Requirements.
- Development of sensitive data migration approach with adherence to PCI Requirements and Department data security and privacy policies.
- Gap analysis and Data Mapping. Vendor shall be responsible for the creation of the field-level source to destination mappings and associated Gap analysis between the Department staging environment and the proposed CBO solution.
- Extraction of legacy data using data-extract specification formats and translation of data before loading into the CBO solution. This activity shall be the Vendor's responsibility.

- Cycles and environments. Vendor shall provide the Department with the necessary design regarding data migration cycles and data migration environments that best adheres to data security requirements, data transformation needs and technical requirements of the proposed CBO solution.
- Validation plan legacy system. The Department shall be responsible for the validation and verification plan using test cases and reconciliation reports related to the legacy system cleanup activities. The Department will be responsible for the definition, coordination and of such plan and activities on the legacy system.
- Validation plan Staging environment and CBO. Vendor shall be responsible for the
  development of the validation and verification plan using test cases and reconciliation
  reports that might be necessary at the staging environment in order to prepare the
  data for the proposed CBO solution. The Department will validate and approve the
  proposed validation plan. Once the validation scripts are executed the Department
  will validate and approve the results.
- Exceptions. Certain data types will require a specific approach regarding the migration strategy into the CBO environment. As outlined in this document in subsequent sections, sensitive data will be required to follow a controlled and secured approach. Payment data tokens will need to be retrieved directly from the legacy system. The Vendor can propose to the Department efficiencies and improvements in the approach if they follow the security requirements outlined in this document.

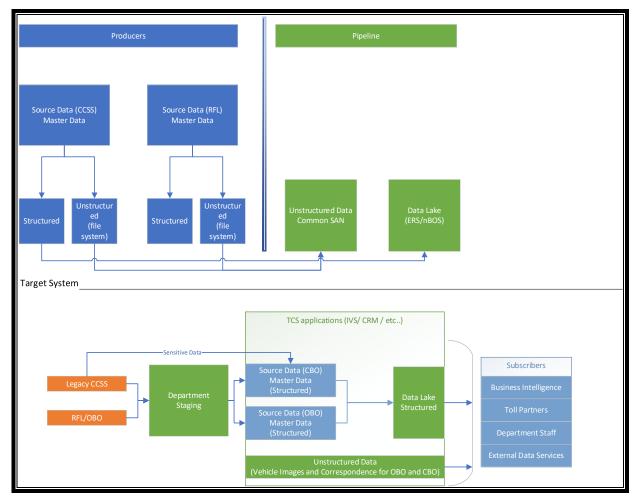
## 4 Assumptions and definitions

The following assumptions and definitions are part of the data migration:

- The Department will create and make available to the Vendor a data staging environment. This environment is defined as the necessary storage location, either on-premises or cloud resources and associated structure database files and instances, unstructured files and folders and supporting operating systems necessary to host all legacy data under the scope of the data migration plan.
- The data migration of the legacy system into the Department staging environment will be initiated and completed by the Department.
- The legacy data migration will be initiated from the Department staging environment and into the CBO staging environment and will be the Vendor responsibility.
- The legacy system will not be available after the CBO go-live and backup legacy data will be maintained at the Department designated storage location.
- If extracted data does not fit the transaction mapping rules, the Department will provide guidelines for exceptions.
- A complete set of production data will be migrated at the designated check point once validation of the initial set is complete.
- Data at Department staging environment will include both level 2 (encrypted) and level 3 data as defined section 8 of this document.

- The Department will provide updated data dictionary (including tables/views) and Entity Relationship Diagram (ERD) diagrams, workflow definition and data transformation rules for the Department. The data dictionary shall include a list of all tables, field definitions including primary and foreign key relationships.
- Account links (or merge of accounts) will be created during migration, based on new Account linking (or merging) rules.
- The Department will assist the Vendor with the validation a copy of the source legacy data according to the agreed-upon data mapping ICD and provide it to the new CBO Vendor to perform the data migration process. The Vendor shall propose such mapping for unstructured and structure data from the Department staging area to the CBO for the Department review and approval.
- The CBO Vendor shall extract level 1 data (encrypted) directly from the legacy System database via secured connection (note: level 1 data does not get stored in the Department staging area). Vendor shall propose any other available alternative for level 1 data migration.
- The Vendor shall verify data, both at database level and application level, to ensure successful transfer of the legacy data to the target CBO environment.
- The Vendor shall run reconciliation reports and share the reports with the Department.

# 5 Data Architecture and Pipeline



- The Department will coordinate and execute the necessary data views, uploads, queries and scripts in order to replicate the legacy data into the Department's staging environment. The Department will also be responsible for the implementation and execution of the necessary quality assurance processes to ensure consistency in replicated data stored at the designated end point location.
- An additional environment will be available and produced by the Department to host the
  Department Data Lake. This data lake will contain the structured data that will be used
  for reporting and analytical data transfers from CBO System.
- The Department will develop required data views to replicate the data from the existing OBO into the Department's staging environment and implement the necessary quality assurance processes to ensure consistency in replicated data stored at the designated end point location. This OBO staging environment will be made available to facilitate the legacy-CBO transition, the final design and scope will be agreed upon with the Vendor based on CBO Requirements and Transition Plan.

- Toll Transaction images will be migrated from the legacy system and image review source system to an unstructured Department designated storage location that will be either storage area network (SAN) or Cloud resources. Only links to the images will be migrated to the CBO system. The Department desires to maintain a single repository for unstructured data that is shared and accessed across several systems, including CBO.
- At least 6 months' (exact timeframe to be finalized prior to execution) worth of files from CBO are planned to be stored in the designated storage location that will be either storage area network (SAN) or Cloud resources. Files are migrated and stored just as an additional measure for any dispute or data mismatch.
- All file transfers shall be conducted through Secured File Transfer Protocol (SFTP) or other
  approved secure method and shall require username and password to access the file at
  the receiving end. The Vendor can propose alternative methods that comply with the
  security requirements and might add efficiencies to the process.

## 6 Data Cleanup

Prior to initiating the migration into the CBO environment, two data cleanup activities shall take place.

## 6.1 Department Driven Data Cleanup activities

Data cleanup shall take place on the legacy system data to ensure duplicate, bad, inactivate Account, orphan and inaccurate data is not migrated to the Department staging environment and subsequent CBO System. Data cleanup shall first be initiated by the Department on the legacy production data for any Financial Transaction cleanup such as transaction write-off, return of unprocessed transactions or any cleanup of potential duplicate transactions. Department will work with Other Toll Facilities for purging of data associated with the Agencies.

Non-financial data clean up activity shall be initiated on the Department staging environment and shall be the Department's responsibility.

At a minimum, the data clean up shall include the following cleanup activities:

- Cleanup of inactive /pending Accounts in accordance with the Data Retention Requirements.
- Cleanup of bad email addresses, where an external address provider returns the address as bad email address.
- Cleanup of bad addresses includes undeliverable mail and when an external address verification provider returns it as bad address.
- The data cleanup tests will be conducted and validated by the CCSS Vendor in the
  Department staging environment and approval for the cleanup validations to be
  provided by designated Department staff.

## 6.2 Vendor data cleanup activities

Data cleanup activities over the staging environment that will be required for the necessary adaptation, transformation or correction or data in order to prepare the data for the migration into the CBO environment shall be the responsibility of the Vendor.

The Vendor shall define and provide the Department with the detailed plan regarding the cleanup activities to be applied on the staging environment repository necessary to adapt and prepare the data for the migration into the CBO environment.

The following are the general considerations regarding Vendor driven data cleanup activities.

- Data cleanup plan shall target the necessary data transformations or adaptations within the staging environment in preparation for the migration into the CBO environment.
- The Department will be responsible for the necessary staging area backups on its own environments before any transformation or vendor driven cleanup activity takes place. Vendor shall inform the Department in case any restore process might need to be executed throughout the data migration process providing with appropriate notice and allowing for the necessary time for the execution of that restore process.
- Data cleanup activities shall be designed targeting efficiencies that will positively impact the data migration process. Efficiencies such as bandwidth requirement reductions, total runtime improvements, simplification of batch and re-current data refresh into the CBO environment, etc.
- The Vendor shall suggest to the Department the addition or creation of data views, or tables within the data staging environment necessary for the data cleanup process. The Department will be responsible for the execution of such requests within the Department staging environment. If specific arrangements are needed, the Vendor will be required to provide the Department with the necessary scripts for the execution of requested additions into the staging environment.

# 7 Data Retention Requirements

Data from the legacy system into the CBO environment will be migrated as per Department Data Retention Requirements. Refer to the Exhibit E – CBO Requirements for Data Retention Requirements.

Any data existing in the legacy system older than the retention schedule shall not be migrated to the CBO System. The data not scheduled to be migrated will be archived and backed up. This archived and backed up data will be maintained by the Department at the staging environment or other designated location.

## 8 Data and Security Controls

To ensure security vulnerabilities are not being introduced into the migrated system, the Legacy data is be categorized into three different levels. The data categories defined below are independent of the format (structured or unstructured) and location (on-premise, cloud) where that data resides:

#### 8.1 Level 1 Data

Level 1 Data is defined as highly sensitive data requiring additional protection layers when manipulated to ensure compliance with the Department data security requirements.

The information that falls into this level 1 Data category includes:

- Payment Card details (tokens)
- Automated Clearing House (ACH) information (tokens)
- Customer Login credentials
  - PINs
  - Passwords
  - Security questions and security answers (used to retrieve username/password)

#### 8.2 Level 2 Data

Level 2 Data is defined as sensitive data requiring additional protection layers when manipulated to ensure compliance with the Department data security and privacy requirements.

Personal Identifiable Information (PII) data falls under level 2 category.

The following customer demographic information associated to the Customer Account, including personal and commercial accounts, retailer and external business partners falls under the PII classification and as such it shall be considered Level 2 data for:

- Account Number
- First Name
- Middle Name
- Last Name
- Suffix
- Address
  - address1
  - o address2
  - o city
  - state
  - country

- o zip
- o zip Plus
- Driver License Number
- Driver License State
- Driver License County
- Tax Identification or Federal Identification Number
- Date of Birth
- Gender
- Company Name and Doing Business As Name (DBA)
- Title
- Email Address(es)
- Phone Number(s)
- Fax Number
- Employee Data

Level 2 also includes employee data. Department employee data consists of employee names, system roles, configuration, access rights and logs of employee access.

#### 8.3 Level 3 Data

All other legacy system data that does not fall under level 1 & level 2 data is treated as level 3 data.

## 8.4 Encryption & Decryption

The storage and retrieval process shall include encryption and decryption pertaining to level 1 and level 2 data. This should involve usage of encryption algorithms to ensure maximum security of the data. The Department will be responsible for the initial encryption of the data in the Department staging environment and of providing the CBO Vendor with the appropriate Keys.

The Vendor shall be responsible for implementing the appropriate protocols to control the access and the necessary applications for encryption/decryption of the data during the data migration plan at any of its stages or phases.

Level 3 data does not require special protection and data can be migrated/transmitted as clear text without the need for encryption/decryption.

## 8.5 User Access Controls

Data migration from the legacy system into the Department staging area shall be executed only by Department authorized privileged user(s) and through a secured connection.

The Vendor shall establish similar user access controls and restrict access to the Department staging area to authorized privileged user(s) only. The Vendor shall ensure

that connection to the Department staging environment or sensitive data is done through a secured connection.

Once the data is decrypted, the Vendor shall maintain an audit log for all the users that have access to level 1 or level 2 data in the unmasked form. The Vendor shall provide Audit logs to the Department every 90 calendar days at a minimum until Data Migration is complete. The Department will retain the right to request additional updates if necessary. The Vendor shall commit to provide with the required information in a reasonable time upon request.

The data migration shall adhere to all PCI Requirements and security controls followed by the Department. Refer to the Exhibit E – CBO Requirements for data security Requirements details.

## 9 Mappings, Gap Analysis and Translations

The first step in initiating the data migration activities is to define the data mapping pipeline. The Department will develop a migration of the domain areas and map the fields based on the business needs. This baseline document will be used as business fields and data required for the Vendor.

The Vendor shall update the data mapping document to include additional fields required to meet all Requirements.

The Vendor shall also be responsible to generate the document containing the transformation and mapping scripts, based on the Department-provided transformation rules, to import the extracted legacy data to the new CBO database. It is required for this mapping document to also include a data dictionary that describes how fields are used in the legacy system and how it will be used in the CBO environment from a business and system perspectives.

The data mapping will be finalized with the Vendor as part of combined collaboration design sessions between the Department and the Vendor.

The following shall be included, at a minimum, in the Data Mapping Document:

- Define legacy tables and fields that need to be migrated along with detailed information of various entities, Account types and data categories.
- Define the source to target high-level mappings for each category of data or content and verify that the desired type has been defined in the destination system.
- Define data field Requirements that include field names, field type, mandatory fields, and valid value list.

- If a field requires transformation, the transformation formula or rule shall be defined.
- Data dictionary including meta fields defined for business and technical operations and how the fields are used in the legacy system and the CBO environment.
- A thorough gap analysis between the legacy system and the CBO to identify and quantify data gaps shall be provided by the Vendor in collaboration with the Department. An approach for alternatives in lieu of missing fields that might not be supported in the CBO environment shall be provided by the Vendor as part of the collaboration efforts with the Department and designated collaborators.

## 9.1 Domain Areas for Data Mappings and Migration

The data and information to be transferred is broadly categorized as:

- Customer Account demographics is defined as any identifier used in the determination of the Account holder including but not limited to name, address, email and phone number.
- Customer Account as defined in Exhibit G Definitions and Acronyms.
- Toll Transactions as defined in Exhibit G Definitions and Acronyms.
- Toll Transactions marked as dismissed due to bankruptcy or deceased account holder that have not yet been written-off. Accounts marked as in bankruptcy status should be migrated with their original bankruptcy filing date.
- Toll Transactions marked as in collections should also be migrated with their date sent to collections. In collections status refers to third party collection agencies that collaborate with the Department for the collection of outstanding Toll Transactions.
- Financial History is defined as all Financial Transactions summaries or details associated with credits, debits, adjustments, or reversals in the legacy system.
- Non-Financial History is defined as Case information, customer notes included in the Account used to research the history of the Account and manage inquires and disputes.
- Invoice history is defined as all invoices sent along with invoice number, invoice date, mail date, delivery status, start date, end date, due date, opening balance, date of escalation, new toll activity, new fee activity, credits, invoice closing balance.
- Department employee data is defined as system roles, configuration, access rights and login credentials of Department employees.
- Transponder Inventory is defined as Transponder status, identification, and current and final disposition of the Transponder.
- Transponder data including Transponder history (ex. changes in status, date of status change, Transponder number, associated customer Account ID).
- Vehicle history (by plate) including changes in ROV and Customer Account, as applicable.

- Retailers is defined as retail partners demographic information, billing, and associated transactions sent by the retailer or sent to the retailer from the legacy system.
- Static data is defined as lookup and reference tables.
- SunPass login information PIN & passwords, Payment Card tokens and ACH information
- Images, statements, invoices, and other correspondence sent to the customer or received by the customer are defined as unstructured data. This unstructured data will be stored in the Department designated storage location, this can include onpremises storage array solutions or Cloud services.

## 9.1.1 Data Not Considered for Migration

The Department will develop a detailed definition and structure of Data that will not be considered for the Migration.

Data not considered for migration, will not require the Vendor's intervention for review, edit or treatment even if such data might still be available at the Department staging environment.

Examples of data on the current legacy system that will not be considered for migration are provided as follows. These examples are not to be considered final; they might be subject to change as per the Department final definition.

- Toll Transactions, Financial and Non-Financial Transactions/data older than the years specified in the Data Retention Requirements for the Department Toll Collection System will not be migrated into the CBO System. Refer to the Exhibit E CBO Requirements for Data Retention Requirements details.
- Zero balance TBP Accounts (with no toll and financial activity within N days) will not be migrated into the CBO System. N will be determined by Department during Phase 1.
- Accounts with less than \$0.25 remaining total balance and accounts without activity for the last 3 years may not be migrated into the CBO System.
- Account with only an Admin Fee or Violation Fee remaining will not be migrated into the CBO System.

# 10 Validation and Testing Approach for Data Migration

Quality controls, Quality assurance, governance structure, validation and test will be required as part of the data migration plan to be developed by the Vendor.

The data migration tests shall be conducted by the Vendor in the proposed environments.

Quality control and assurance with the associated validation and testing will be done prior, during and after any migrations to ensure that the data is successfully migrated from the existing legacy system and into the target CBO System.

A validation process shall be established over the new system migrated data to ensure no loss of data is detected, data integrity is maintained, and appropriate mapping design is effectively

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executed. This validation process will be conducted, while ensuring that all the specified functional and non-functional aspects of the application are met post-migration.

The following are the key objectives of the testing:

- To ensure source to destination mappings are working accurately as specified in the Data Mapping Document.
- To ensure the data flow between different components and interfaces does not negatively affect any production environment.
- Testing, validation, and quality controls must be performed both before and after the data migration.
- Controls shall be applicable and replicable for all data migration steps and cycles to ensure consistent accuracy and data integrity is maintained.
- Provide with the necessary information regarding bandwidth and performance requirements associated to the data migration strategy. The results of these tests shall be utilized to update, if necessary, the proposed plan and data migration strategy to ensure risks are mitigated and timelines are achieved according to the Exhibit E – CBO Requirements.
- Appropriate governance and change management controls are established in accordance with Exhibit E – CBO Requirements.
- Test results and related deliverables are provided to the Department for review and approval.

## 10.1 Pre-Migration Testing

The following activities shall be performed as part of premigration testing:

- Verify specific queries being used for the migration.
- Use the source to destination mappings, test the source data against the Requirements of the destination system.
- Test the fields that uniquely link source and target records and ensure that there is a definitive mapping between the data sets.
- Test source and target system connectivity.
- Account for the number of source records and other source parameters for comparison post migration.
- Monitor for any exceptions and perform data cleanup for exceptions identified.
- Documentation of exception and the resolution of exceptions should be maintained.
- Review general ledger trial balance and associated reconciliations for comparison post migration.
- Evaluate system performance, bandwidth requirements and overall time required per record in order to consolidate and update accordingly the data migration plan.
- Identify potential flaws or opportunities for improvement that can be applied to the data migration strategy, including scripts, query optimizations, staging environment data preparation/adaptation activities and other factors that can mitigate risks and

improve overall performance and reliability of the data migration strategy and processes.

## **10.2 Post Migration Testing**

The following activities shall be performed as part of postmigration testing:

- Validate the legacy data is migrated to the Department staging environment and to the new CBO application by comparing the number of records between the legacy and the new application for each of the table and views in the database.
- Validate the data integrity and availability in the CBO environment.
- Validate that the data mapping and transformations designed as part of the data migration plan have been successfully applied.
- Identify and use of automatic tools for the validation and scrubbing of data in the CBO environment.
- Verify data, both at database level and application level, to ensure successful transfer
  of the legacy data into the target CBO environment. Validation should also be
  performed at the general ledger Account level. Comparison of the general ledger
  amounts pre-migration and post-migration should be performed. Discrepancies and
  subsequent resolution of any discrepancies should be documented, and key
  stakeholders should be informed.
- Identify any potential error, inconsistency, mismatched record, or issues associated with the migration process and the final state of the data within the CBO environment. All issues shall be captured, documented, and reported to the Department. A mitigation and action plan shall be developed by the Vendor and provided to the Department targeting all issues detected and associated resolution strategy.
- Test shall include manual spot checks into accounts, transaction, and financial details to ensure a consistent quality control and quality assurance process is applied. The Department might perform additional spot check activities.

## 10.3 Roll Back Testing

The Vendor shall define a roll back strategy to restore any deployment and releases in case of a failure in order to revert the environment to the initial state before the intervention.

In addition to the testing Phases above, the rollback testing shall also be performed at the end of the Test Migration Cycle 2 as a protection in case of any major deployment failure.

Test scenarios shall be defined by the Vendor targeting the validation of the rollback mechanisms.

The total time required to resume back to initial state also needs to be recorded and reported in the test results.

The roll back testing scripts and mechanism shall be developed and executed by the CBO Vendor in collaboration with the Department. Roll back testing shall be performed both at the data base level and application level.

#### 10.4 Testing Deliverables

The following artifacts shall be produced as part of data migration testing to be included in the Data Migration Plan and Master Test Plan. The Vendor shall work with the Department to allocate the below deliverables

## 10.4.1 Test Strategy Document

The Vendor shall create a test strategy document that outlines the overall quality assurance framework and necessary information required to effectively define the testing scope, testing approach and quality assurance strategy for data migration.

At a minimum, the test strategy shall include the following:

- Testing type details (Integration test, functional test, regression test etc.)
- Testing environment and build deployment details.
- Communication protocol with key stakeholders
- Department and/or third-party responsibilities
- Templates for deliverables associated with test results and defects reporting data.
- Location of test results and defects data To be reviewed and approved by the Department.
- Testing tools
- Testing resources and test schedule
- Test cycle details
- Entry and exit criteria. The entry and exit criteria shall specify the conditions
  under which testing is to begin and how to determine when it is completed, or
  when continued execution provides no further benefit. Additionally, it shall
  specify under what conditions testing should be suspended or prematurely
  ended and under what conditions suspended testing might be resumed.

## 10.5 Defect Reporting

Defects shall be recorded in a Vendor-proposed and Department-approved defect tracking tool. The Vendor shall provide the Department with direct access to the defect tracking tool and to all defect information recorded within and related to the CBO scope.

Defect priorities shall be set as follows or with equivalent description using the Priority levels as defined in Exhibit A – Scope of Services. All defects that are assigned a Priority 1 or 2 must be resolved and verified prior to being released to production. If not repaired prior to release. Priority 3 defects will be repaired in a subsequent release.

The Department will retain the capacity to upgrade or downgrade priority levels assigned by the Vendor.

Overall defects and associated status shall be reported to the Department Project Manager and incorporated in update reports. The Vendor shall structure the necessary and periodic Defect Review meetings with the Department to assess overall status, defect details and action plan as well as priority levels.

The Defect review meetings shall include the Department Representatives, the Vendor Lead Developer, the Vendor Lead Architect, Vendor Test Lead, and any other team members as determined by the Vendor and the Department.

#### 10.5.1 Smoke Testing

Where applicable a smoke test shall be performed by the Vendor. A smoke test is defined as the preliminary and limited testing targeting to reveal simple failures severe enough to, for example, reject a prospective software release.

Smoke tests are a subset of test cases that cover the most important functionality of a component or system, used to aid assessment of whether main functions of the software appear to work correctly.

Vendor shall incorporate and report to the Department any need or instance requiring a smoke test as part of the data migration plan.

#### 10.5.1.1 Regression Testing

Selective retesting of a system or component shall be done by the CBO Vendor to verify that any modifications or updates to the migration scripts have not caused unintended effects and that the solution or component still complies with its specified data mapping Requirements. Priority shall be given to regression testing of the most impactful or higher risk elements of the data migration. The following are a few entries which are considered as high-risk areas:

- Account details
- Address/contact view
- Toll details

- Financial details
- Parking Transactions
- Invoice information

#### 10.5.2 Test Cases and Scenarios Document

The Vendor will be responsible for creating test cases (test scenario + test steps) using the approved mapping and data migration design documents. Both test scenarios and steps shall be documented and reviewed by the Vendor representatives and the Department. Vendor shall be responsible for coordinating the appropriate collaboration sessions with the Department representatives in order to gain final approval prior to execution.

#### 10.5.2.1 Test Case Automation

To ensure the speed and efficiency levels are not comprised, the data migration test cases are recommended to be automated using the Vendor's selected automation tool.

At a minimum, the automation shall be done for test case/scenarios that are iterative in nature in each data migration cycle as they can be error-prone when performed manually.

For exceptional cases where test case automation may not be feasible, a stratified, random sampling may be used based on the set of details and guidelines developed in collaboration with and approved by the Department.

#### 10.5.3 Sensitive Data Testing

Data Migration test cycles shall use mocked Payment Card token information, except in the production cycle.

Data Migration test cycles shall use mocked PII information, except in the production cycle.

#### 10.5.4 Reconciliation Matrix and Reports

The activities listed below shall be performed against migrated data in each test cycle extract:

- Data count verification (Legacy counts, staging count/production count).
- Generation of validation reports that shall be shared with the Department.
- General ledger and report verification.
- The test validation report shall be produced after completing the testing and should cover the report on the summary of the various tests/scenarios carried out as part of various Phases of migration with the result status (pass/fail) and the test logs.
- Report shall clearly indicate total time for migration and associated performance.

 In addition to the above information, any observations/recommendations shall be reported.

## 10.5.4.1 Sample Reconciliation Matrix

#### **Reconciliation Matrix**

Migration Run Date: 02/23/2021 (Tuesday)

Enviornment	Count of total toll transactions	Count of total ETC transactions	Count of total violation transactions	Count of total Exempt transactions
FTE Staging	459,000	300,000	100,000	59,000
nBOS Staging	459,000	300,000	100,000	59,000
nBOS (Pre/Prod)	459,000	300,000	100,000	59,000
FTE - nBOS staging Variance	0	0	0	0
nBOS staging - nBOS (Production) Variance	0	0	0	0

Total Time for Migration : Total time to migrate 459000 records 3 minutes 3 minutes

#### **Test Cases Sample**

Test case group	Test Case Scenario	Enviornment	Owner	Variance	Details of Variance	Tet Case Status	Comments
Toll Transactions	Validate count of total UFMs	nBOS Staging	nBOS Vendor	0		Passed	
Toll Transactions	Validate count of total ETC UFMs	nBOS Staging	nBOS Vendor	0		Passed	
Toll Transactions	Validate count of total violator UFMs	nBOS Staging	nBOS Vendor	0		Passed	
Toll Transactions	Validate count of total Exempt UFMs	nBOS Staging	nBOS Vendor	0		Passed	
Toll Transactions	Validate count of total UFMs	nBOS PROD	nBOS Vendor	0		Passed	
Toll Transactions	Validate count of total ETC UFMs	nBOS PROD	nBOS Vendor	0		Passed	
Toll Transactions	Validate count of total violator UFMs	nBOS PROD	nBOS Vendor	0		Passed	
Toll Transactions	Validate count of total Exempt UEMs	nBOS PROD	nBOS Vendor	0		Passed	

## 10.6 User Acceptance Testing with Migrated Data

User Acceptance Testing (UAT) shall include the Department business representatives and other Department contractors as determined by the Department to allow for direct interaction with the legacy data in the destination system prior to production release. User Acceptance Testing is key to assess if the system can support day-to-day operations, user scenarios, and ensure the system does not contain any anomalies, inconsistencies, or other problems related to the data migration and test procedures.

## UAT shall only begin:

- If there are no active system outages or system impacting defects, Priority 1-High or Priority 2-Medium risk defects that were detected during migration testing cycle.
- Approval received from Department for the completion of data migration testing.
- No production systems (legacy or CBO) are being affected.

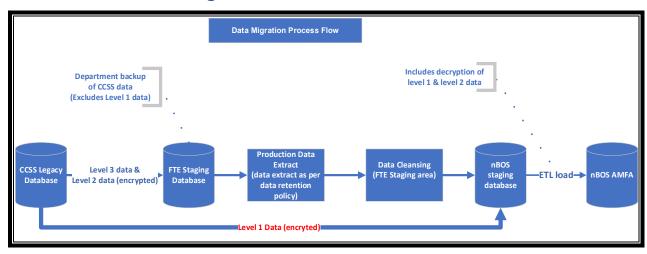
In addition to the above-described validation and testing approach, the Vendor shall adhere to the testing and testing validation methodology and tools to be utilized for data migration specified in Exhibit A – Scope of Services.

## 11 Data Migration Design

The Vendor shall deliver a detailed Data Migration Design Document that includes overall data design strategy on extraction, transformation, and load (ETL) along with the architectural data flows between the current legacy and CBO Systems. Design document shall be delivered as part of data migration plan which is due in Phase 1.

Data mappings and transformation rules can be added as an appendix to the design document.

# 12 Process for Data Migration



The Vendor shall detail within the Data migration plan, the data migration process and cycles adhering to the Department requirements.

The Vendor shall provide with a Data migration Tasks RACI Matrix as per below.

Deliverable or Task	Department	CBO Vendor (new ITN Vendor)
Legacy Data/Views/ERD diagram	R	I
Department data staging area setup for legacy data and views	R	I
Legacy system data cleansing tasks	R	I

Staging environment data cleansing tasks	I – S	R
Preliminary and Final Design Documentation and ICDs for legacy to CBO with database-level mappings	S	R
Data Migration Plan	1	R
Test plan and test scenarios		R
Data migration to new CBO Vendor staging environment	S	R
Data migration to new CBO Vendor production environment	S	R
Approval for Go-Live	А	I

- R Responsible.
- A Accountable.
- I Informed.
- S Support.

### 12.1 Data Migration Cycles

The Vendor shall be responsible for defining the Data Migration Cycles as part of the Data Migration Plan.

The Department understands that the Vendor will define at a minimum the following Data Migration Cycles.

Development Migration Cycle 0:

- This cycle includes legacy data extraction and validation of data migration scripts (transformation, load & validation).
- This cycle requires a complete set of last 1 year of legacy production data.
- It includes validation, identification and update to the mapping document as needed for any issues.

## Test Data Migration Cycle 1:

- Data Formats validation.
- Identify and document data migration issues and plan for potential fixes.

Perform 3+ years of incremental data loads.

#### Test Data Migration Cycle 2:

- Validate data migration scripts for data formats.
- Validate migrated data from the application.
  - This cycle requires a complete set of last 5 years of legacy production data or cutover period defined based on Department Data Retention requirements. Refer to the Exhibit E – CBO Requirements for Data Retention Requirements details.
- Identify and document data migration issues and plan for potential fixes.
- Perform incremental extracts thereafter.

#### 12.2 Data Migration Process

The data migration process will extract data from the cleansed Department staging environment as per the format defined in the extraction ICD and into the CBO environment.

The data migration is assumed to have multiple cycles of data uploads. Multiple data upload cycles, including test followed by final data upload for production data load and System cutover load. The test data uploads will utilize production data, to test and validate the accuracy and performance of data migration activities.

The data migration shall consist of:

- Full Upload into the CBO environment.
- Incremental Upload into the CBO environment.

#### 12.2.1 Full Upload

Full data upload consists of the legacy data that will be extracted and uploaded up to the cutover date. This method extracts all available data at the point of extraction from the source data stores every time this extract is run. This method will be used for the first-time upload and, potentially, each time the target needs to be completely rebuilt.

#### 12.2.2 Incremental Upload

This method uploads into the CBO environment data that has been freshly created or modified after the last complete upload. This is used to update data that has changed in the legacy system since the last complete upload/migration. This method is generally used for migration of transaction information that has been received at the legacy system since the last upload cycle.

Incremental data loads (data changed since last full conversion) will be added on a periodic basis.

Every time migration begins, the migration process will take the reference dates. The start date will be the last upload date, and the end date will be the current date/last complete business date.

The Vendor shall define the strategy and approach to migration cycles, full, and incremental uploads. The Vendor shall specify fields, tables or other data elements and the associated strategy regarding full and incremental updates required to ensure the appropriate migration and upkeep of the CBO environment prior and during cut-over activities.

As a reference, the following records can be considered transient and identified as incremental entities.

- Customer Notes
- Non-Financial
- Toll Transactions
- Parking Transactions
- Financial Transactions
- History Tables (like vehicle, Transponder, address). Final tables to be confirmed as part of data mappings.

#### 12.3 Data Migration Tasks

Data migration tasks are broadly divided into three categories as described in the sections below.

#### 12.3.1 Pre-migration tasks

Pre- migration tasks include but are not limited to:

- Environment setup and database readiness for extracts.
- Data cleanup by the Department on the legacy data
- Data cleanup by the Vendor at staging environment.
- Processing of data on legacy queue tables with no pending or incomplete transaction.
- Resolve customer incidents and high-risk system Alerts such as missing files or interface issues.
- Close zero balance TBP Accounts (with no toll and financial activity within N days).
  - 100 percent of all the transactions in the legacy system received from the existing Department OBO shall be reconciled prior to migration cut over.
  - 100 percent of all the amendments forwarded by the legacy system to the Department OBO shall be reconciled prior to migration cut over.
  - With exception transactions in "No ROV status", the initial amendment shall be sent by the legacy system for all the transactions received from the Department OBO prior to migration cut over.
  - File Acknowledgment (ACK) and exchange of individual reconciliation files for each original IAG file received (ICLP, ITAG, ICTX, ITXC etc.) shall be completed by the legacy system and Interoperable agencies prior to migration cut over.

Perform data migration tests and resolution of any detected defect.

Vendor shall be responsible to include a detailed pre-migration tasks list as part of the Data Migration Plan, including those activities that might be the responsibility of the Department or other third parties.

#### 12.3.2 Migration tasks

Migration tasks include but are not limited to:

- Data extraction.
- Data transformation.
- Data load into the target CBO environment.
- Validations and controls established at every step of the process.
- Data migration cycles execution
- Automatic and manual spot checking
- UAT testing and Department Business validation.

Vendor shall be responsible to include a detailed migration tasks list as part of the Data Migration Plan, including those activities that might be the responsibility of the Department or other third parties.

#### 12.3.3 Post-Migration Tasks

Post-Migration tasks include but are not limited to:

- Creation of indexes or index rebuilt activities.
- Updates to foreign keys and referential integrity validation.
- Automatic and manual validation of system integrity and functionality
- Other housekeeping activities that might be necessary to ensure data migration is completed successfully.
- Shadow mode of operation.
- Go-live cutover planning and execution.

Vendor shall be responsible to include a detailed migration tasks list as part of the Data Migration Plan, including those activities that might be the responsibility of the Department or other third parties.

#### 12.4 Production Migration

Production data migration includes a full extract of existing legacy system data from the Department staging environment and the incremental extracts thereafter.

Production loads are broadly categorized into the following three loads:

- Pre-cutover loads which are a complete extract of existing legacy system data at the time when the extracts run.
- Incremental load which includes the delta between the pre-cutover snapshot up to a particular date.
- Cutover loads are performed on go-live day and include all new and modified (delta) entities since the last full extract.

Vendor shall specify the approach to data loads that best fit the Project and System needs. Details shall be provided regarding the shadow mode operation period and how the Vendor will ensure accurate synchronization of the CBO.

# 13 Data Migration Tools

The Vendor shall include in the Data Migration Plan the specific set of tools to be used in the process, including Database, automation, and defect record keeping tools. Any proposed tool shall comply with the Department data security requirements and shall be approved by the Department.

## 14 Data Migration Schedule

The Vendor shall provide a detailed Data Migration Schedule as part of the Data Migration Plan.



# State of Florida Department of Transportation, Florida's Tumpike Enterprise

Attachment 4
Commercial Back Office – Performance
Requirements

DOT-ITN-21-8026-SM

FPID: 446410-1-93-01

# Attachment 4 – Performance Requirements

# Contents

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#### 1 INTRODUCTION

The CBO Vendor shall meet all technical and functional performance Requirements as defined below The Performance Requirements are defined as the availability and performance of the Hardware, Software, Systems and interfaces for the CBO System. Below are specific Performance Requirements to be evaluated throughout the Term of the Contract by the Department to ensure the Vendor provides all services in accordance with the Performance Requirements set forth under this Contract. Unless otherwise stated, Performance Requirements will be measured on a daily basis and reported in the Monthly Report submitted to the Department. It shall be the CBO Vendor's responsibility to promptly notify the Department upon occurrence of a failure to meet a specific Performance Requirement whether in writing or verbally depending on the severity of the failure. Self-monitoring and notification to the Department are an integral part of the Contract and are also Performance Requirements. CBO Vendor shall include a list of any resulting financial consequences or impacts to customers or impacts to the SunPass or Toll-By-Plate Brand as a result of failed Performance Requirements in the Monthly Report and described below.

Performance Requirements related to Milestones, Key Personnel, Document Deliverables, and testing will be in effect from Contract execution. All other Performance Requirements shall be in full effect at the start of Phase 3 and measured from Go-Live. The Department and CBO Vendor will, on an annual basis, jointly review the Performance Requirements to ensure relevance throughout the Contract.

The Monetary deductions identified in Table 1 below for failure to meet the Performance Requirements are considered reasonable liquidated damages in order to compensate the Department for:

- 1. The Department's increased costs of administering this Contract, including the increased costs of monitoring and oversight and could also include obligations to pay or reimburse Other Toll Facilities for their increased costs of monitoring and oversight;
- 2. The Department's potential loss of toll revenues due to the failure or loss of functionality of the System;
- 3. Department's costs and expenses incurred in having the Scope of Services re-performed by the Department or someone other than the Vendor.
- 4. Potential harm to the credibility and reputation of the Department, SunPass, and TOLL-BY-PLATE brands with policy makers and with the general public; and
- 5. Potential harm and detriment to Authorized Users, which may include inability to manage or maintain their Customer Account.

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## 2 Table 1 – Performance Requirements

Table below is used to track all Performance Requirements on the CBO. Each of the fields of the table are described below:

- 1. PR# Unique identifier of the Performance Requirements
- 2. Applicable Phase Phases in the Contract where the Performance Measure applies.
- 3. Description describes the Performance Requirement.
- 4. Measurement Period describes the unit of measure in minutes, hours or days.
- 5. Target Performance Level service level required to meet Performance Requirement.
- 6. Liquidated Damage- penalty assessed if the Target Performance Level is not meant.
- 7. Interval of Reoccurrence -time period of additional Liquidated Damages if the additional time is passed without resolution and approved by the Department.

PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
1.	Phase 1, 2 and 3	Removal of Key Personnel	Vendor will request authorization to remove any Key Personnel	By Key Personnel Member	Removal will require authorization.	To be discussed during negotiations.	To be discussed during negotiations.
2.	Phase 1, 2 and 3	Quality of Staff	Vendor will staff the Project with acceptable, quality, reliable, qualifying resources	By staff member	Staff member provides professional, quality work products.	To be discussed during negotiations.	To be discussed during negotiations.
3.	Phase 1, 2 and 3	Security incident notification	Provide timely oral and written notification of Security Incident	Each Incident	Provide written notification within 4 hours of the incident being detected, and Root Cause Analysis (including action plan) within 24 hours after end of the incident.	\$5,000 per 24 hours after the deadline. Each hour delay for both the written notification and Root Cause Analysis report will be accumulated to	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
						calculate the total liquidated damages amount.	
4.	Phase 1, 2 and 3	Security incident remediation	Provide remediation steps within 24 hours of confirmed security incident	Each Incident	Provide remediation steps within 24 hours.	\$2,500 per 24 hours after the deadline.	Each Additional Calendar Day
5.	Phase 1, 2 and 3	Security breach notification	Provide timely written notification on the data and information exposed due to a security breach. Provide forensic analysis report on the data and information exposed due to the security breach.	Each Incident	Provide written notification within 24 hours of the incident being detected. Provide forensic report within 10 business days of the incident being detected.	\$10,000 per 24 hours after the written notification deadline. \$2,500 per calendar day after the forensic analysis deadline.  All delays will be accumulated to calculate the final liquidated damages amount.	Each Additional Calendar Day
6.	Phase 1, 2 and 3	Root Cause Analysis – financial impact	Vendor shall submit timely, complete and accurate Root Cause Analysis for incident resulting in a financial impact to the Department,	Each Incident	Provide complete and final Root Cause Analysis including all required information as determined by the	\$2,500 per calendar day after the deadline.	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
			Other Toll Facilities or Interoperable Agencies.		Department within 5 calendar days of identification.		
7.	Phase 1, 2 and 3	Financial Impact Remediation	Provide remediation steps within 24 hours of Approval by the Department	Each Incident	Provide remediation steps within 24 hours.	\$2,500 per 24 hours after the deadline.	Each Additional Calendar Day
8.	Phase 1, 2 and 3	PCI Compliance support	Vendor shall provide all data required to support PCI compliance and provide Report of Compliance (ROC).  The Department's representative will publish a schedule for PCI	Each Deadline as determined by the Department	By 5:00 p.m. ET on date due.	\$5,000 per calendar day after the deadline.	Each Additional Calendar Day
9.	Phase 1, 2 and 3	PCI Merchant level 1 Compliance AOC	Vendor shall provide the unredacted Report of Compliance (ROC) and Attestation of Compliance (AOC) for the CBO in accordance with the Departments deadline to meet and obtain an PCI Attestation of Compliance (AOC). The Deadline will be determined at Go live for the first year and 90 calendar days by the Department prior to the deadline in subsequent	Each Deadline as determined by the Department	By 5:00 p.m.ET on date due.	\$10,000 per calendar day after the deadline.	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
			years of the Terms of the Contract. The Department will be provided written notice of such deadline by the Department.				
10.	Phase 1, 2 and 3	PCI Merchant level 1 – Scans, Penetration test and reports	Vendor shall provide with unredacted monthly internal vulnerability scans report, monthly external vulnerability scans report, annual penetration test report, annual risk assessment report, and monthly wireless vulnerability scans report in accordance with the PCI schedule to be published by the Department's representative	Each report	By 5:00 p.m. ET on due date.	\$500 per calendar day after the deadline.	Each Additional Calendar Day
11.	Phase 1, 2 and 3	PCI Non- compliances	Vendor to provide remediation plan and cure issues identified as noncompliant during PCI DSS audit.	Each Non- Compliance	Provide remediation plan within 5 business days upon notification.	\$5,000 per calendar day after the deadline, in addition to any fines, fees, costs levied on the Department for Vendor's Noncompliance.	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
12.	Phase 1, 2 and 3	Security deficiencies- ASV Scan	The Vendor shall identify with the Department the priorities of deficiencies found from the ASV scan below based on the following priorities and all issues shall be remediated in accordance with the timelines noted for each priority level. The remediation shall include full resolution of the issue and all associated documentation with the deficiency provided to the Department.	Each Non- Compliance	Critical and High – shall be remediated within 30 calendar days.  Medium – Must be remediated within 60 calendar days.  Low – Must be remediated within 90 calendar days.	\$1,000 per calendar day after the deadline for Critical and High Priorities.  \$500 per calendar day after the deadline for Medium Priorities.  \$100 per calendar day after the deadline for Low Priorities.	Each Additional Calendar Day
13.	Phase 3	Infrastructure Availability (Production Environments)	Minutes during month when total managed hardware and runtime environments are reported up and available (outside of Approved maintenance schedule)	Daily	99.9% per each 24 hours.	\$5,000 per 24 hours outside the required performance level.	Each Additional Calendar Day
14.	Phase 3	Infrastructure Availability	Minutes during month when managed hardware and runtime environments are reported up and	Daily	99% per each 24 hours.	\$1,000 per 24 hours outside the required	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
		(Non- Production Environments)	available (outside of Approved maintenance schedule)			performance level.	
15.	Phase 3	Infrastructure Performance (Production Environments)	See specific requirements as listed in Table 2 below.	Each Occurrence	Shall not exceed maximum thresholds in each occurrence below.	\$500 per each occurrence that do not meet the Performance Requirements for the items listed in Table 2.	Each Additional Hour
16.	Phase 3	Application Availability (Production Environments)	Minutes during month when all managed applications/modules reported up and available (outside of Approved maintenance schedule)	Daily	99.9% per each 24 hours.	\$5,000 per 24 hours outside the required performance level.	Each Additional Calendar Day
17.	Phase 3	Availability Applications to support External Interfaces	Minutes during month when managed applications/modules reported up and available to External Interfaces (outside of Approved maintenance schedule)	Daily	99.9% per each 24 hours.	\$5,000 per 24 hours outside the required performance level.	Each Additional Calendar Day
18.	Phase 3	API Response Times	See specific requirements as listed in Table 3 below.	Daily	Shall not exceed minimum or maximum thresholds in each occurrence below.	\$500 per each occurrence that do not meet the Performance Requirements for the items listed in Table 3.	Each Additional Hour

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
19.	Phase 3	Application Availability (Non- Production)	Minutes during month when managed applications/modules reported up and available (outside of maintenance and data replication windows).	Daily	99% per each 24 hours.	\$500 per 24 hours outside the required performance level.	Each Additional Calendar Day
20.	Phase 3	CBO Reports database replication	The CBO reports database must be a near real time replication of the production database. Near real time shall be updated and made available to the data mart no longer than every four (4) hours.	Per hour after 4 hours.	No later than time allocated in requirement.	\$100 per hour outside the required performance level.	Each hour after the initial 4-hour deadline.
21.	Phase 3	Post Toll Transactions to CBO Accounts	Time required to post upon receipt of the Toll Transaction from the OBO.	Daily	Post Toll Transactions within 2 hours upon receipt from OBO.	\$1,000 per 24 hours after the deadline.	Each Additional Calendar Day
22.	Phase 3	Conduct Auto- Replenishment s on Accounts	Time to trigger auto- replenishment from eligible Accounts.	Daily	Attempt auto- replenishment within 30 minutes of low balance threshold reached.	\$5000 per 24 hours after the deadline.	Each Additional Calendar Day
23.	Phase 3	Posting Payments	Posting payments from all payment sources to correct Accounts. Payments posted shall reflect the correct amount, the payment amount received.	Daily	Post Payments received from any channel within six hours of receipt of batch file.	\$500 per 24 hours after the deadline.	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
24.	Phase 3	Posting Adjustments to Account	Posting Adjustments to correct Accounts. Adjustments are account and transaction level refunds, payment reversals, interoperable agency adjustments and account credits. The Adjustments posted shall be for the correct amount.	Daily	Post Adjustments including reversals, chargebacks, credits or debits to the accounts within 24 hours.	\$500 per 24 hours after the deadline.	Each Additional Calendar Day
25.	Phase 3	Make file request for DMV Registered Owner Vehicle information. File is defined as requested license plates numbers, state and plate type thar are eligible for lookup.	Frequency to request ROV information from DHSMV or DMV	Daily	Request no less frequent to the DMV than every 24 hours per agreed to schedule.	\$100 per 24 hours after the deadline.	Each Additional Calendar Day
26.	Phase 3	Release DMV hold	Release DMV hold for accounts paid in full	Incident	Release Hold within 10 seconds of receiving the request to release from DHSMV.	\$100 per incident.	Each Additional Calendar Day after the incident if not resolved and Approved by

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
							the Department.
27.	Phase 3	Level III Maintenance Services Response Time – Priority 1	Time to respond to and acknowledge Priority 1 Issues	Hourly	Response Time outside of Business hours defined as 8 AM to 5 PM Monday through Friday – 15 minutes.  Response Time outside of Business hours defined above – 30 minutes.  Update Frequency - every 2 hours for Business hours and non-Business hours.	\$5,000 per hour after the deadline.	Each Additional Hour
28.	Phase 3	Level III Maintenance Services Response Time – Priority 2	Time to respond to and communicate Priority 2 issues	Hourly	Response Time - 2 hours; Update Frequency - every 4 hours.	\$1,000 per hour after the deadline.	Each Additional Hour
29.	Phase 3	Level III Maintenance Services Response Time – Priority 3	Time to respond to and communicate Priority 3 Issues	Hourly	Response Time -8 hours; Update Frequency - every 8 hours.	\$500 per hour after the deadline.	Each Additional Hour

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
30.	Phase 3	Level III Maintenance Services Repair Time – Priority 1	Time to repair and return System to normal service for Priority 1 Issues	Daily	Repair Time - 1 hour	\$5,000 per 12 hours after the deadline.	Every 12 Hours
31.	Phase 3	Level III Maintenance Services Repair Time – Priority 2	Time to repair and return System to normal service for Priority 2 Issues	Daily	Repair Time - 2 hours	\$1,000 per 24 hours after the deadline.	Each Additional Calendar Day
32.	Phase 3	Level III Maintenance Services Repair Time – Priority 3	Time to repair and return System to normal service for Priority 3 Issues	Daily	Repair Time -8 hours	\$500 per 24 hours after the deadline.	Each Additional Calendar Day
33.	Phase 3	Disaster Recovery - Recovery Time Objective (RTO)	Time to restore to normal operations after a disaster occurs in providing Level 3 Maintenance Services by the Vendor	Each Occurrence	24 hours from initial detection of disaster event	\$20,000 per 24 hours after the deadline.	Each Additional 24 hours
34.	Phase 3	Disaster Recovery - Recovery Point Objective (RPO)	Data lost due to a disaster event. The Department desires a design that minimizes outages providing Level 3 Maintenance Services by the Vendor.	Each Occurrence	No more than 30 minutes of lost data or as proposed by the Vendor in the Vendor's Reply.	\$10,000 per 24 hours after the deadline.	Each Additional 24 hours
35.	Phase 3	Transmit Tag Status File	Send Transponder File known as Tag Status File (ITAG) and Interoperable	Daily	Send Transponder File known as Tag Status File (ITAG)	\$100 per hour for the first 12 hours after the	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
		(ITAG) - See Note 2	License Plate Data files, known as Customer License Plate (ICLP) Files to the E- ZPass Interoperable Agencies and Southeast Interoperable Agencies.		and Interoperable License Plate Data files, known as Customer License Plate (ICLP) Files to the E-ZPass Interoperable Agencies and Southeast Interoperable Agencies within 2 hours of the specified time as determined by the Department.	deadline, \$200 per hour for the next 12 hours after the deadline, \$500 per hour beyond 24 hours after the deadline.	
36.	Phase 3	Receive and Post IAG ITAG and ICLP Files - See Note 2	Receive and Post IAG Transponder Files and License Plate Data files (ITAG and ICLP) from the E- ZPass Interoperable Agencies and Southeast Interoperable Agencies.	Daily	Receive and Post IAG Transponder Files and License Plate Data files (ITAG and ICLP) within 2 hours of the specified time as determined by the Department.	\$100 per hour for the first 12 hours after the deadline, \$200 per hour for the next 12 hours after the deadline, \$500 per hour beyond 24 hours after the deadline.	Each Additional Calendar Day
37.	Phase 3	Generate and send Transponder	Generate and send Transponder Files, known as Transponder Status List	Daily	Generate and send Transponder Files, known as	\$100 per hour for the first 12	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
		Status List (Combined IAG POSI) - See Note 2	(Combined IAG POSI) File to all Other Toll Facilities and Send Ack back to the E- ZPass Interoperable Agencies and Southeast Interoperable Agencies.		Transponder Status List (Combined IAG POSI) File within 2 hours of the specified time as determined by the Department.	hours after the deadline, \$200 per hour for the next 12 hours after the deadline, \$500 per hour beyond 24 hours after the deadline.	
38.	Phase 3	Generate and Send IAG ICLP Files - See Note 2	Generate and Send License Plate Data files, known as IAG ICLP to Other Toll Facilities and Florida Interoperable Agencies.	Daily	Generate and Send License Plate Data files, known as IAG ICLP Files within 2 hours of the specified time as determined by the Department.	\$100 per hour for the first 12 hours after the deadline, \$200 per hour for the next 12 hours after the deadline, \$500 per hour beyond 24 hours after the deadline.	Each Additional Calendar Day
39.	Phase 3	Generate and send ICTX Files from Other Toll Facilities Transactions See Note 2	Generate and send Toll Transaction Files, known as ICTX Files from Other Toll Facilities Toll Transactions to the E-ZPass Interoperability Agencies	Daily	Generate and send Toll Transaction Files, known as ICTX Files from Other Toll Facilities Transactions to the E-ZPass	\$100 per hour for the first 12 hours after the deadline, \$200 per hour for the next 12 hours after the	Each Additional Calendar Day

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PR#	Applicable Phase	Subject	Description	Measurement Period	Target Performance Level	Liquidated Damages*	Interval of Reoccurrence
			and Southeast Interoperable Agencies.		Interoperable Agencies and Southeast Interoperable Agencies within 2 hours of the specified time as determined by the Department.	deadline, \$500 per hour beyond 24 hours after the deadline.	
40.	Phase 3	Receive and Post ICRX files from E-ZPass Interoperable Agencies and Southeast Interoperable Agencies - See Note 2	Receive and Post Toll Transaction reconciliation files, known as ICRX files from E-ZPass Interoperable Agencies and Southeast Interoperable Agencies.	Daily	Receive and Post Toll Transaction reconciliation files, known as ICRX files from E-ZPass Interoperable Agencies and Southeast Interoperable Agencies within 2 hours of the specified time as determined by the Department.	\$100 per hour for the first 12 hours after the deadline, \$200 per hour for the next 12 hours after the deadline, \$500 per hour beyond 24 hours after the deadline.	Each Additional Calendar Day
41.	Phase 3	Generate and send ITXC Files from Other Toll Facilities Transactions - See Note 2	Generate and send Toll Transaction correction files, known as ITXC Files from Other Toll Facilities Transactions to E-ZPass Interoperable Agencies and	Daily	Generate and send Toll Transaction correction files, known as, ITXC Files from Other Toll Facilities Transactions to E-	\$100 per hour for the first 12 hours after the deadline, \$200 per hour for the next 12 hours after the	Each Additional Calendar Day

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	Interval of Reoccurrence
Southeast Interoperable Agencies.  Agencies and Southeast Interoperable Agencies within 2 hours of the specified time as determined by the Department.	

#### Note:

- 1. Liquidated Damages may be negotiated during the ITN Negotiations.
- 2. The actual times of the day will be determined by the Department during Phase 1 and updated during Phase 2 prior to GO live. The times shall be updated throughout the Term of the Contract by the Vendor.
- 3. For Performance Requirements included in Section 2- Table 1 with an hourly based liquidated damages structure, total liquidated damages will be calculated using the prorated total deviation in hours based on actual delays or non-compliances.

## 3 Table 2 - Infrastructure Performance Requirements

Please refer to Performance Requirement #15 of Section 2-Table 1 – Performance Requirements. Performance Requirement listed in this Table 2 shall be confirmed during Negotiations as they are dependent upon the Respondent's proposed System. Respondent shall provide any exceptions or modifications to these Requirements in their Technical Reply, Section 7 Approach to Operations and Maintenance

Performance Metric	Description	High threshold	Low threshold
Database Input/Output (IO)	Average and peak IO for all DB and table structures within the proposed architecture measured every 24 hours.	Average IO shall not exceed 70% of total capacity available with no more than 1 hour per 24-hour period of the system reaching 80% capacity.	Average IO shall not be below 45% of total capacity available with no more than 1 hour per 24-hour period being 20% or less.
Database availability	Databases available to business, including application users while meeting all Performance Requirements.	Daily database interruption where the database is not available to the applications or users for up to 30 minutes per incident and an overall 98% availability measured over a 24-hour period.	Database shall not exceed 1 hour of downtime per incident and an overall 99.5% availability per month.
Database replication	Lag time between production and replication databases	Synchronization lag between databases shall not exceed 30 minutes.	Synchronization lag between databases is acceptable between 0 and 15 minutes.
Database storage management	Storage systems and applications that manage data, backup, or archived data to meet Performance Requirements, reliability, and ability to recover the databases in accordance with the Performance Requirements.	Database storage use shall not exceed 80% usage for more than 24 hours and never exceed 90%.	Database storage use average should be 40% or higher within a 30-day period.

Performance Metric	Description	High threshold	Low threshold
Database tablespace	Tablespaces which store all of the database data shall always have free space available for data growth.	Average in-use tablespace shall not exceed 80% over a 24hour period.	A minimum average of 40% of tablespace shall be in-use measured over a 24 hour period.
Database active memory	Active memory available in database systems.	Average memory usage shall not exceed 70% with no more than 1 hour a day reaching a maximum of 80% capacity.	Average memory usage shall not be below 25% on daily average per 24-hour period.
Server processing capacity	Percentage of the server cluster processing capacity actively being used.	The processing capacity of each cluster shall never exceed 70% usage of the resources on a single node.	The processing capacity of each cluster shall be at least 30% average usage of the resources on a single node per 24-hour period.
Server latency	Latency measured in milliseconds between the server and storage or disk drives.	Storage response latency shall not exceed 20 millisecond an average of 1 millisecond in a 1-hour period.	Storage response latency shall not exceed an average of 5 milliseconds in a 1-hour period.
Server CPU Usage	The continuous not to exceed percentage of CPU utilization for the server.	The continuous percentage of CPU utilization shall not exceed 90% for over one hour per 24-hour period.	The continuous percentage of CPU utilization shall be minimum of 40% average per 24-hour period.

Performance Metric	Description	High threshold	Low threshold
Server memory usage	The continuous not to exceed percentage of memory utilization for the server.	The continuous percentage of memory utilization shall not exceed 80% for over one hour per 24-hour period.	The continuous percentage of memory utilization shall be a minimum of 40% average per 24-hour period.
Page file/swap	This is an area of the hard disk that is used for temporary storage to increase performance and manage data requests.	The page file/Swap space shall be allocated at a maximum of 2 times the physical memory.	The page file/Swap space shall be allocated at a minimum of 1.1 times the physical memory.
Server storage capacity	Available free disk space on the server	Free disk space on a server shall not be less than 40% measured in a 24-hour period.	Free disk space on a server shall be not exceed 80% average measured in a 24-hour period.
Server availability	The server uptime to perform the required function at a given instance.	The uptime of any given server to be 99%.	The uptime of any given server to be 98%.
Storage availability	The ability of a storage device to be in a state to perform the required application function at a given instance.	The uptime of any given storage device to be 99%.	The uptime o any given storage device to be S98%.

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# 4 Table 3 - API Performance Requirements

Please refer to Performance Requirement #18 of Table 1 – Performance Requirements

Performance Metric	Description	High threshold	Low threshold
API response	Parking Transactions and Toll Transactions delivery (Out Bound from All Participants OBO) These levels will fluctuate throughout the day and the peak volume may be sustained during backlog recovery periods.	300240 Toll Transactions/ second	1200 Toll Transactions / second
API – Toll Transaction updates	Toll Transaction updates (outbound from CBO). These levels will fluctuate throughout the day and the peak volume may be sustained during backlog recovery periods.	120 Toll Transaction updates/ second	15 Toll Transaction updates / second per thread
API – near real time updates for account data	Near real-time updates for changes in account data whenever any relevant update is made to the Customer Account. Outbound updates from CBO. The updates are available up to 72 hours.	500 updates/second	20 updates/second
API – near real time updates for transponder data.	Near real-time updates for changes in transponder data whenever any relevant update is made to the Customer Account. Outbound updates from CBO. The updates are available up to 72 hours.	500 updates/second	20 updates/second
API – near real time updates for license plate data.	Retrieve 300KB Images(Inbound) to each Other Toll Facilities from the OBO.  Near real-time updates for changes in license plate data whenever any relevant update is made to the Customer Account. Outbound updates from CBO. The updates are available up to 72 hours.	500 updates/second	20 updates/second

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Performance Metric	Description	High threshold	Low threshold
API response times for the	These levels will fluctuate throughout the day	60 requests for	30 requests for
following services:	and the peak volume may be sustained during	updates/Sec	updates/Sec
<ol> <li>CC gateway</li> </ol>	backlog recovery periods for Toll Transactions		
2. DMV Hold response	and Parking Transactions.		
(must be real time)			