

**Business Rules for
National Interoperability
Version 2.0
FINAL**

LAST UPDATE: MAY 2023

ABSTRACT

This document contains the business rules established to support National Interoperability.

These business rules may be revised from time to time as agreed to by the parties to National Interoperability. Interoperability between agencies and Regions has been developed for the sole purpose of coordinating the exchange of toll Transactions of multiple organizations that utilize, operate, and manage toll facilities. This document describes what is required of a participating Agency in order to enable and maintain sound business relationships.

DOCUMENT HISTORY

Revision Date	Version	Revision Description
September/October 2018	X.XX	<p>Incorporated revisions requested by NIOP Working Group.</p> <ol style="list-style-type: none"> 1. Changed 10 days to 30 days for the Transaction guaranteed period for hub to hub. Transactions submitted to the hub, within 30 days of the Transaction date, that had a valid tag in the active TVL are guaranteed. 2. E-ZPass Transaction file frequency is 1 time per day. SSIOP requires reconciliation within 24 hours. Change to 48 hours. 3. Use of the word “Local” (Local Hub/Local Agency). Add to Definitions, if needed. 4. Edits to business rules, as agreed and requested. 5. Clarify language to narrow Agency modifications to specific cases of adding locations. Increase to 30 days. 6. Conform document to NIOP: <ol style="list-style-type: none"> a. Edited Southern States specific business rules to conform to NIOP. b. Replaced Southern States specific drawing with NIOP map. c. Removed abbreviations and terms that are no longer used. 7. Added timing notes (when the clock starts) and what happens if conditions are not met, to relevant requirements. 8. Cleaned up SSIOP-DIR-42 and SSIOP-DIR-48. 9. Added SSIOP-GEN-15: An Agency can be a member of more than one region but NIOP Interoperable through only one Hub. Agencies are required to declare through which Hub they will be NIOP interoperable.
November 2018	1.00	<p>Edited during and as the result of the Technical Workgroup Session in Irvine, CA, November 6-7, 2018.</p> <p>11/26/18: Made revisions from M. Kolb review:</p> <ol style="list-style-type: none"> 1. Section 1.1: Changed “Northeast US (E-ZPass Group) Region” to “Northeast (E-ZPass) Region” 2. “File”, where appropriate, is changed to “Submission”. 3. Reconciliation and Settlement reporting is in UTC. 4. Added Data Sequence Number in reference to Submission Identifier for Data Submission Number for Financial reporting. <p>Added definition of UTC.</p>
February 2019	1.01	<p>Edited based on NIOP Policy meeting, January 28, 2019, as follows:</p> <p>Removed NIOP-MNT-04 through NIOP-MNT-06. Added NIOIP-MNT-04 through NIOP-MNT-07.</p>
May 2019	1.01	<p>Removed “WORKING VERSION”, updated date and made FINAL.</p>

Revision Date	Version	Revision Description
September 2022	1.02	<p>Incorporated revisions requested by the NIOP Working Group sessions</p> <ol style="list-style-type: none"> 1. Added Interoperability for License Plates Only: <ol style="list-style-type: none"> a. Definitions, Acronyms, and Abbreviations b. Business Rule updates to incorporate verbiage: General Requirements, Account Requirements, and Data Interchange Requirements 2. Changed reconciliation frequency from weekly to monthly. 3. Settlement section was updated to be consistent with the Custodial Services Business Process document. Replaced 'invoice' with 'settlement'. 4. Removed 60-day reference for Away Agencies to pursue payment for transactions unable to be posted. 5. Removed NIOP-FEE-4.
September 2022	1.03	<p>Edited based on NIOP meeting, September 17, 2022, at IBTTA, as follows: NIOP-GEN-11: Extended to ninety (90) days. NIOP-DIR-43: Changed from guaranteed to not guarantee. Accepted additions for Interoperability using License Plates Only.</p>
January 2023	1.04	<p>Edited NIOP-DIR-18.</p>
March-April 2023	2.00	<ol style="list-style-type: none"> 1. Incorporated revisions requested by the NIOP Working Group: Removed report detail and added reference to Business Rules for Interoperability – Appendix A – Reports. 2. Updated US map with regions of national interoperability as of March 2023. 3. Table 1 Definitions, Acronyms, and Abbreviation updates: <ol style="list-style-type: none"> a. Revisions for license plate references to the following terms: Account, Bulk Plate Validation List, Interoperable Transaction, Plate Validation List, and Video Transaction b. Simplified terms: Bulk Tag Validation List, Differential Plate Validation List, Differential Tag Validation List, Effective Date, Fleet, Guaranteed Toll, Non-Guaranteed Toll, Registration Date, Rejected Transaction, Valid License Plate, and Valid Transaction c. New terms: Invalid License Plate, SCORR, SRECON, and STRAN d. Removed terms: Revenue Week 4. Added 1.3 Common Terms. 5. Updated Business Rules to include license plate references in relation to TVL and PVL.

Revision Date	Version	Revision Description
		<ol style="list-style-type: none"> 6. Updated Business Rules to include Tag and Video Transactions. 7. Extended timeframe to 90 days to be consistent with previous business rule updates. 8. Revised to reflect Home Agency responsibility for communication and website updates. 9. NIOP-DIR-18: Revised the business rule for steps to posting Video Transactions. 10. NIOP-DIR-48: New business rule to support duplicate resubmission of transactions. 11. NIOP-DIR-49: New business rule to state validity of license plate in the TVL. 12. NIOP-MNT-3-5: Updated to follow format of other business rules in this section. 13. NIOP-LP-5: Moved note in business rule to ICD Processing Requirements.
May 2023	2.0	Removed "DRAFT FOR REVIEW" and made FINAL with approval from the National Interoperability group at IBTTA Tech Summit in Indianapolis, IN.

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1 Introduction

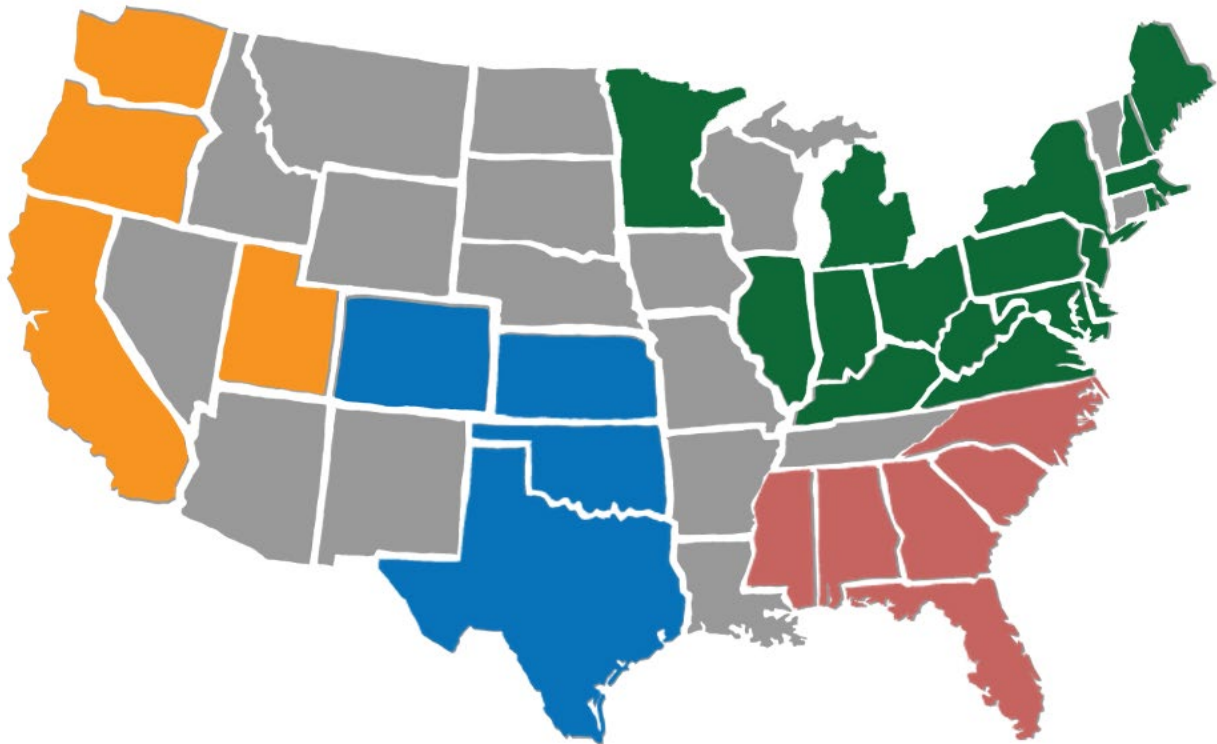
1.1 Purpose

The purpose of this document is to describe and record all business rules for National Interoperability (NIOP).

Each Agency or Agency’s Local Hub has the responsibility to implement the business rules as stated herein.

The figure below illustrates the Regions of National Interoperability as of March 2023.

Figure 1: National Interoperability



Gold: Western US Region (WRIOP)
Green: Northeast (E-ZPass) Region (EZIOP)
Blue: Central US Region (CUSIOP)
Red: Southeast US Region (SEIOP)

Please refer to NIOP ICD Appendix B for specific Agency to Hub relationships.

1.2 Definitions, Acronyms, Abbreviations

The intent of this section is to list terms and acronyms used in this document, for easy reference.

Table 1: Definitions, Acronyms, and Abbreviations

Term	Description
Accepted Transaction	Transactions that are accepted by the Home Agency. A Transaction must be accepted by the Home Agency if the Transaction is a Guaranteed Toll. Non-Guaranteed Tolls are accepted based on the availability of funds on the customer's account.
Account	An account established by a Customer for which a tag has been issued or a License plate is registered for the payment of tolls.
Acknowledgement	Acknowledgements are based on receiving and validating data submissions, not processing the contents of the submission. Please refer to the NIOP ICD for additional requirements.
Agency	An Agency, company, or other entity that participates in Interoperability.
Agreement for Nationwide Interoperability	The Agreement for toll collection Interoperability that allows for exchange and settlement of tolling Transactions nationwide.
Away Agency	An Interoperable Agency that is not the Customer's Home Agency.
Away Hub	An Interoperable Hub that is the Away Agency's Local Hub.
Bulk Plate Validation List	A Plate Validation List containing all license plates, not associated with a Tag that are considered interoperable by a Home Agency and provided to Agencies via the Local Hub.
Bulk Tag Validation List	A Tag Validation list containing all tags with a positive/good and zero or negative balance produced by the Home Agency and provided to Agencies via the Local Hub.
CSV	The CSV ("Comma Separated Values") file format is often used to exchange data between applications.
Custodian	An entity appointed to act on the behalf of a NIOP Hub to send and receive funds for financial settlements between NIOP Hubs and Local Agencies.
Customer	A party that establishes an Account with a Home Agency.
Differential Plate Validation List	A Plate Validation List that contains license plates, not associated with a Tag that have been added or changed Registration Date or Effective Date since the last Bulk Plate Validation List.
Differential Tag Validation List	A Tag Validation list that contains the tags and/or license plates that have been added or changed status since the last Bulk Tag Validation List.
Disputed Transaction	A Transaction which is disputed by the Customer or the Home Agency.
Duplicate Transaction	Duplicate Transaction processing is based on the Home Agency business rules. For example, Multiple Transactions generated by the same Vehicle (tag or license plate) from the same general tolling location (e.g. same plaza and same or adjacent lane), within a short period of time would indicate an erroneous recording of a single Transaction.
Effective Dates	The date/time range that a license plate is considered valid for tolling.

Term	Description
Fleet	Vehicle owned by an entity and registered by others against their own personal account for tolling, for example, rental Vehicles.
Guaranteed Toll	The Transaction is guaranteed to be paid by the Home Agency.
Home Agency	An Interoperable Agency which owns the Customer Account and maintains the information related to the Vehicle(s), license plate(s) and Tag(s) to which interoperable toll Transactions are posted.
Home Hub	An Interoperable Hub that is the Home Agency's Local Hub.
Interface Control Document (ICD)	Interface Control Document (ICD) describes the data interface and the specific fields, files, naming conventions, etc., with which each Interoperable Hub must comply when transmitting Interoperable data.
Interoperable Transaction	Transaction created at an Away Agency by a Vehicle identifiable via the TVL/PVL.
Invalid License Plate (see Valid License Plate)	License plate that is not in any Bulk TVL, Bulk PVL or Differential PVL, is not effective in the current PVL or TVL, or is associated with a Tag with an Invalid Status in the Differential TVL.
Invalid Tag/Transponder (see Valid Tag/Transponder)	Tag/Transponder that is not on any Home Agency Bulk TVL or has a reported status of invalid or zero/negative balance (As determined by the Home Agency). There is no revenue guarantee for toll Transactions utilizing an Invalid Transponder.
Invalid Transaction	The passage of a Vehicle not associated with a Valid Tag/Transponder or Valid License Plate through an active electronic toll collection lane.
Local Agency	The term "Local Agency" is used in the context of a "Local Agency to their Hub". A Hub's Local Agency is an Agency that directly interfaces with that specific Hub for the purposes of interoperability.
Local Hub	The term, "Local Hub" is used in the context of an Agency's Local Hub, where the Agency interfaces with the Local Hub for interoperability with Other Hubs and Agencies.
National Interoperability Business Rules (NIBR)	A document that contains the business rules established to support National Interoperability (Business Rules for National Interoperability). This document describes what is required of a participating Agency in order to enable and maintain sound business relationships with other Agencies who support National Interoperability. Note: Previously defined as Interoperability Business Rules (IBR).
NIOP	The acronym for National Interoperability. The Business Rules defined in this document are for the purpose of National Interoperability.
Non-Guaranteed Toll	Any transaction that is not a Guaranteed Transaction may be accepted (payable) by the Home Agency subject to the availability of funds in the account.
Other Hub	The term, "Other Hub" is used in the context of another hub who services another Region. A Local Agency interfaces with a Local Hub who then interfaces with Other Hubs for interoperability with their Local Agencies.
Plate Validation List (PVL)	A list of license plates not associated with Tags.
Post (ed) (ing)	Matching a Transaction to an Account and crediting or debiting the corresponding amount to/from the Account.

Term	Description
Reconciliation / Reconcile	The process and/or reporting used by a NIOP Hub to determine or demonstrate that the Transactions sent match the dispositions received, and to arrive at final settlement.
Reconciliation Date	Date/Time created by the Away Hub based on the Away Agency's Acknowledgement of the Reconciliation Data submission. Note, this date/time will be used for reconciliation reporting. If the date/time falls within the current reconciliation period, all reconciliation records in the associated Reconciliation Data submission with a Posting Disposition value of "P" (Posted/Accepted) shall be paid from the Home Agency to the Away Agency.
Regions	The group of agencies organized into regional hubs to facilitate NIOP.
Registration Date	The date and time a license plate was added to a toll Account.
Rejected Transaction	Transactions that are rejected by the Home Agency.
SCORR	Adjustment/Correction Data as defined in the NIOP ICD.
Settle (ment)	The transfer of funds between Interoperable Agencies via the Hub for Interoperable Transactions, fees, and other agreed amounts.
SRECON	Reconciliation Data as defined in the NIOP ICD.
STRAN	Transaction Data as defined in the NIOP ICD.
Tag/Transponder	A radio frequency identification device (RFID) that is used to communicate with roadside equipment to identify the unique Tag for which an Agency can pursue the collection of tolls.
Tag Transaction	A Transaction transmitted to the Home Agency from the Away Agency for a Vehicle which is equipped with a Valid Tag.
Tag Validation List (TVL)	A list of interoperable Tags and associated license plates issued by each Home Agency, as specified in the ICD. There may be multiple license plates associated with a single tag.
Transaction	An electronic record of a Vehicle's use of an Agency's tolled location as defined by the ICD.
Transaction Fee	Fee(s) charged to Transactions (Transactions and/or Transaction adjustment) accepted by the Home Agency.
UTC	Coordinated Universal Time.
Valid License Plate	A license plate associated with an account that is valid and in good standing. Note: Not all NIOP facilities necessarily accept Vehicles with only a Valid License plate.
Valid Tag/Transponder (see Invalid Tag/Transponder)	Tag provided in a TVL where the Tag Status is Valid.
Valid Transaction	The passage of a Vehicle associated with a Valid Tag/Transponder or Valid License Plate through a toll facility.
Vehicle	A motorized Vehicle or trailer uniquely identified by license plate.
Video Transaction	An image-based Transaction that is created at an Away Agency and posted via the license plate identified in the TVL or PVL.

1.3 Common Terms:

1. The verb “shall” is used for **standards**, which are statements of required, mandatory, or specifically prohibited practice.
2. The verb “should” is used for **guidance**, which are statements of recommended, but not mandatory, practice in typical situations, with deviations allowed if judged to be appropriate.
3. The verb “may” is used for **practices** that are permissive but carry no requirement or recommendation.

2 Business Rules

This document defines business rules for National Interoperability (NIOP). These rules and all referenced documents are the business rules with which the parties to the Interoperability Agreements must comply. The data interface and the specifics of fields, files, naming conventions, etc. are specified in the ICD, which are referenced in this document.

2.1 Tolling Business Rules

2.1.1 General Requirements

- NIOP-GEN-1.** Interoperable Agencies shall jointly establish a system that enables a customer to use one Account to pay tolls at all Nationally Interoperable Agencies without the need to take any further action regarding that Account or the associated Tags or license plates.
- NIOP-GEN-2.** The Home Agency will make a reasonable attempt to maintain up to date customer information.
- NIOP-GEN-3.** Electronic toll collection equipment used by interoperable Agencies to read and/or write back to tags shall meet the requirements of SeGo, 6C or TDM Interop protocols (or other approved protocol) and be certified for use. For an Agency to be interoperable, it shall be required to read either one or more accepted Interop protocols and/or accept Valid License Plates.
- NIOP-GEN-4.** NIOP Hubs, exchanging data, shall comply with all documented interoperability requirements agreed upon, including, but not limited to, these NIOP Business Rules and the ICD.
- NIOP-GEN-5.** Each Agency shall provide time synchronization to a National Institute of Standards and Technology time source and shall ensure that all components of its system are time-synchronized.
- NIOP-GEN-6.** Home Agency’s Customer Use Agreements shall be written or revised, as necessary, to comply with and provide clarity regarding the NIOP Business Rules.
- NIOP-GEN-7.** There may be multiple Home Agencies for NIOP Tags in operation.

Note: There may be customers who have their Tag registered with multiple Home Agencies.

NIOP-GEN-8. Any Vehicle eligible for NIOP tolling must be associated to a Valid Tag or a Valid License Plate.

Note: Customer Use Agreements should include language to advise customers who depend on Nationwide tolling via license plate technology, that license plate technology may not be available at all NIOP toll facilities.

NIOP-GEN-9. If a Home Hub receives a Valid Transaction that is a Tag Transaction or guaranteed Video Transaction and acknowledges the Transaction within 30 Days of the Transaction date, the Transaction is guaranteed to be paid by the Home Agency.

Note: The timing is based on the Transaction date where the Valid Transaction utilizes the active TVL or PVL at the time of the Transaction; if the timing is not met, the Transaction is not guaranteed to be paid by the Home Agency. The calculation using the fields in the NIOP ICD is: Home Hub Acknowledgement Date/Time of STRAN Submission (from Away Hub) minus STRAN Transaction Exit Date/Time \leq 30.0 days will be guaranteed.

NIOP-GEN-10. The acknowledgement by the Home Agency is based on receiving the submission and validating the submission, not by processing the Transactions or data within the submission.

NIOP-GEN-11. If the Home Hub receives a Valid Transaction more than thirty (30) days but less than or equal to ninety (90) days from the Transaction date, the Transaction will be accepted by the Home Agency subject to the availability of funds in the account. This is defined as Non-Guaranteed Toll Transactions.

Note: The timing is based on the Transaction date; if the timing is not met and exceeds ninety (90) days from the Transaction date, the Transaction may not be processed by the Home Agency and rejected as "Transaction too old". The calculation using the fields in the NIOP ICD is: Home Hub Acknowledgement Date/Time of STRAN Submission (from Away Hub) minus STRAN Transaction Exit Date/Time $>$ 30.0 days and \leq 90.0 days will attempt to post and will pay if posted.

NIOP-GEN-12. If an Agency receives an Invalid Transaction within ninety (90) days of the Transaction date, the Transaction may be accepted by the Home Agency subject to the availability of funds in the account, the status of the tag/license plate and the Home Agency's Business Rules.

Note: The timing is based on the Transaction date; if the timing is not met, the Transaction may be rejected by the Home Agency. The calculation using the fields in the NIOP ICD is: Home Hub Acknowledgement Date/Time of STRAN Submission (from Away Hub) minus STRAN Transaction Exit Date/Time \leq 90.0 days will attempt to post and will pay if posted.

NIOP-GEN-13. The Home Agency should communicate to their account holders with invalid transponders/plates (per the definition of Valid Transponder/Valid License Plate) that the customer is not interoperable.

NIOP-GEN-14. Each Home Agency should maintain access from their website for all interoperable tolling entities by means of a link to the interoperable tolling entities' website.

NIOP-GEN-15. An Agency can be a member of more than one Region but nationally interoperable through only one Hub. Agencies are required to declare through which Hub they will be NIOP interoperable. Please refer to NIOP ICD Appendix B.

2.1.2 Marketing

NIOP-MKT-1. Agencies will strive to provide at least thirty (30) days advance notification of any NIOP marketing activities related to interoperability to their Local Hub, who will strive to disseminate the information to the Other Hubs. The Other Hubs will strive, in turn, to disseminate the information to their Local Agencies.

Note: Advance notification is a process managed by the Agency engaging in the marketing activities.

2.1.3 Account Requirements

NIOP-ACC-1. Each Home Agency's Customer Use Agreement shall provide that the use of a Vehicle and/or tag at an Away Agency shall constitute the Customer's acceptance of the interoperability terms.

NIOP-ACC-2. The Home Agency's Customer Use Agreement shall also provide that an Account may be charged when a Vehicle's license plate is captured as an image while traveling on an Interoperable Agency's facility and that license plate can be associated with the Customer's Home Agency Account.

NIOP-ACC-3. Customers shall be able to use a Valid Tag or license plate associated with a Valid Tag to make toll payments at all Interoperable Agency's facilities. Customers shall be able to use a Valid License Plate to make toll payments at Interoperable Agency's facilities that support video tolling.

NIOP-ACC-4. An Account may be associated with multiple Tags; one tag may be associated with multiple Vehicles on an Account. Home Agencies should include license plates in the PVL if the Vehicles are not intended to be equipped with a Valid Transponder.

2.1.4 Reconciliation and Settlement Requirements

2.1.4.1 Reconciliation

2.1.4.1.1 Hub Reconciliation Requirements

- NIOP-REC-1.** NIOP Interoperable Hubs shall reconcile Transactions in a manner and frequency as agreed upon between NIOP Hubs for Transactions relevant to the Hubs. Such frequency shall be at least monthly.
Note: This is a process managed by the Hub engaging in the reconciliation activities.
- NIOP-REC-2.** NIOP Interoperable Hubs shall settle in a manner and frequency as agreed upon between the NIOP Hubs. Such frequency shall be at least monthly.
Note: This is a process managed by the Hub engaging in the settlement activities.
- NIOP-REC-3.** Fund transfers between NIOP Hubs shall be validated and reconciled by both the submitting and receiving NIOP Hub's appointed Custodians.
- NIOP-REC-4.** Each NIOP Hub will prepare a reconciliation and settlement reports, in summary and detail, indicating the amount it believes it is due for all Interoperable Transactions, for the reconciliation period, from each Hub. Please refer to Business Rules for Interoperability – Appendix A – Reports.
- NIOP-REC-5.** REMOVED. Please refer to Business Rules for Interoperability – Appendix A – Reports.
- NIOP-REC-6.** The NIOP Hub reports shall be generated and distributed on-demand.

2.1.4.1.2 Hub and Local Agency Reconciliation Requirements

- NIOP-REC-7.** Each NIOP Hub shall reconcile Transactions, based on the Reconciliation Date, with their Agencies in a manner and frequency as agreed upon between the applicable NIOP Hub and its Agencies. Such frequency shall be at least monthly.
Note: This process is managed by the Agency or Hub engaging in reconciliation activities.
- NIOP-REC-8.** Each NIOP Hub shall settle with their Agencies in a manner and frequency as agreed upon between the applicable NIOP Hub and its Agencies. Such frequency shall be at least monthly.
Note: This is a process managed by the Agency engaging in the settlement activities.
- NIOP-REC-9.** Fund transfers between NIOP Hub Custodians and their Agencies shall be validated by both the submitting and receiving NIOP Hub Custodians and Agency, except as prohibited by an Agency's State statute.
- NIOP-REC-10.** Each Agency is responsible for reconciling against its own reporting system all Interoperable Transactions, based upon the reconciliation codes as specified in the ICD.
- NIOP-REC-11.** The Away Agency will provide the necessary detail to support resolving discrepancies during reconciliation.

NIOP-REC-12. The Home Agency will provide the necessary detail to support resolving discrepancies during reconciliation.

NIOP-REC-13. Each Agency is responsible for reconciling the other Agency's Transactions to its own reports prior to settlement with their Local Hub.

2.1.4.1.3 Reconciliation Issue Resolution

NIOP-REC-14. If discrepancies exist, the Agencies and/or Custodians will work together to review and verify their differences.

NIOP-REC-15. During the review of the reconciliation and settlement reports, the Away Agency may request that the Home Agency provide available documentation supporting the Interoperable Transactions reported as valid or rejected. The documentation should include:

(a) Selection by Away location, Transaction Period based on Transaction Date, Transaction Accepted Date, Transaction Submission Date, Reconciliation Date, Submission Identifier (Data Sequence Number) with grouping options.

(a) Transaction's Tag number and/or license plate information

(b) Transaction's date and time

(c) Transaction's location

(d) Transaction's disposition/status

(e) Toll Amount

Documentation will be provided if permissible by law.

NIOP-REC-16. If necessary, upon acceptance of a dispute, the Away Agency on which the Interoperable Transactions occurred will initiate the adjustment to be sent to the Home Agency, through the NIOP Hub, to update, correct or replace missing or incorrect Transaction data.

NIOP-REC-17. Transaction adjustments shall not exceed the original toll amount.

NIOP-REC-18. Adjustments will be reported, reconciled and settled in the same manner as other Interoperable Transactions.

2.1.4.2 Disputed Tolls

NIOP-REC-19. In order to enable proper researching of customer complaints, each Agency will maintain records related to toll Transactions for a minimum period of one hundred-eighty (180) days from the Transaction date.

Note: Record retention is based on Transaction date. If Transaction history is not maintained, Agencies will be unable to research customer complaints.

- NIOP-REC-20.** The Home Agency shall notify the Away Agency of Customer complaints regarding alleged erroneous charges or Duplicate Transactions on the Away Agency's facilities.
- NIOP-REC-21.** The Away Agency and the Home Agency shall work cooperatively when Interoperable Transactions at an Away Agency are disputed. Research may be undertaken to determine the validity of the dispute.
- NIOP-REC-22.** The Home Agency will prepare a Disputed Toll Settlement Report/Form which will detail the amounts and reasons for each disputed toll to the Away Agency. The responsibility of assessing reasonableness and preventing abuse lies with the Home Agency.
- NIOP-REC-23.** The acceptability of the dispute lies with the Away Agency. The Away Agency notifies the Home Agency of the decision to accept or reject the dispute.
- NIOP-REC-24.** The Away Agency must accept or reject the dispute within thirty (30) days of notification from the Home Agency.
Note: The timing starts the day of the dispute notification. In the case where the dispute is filed using the dispute application at a Hub, the filing date is the start of the dispute resolution period, extending 30 days from the filing date. After the filing date, the dispute resolution expires at the Hub. Adjustments may continue to be made as long as the adjustment fits within the adjustment business rules.
- NIOP-REC-25.** Disputes which result in an adjustment will become part of the Reconciliation and Settlement. Rejected disputes will not become part of the Reconciliation and Settlement.
- NIOP-REC-26.** In a situation when a Customer is not satisfied with an Away Agency's resolution of an Interoperable Transaction dispute, the Customer's Home Agency may elect to credit the Interoperable Transaction to the Customer's Account and shall bear the cost of the credit and toll amount associated with the disputed Transaction.
- NIOP-REC-27.** A single Transaction may only be disputed once by the Home Agency.

2.1.4.3 Transaction Fees

- NIOP-REC-28.** The Home NIOP Hub will prepare a report indicating the amount of Transaction fees (if applicable) due from the Away NIOP Hub based upon the accepted reconciled Transactions. The report should include:
- (a) The time period being reconciled and settled
 - (b) The amount due to the Agency detailed as follows:
 - i. Transaction submission identifier
 - ii. Reconciliation Date
 - iii. Count and fee amount for all Interoperable Transactions for which a valid Transaction code has been received and settlement is expected

2.1.4.4 Settlement

The custodial services business process document details the business process for services performed by the Custodian for each Interoperability Hub including settlement transfer of funds between Interoperable Agencies via Interoperability Hubs for Transactions, fees, and other agreed amounts.

- NIOP-REC-29.** Settlements, between NIOP Hubs, will be released by Hub Custodians after the agencies at each Hub have reconciled and agreed to the amounts required. The amounts required will include guaranteed, accepted/posted non-guaranteed Transactions, adjustments, and any applicable Transaction fees. Please refer to Business Rules for Interoperability – Appendix A – Reports.
- NIOP-REC-30.** NIOP settlements between the NIOP Hubs will be in gross amounts (Transaction amounts and fees), unless agreed otherwise by both parties.
- NIOP-REC-31.** The settlement will include a settlement statement recording all reconciled and agreed amounts for the reconciled period.
- NIOP-REC-32.** Settlement statements will be distributed electronically (i.e., electronic drop box, email) to each NIOP Hub’s Custodian and Local Agency, as necessary.
- NIOP-REC-33.** Payments for settlements shall be made electronically.

2.1.5 Data Interchange Requirements

2.1.5.1 General

- NIOP-DIR-1.** Each NIOP Hub shall comply with the ICD.

2.1.5.2 Tag Validation Lists

- NIOP-DIR-2.** The Home Agency shall document the status of its interoperable Tags and associated license plates in the Tag Validation List. The Tag Validation List shall denote the status of tags and associated license plate(s) for each interoperable Tag based on the requirements and status defined in the ICD.
- NIOP-DIR-3.** Tag Validation Lists shall not contain fictitious Tags.
- NIOP-DIR-4.** The NIOP Hubs shall electronically exchange Bulk Tag Validation Lists on a regular schedule, at least once per week. The Bulk Tag Validation List will have “now” valid and zero/negative balance tags. It is up to the Home Agency to determine whether the zero/negative balance tags are included in the Bulk TVL.
Note: If a Home Agency does not provide their TVL in sufficient time to be included in the

Home Hub's Bulk TVL, the Home Hub should derive the Bulk TVL for the Home Agency and include the derived TVL in the Home Hub's Bulk TVL. Refer to NIOP ICD Appendix D.

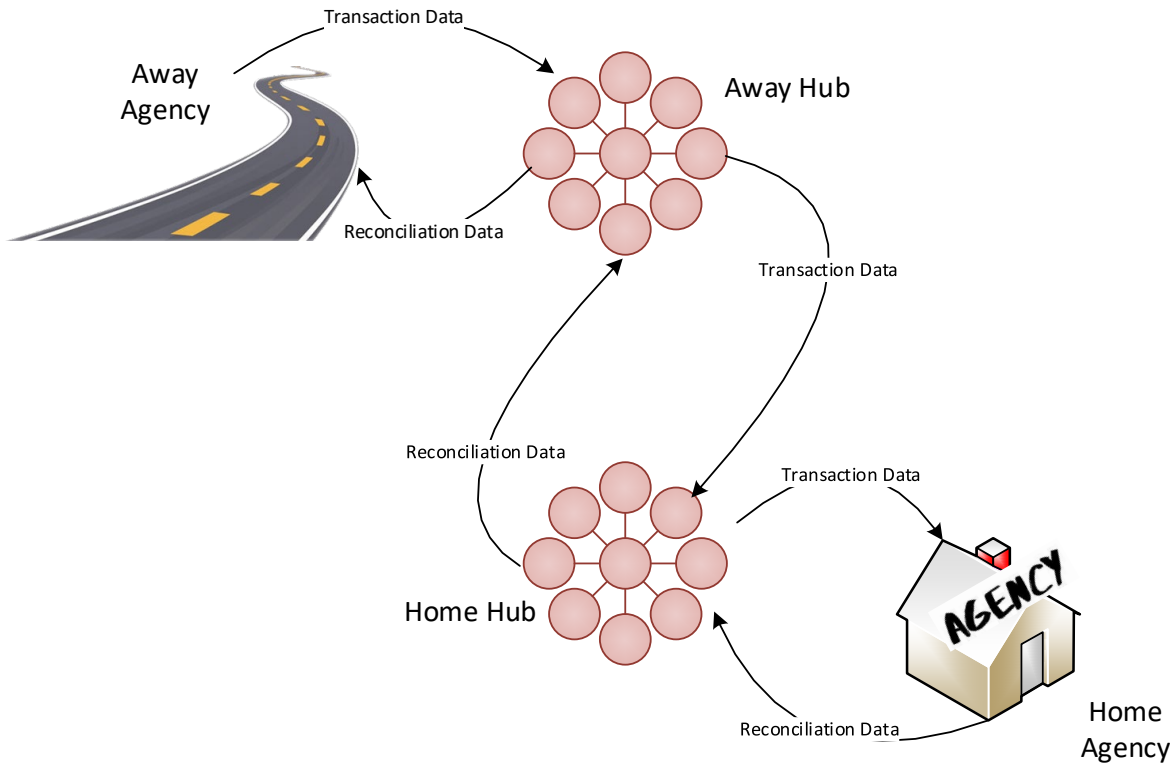
- NIOP-DIR-5.** When changes occur to the Tag Validation List, Home Agencies shall create a Differential Tag Validation List and distribute via the NIOP Hubs. The Differential TVL contains new valid and "now" invalid (invalid, zero/negative balance) tags as compared to the last Bulk TVL. The Differential TVLs are exchanged at least daily. It is up to the Home Agency as to whether the zero/negative balance tags are included in the Differential TVL.
Note: If a Home Agency does not provide their TVL in sufficient time to be included in the Home Hub's Differential TVL, the Home Hub should include the most recent Home Agency Differential TVL received after the most recently active Bulk TVL and include it in the Home Hub's Differential TVL.
- NIOP-DIR-6.** Each Tag Validation List (Bulk or Differential) shall be acknowledged (ACK) by the receiving Hub within sixty (60) minutes of receipt.
Note: The timing is based on the date and time in the submission header. If an ACK is not received, the submission should be resent. If still no ACK, the technical staff should be notified. The calculation using the fields in the NIOP ICD is: Away Hub Acknowledgement Date/Time (first ACK) of the TVL (from Home Hub) minus TVL Submission Date/Time <= 60.0 minutes.
- NIOP-DIR-7.** Each Hub shall maintain a historical record of each Tag Validation List sent to and received from the other Interoperable Agencies and Hubs for a minimum period of one hundred-eighty (180) days.
Note: The timing starts when the TVL is activated (2nd TVL ACK date and time). If the history is not maintained, it may be difficult to research customer complaints. The calculation using the fields in the NIOP ICD is: Away Hub Acknowledgement Date/Time (second ACK) of the TVL (from Home Hub) minus TVL Submission Date/Time <= 180.0 days.
- NIOP-DIR-8.** Each Hub shall provide a utility to be used by authorized users to pull a tag's history in the event of a dispute or other inquiry.
- NIOP-DIR-9.** The Away Hub and each Away Agency is responsible to ensure each TVL is made active as soon as possible after the first acknowledgement.
- NIOP-DIR-10.** The Local Agency's TVL and Transaction Acknowledgement (ACK) date and time is recorded by the NIOP Hub who made the TVL or Transaction Submission available.
- NIOP-DIR-11.** There shall be two Acknowledgements for a TVL from the Away Hub, one to confirm the TVL has been received, the second to establish and record the TVL activation date and time.
- NIOP-DIR-12.** The Away Hub shall establish the TVL activation date and time based on the 2nd Acknowledgement received for the TVL.

- NIOP-DIR-13.** The Home Hub shall use the second TVL ACK to establish the activation date/time of its TVL at another Hub and the tag status at the time of the Transaction.
- NIOP-DIR-14.** It is the responsibility of the Away Agency to ensure bulk files and differential files are applied in order based on Submission Date/Time such that a stale bulk or differential submission would never overwrite a more recent bulk or differential submission.
- NIOP-DIR-15.** In the event the Home NIOP Hub receives a status for the same tag from two different Home Agencies, the NIOP Hub shall not filter the tags when creating and distributing the TVLs.

2.1.5.3 Transactions

The following diagram shows the typical Transaction data flow.

Figure 8: Typical Hub to Hub Transaction Data Flow Diagram



Note: The Transaction and reconciliation data is based on the requirements in the ICD.

- NIOP-DIR-16.** Upon receipt of Transaction records, the Home Agency will attempt to post Transactions to the accounts associated with the transaction record details. It is up to the Home Agency as to whether they will process Transactions with an invalid, or zero/negative tag status. Settlement of a Guaranteed Transaction shall not be dependent on the Transaction’s successful posting; i.e., the Home Agency's obligation to pay the Away

Agency is not contingent upon the Home Agency's ability to post the Transactions to the customer's account.

NIOP-DIR-17. The class and toll rate as determined by the Away Agency will be honored by the Home Agency for settlement purposes whenever the Transactions is accepted by the Home Agency.

NIOP-DIR-18. A Video Transaction could potentially match by license plate data to more than one account based on local data, TVL data and/or PVL data. To help ensure that the correct account is selected in keeping with possible customer intentions, a combination of License Plate Effective dates and Registration Dates should be used to determine the most recent eligible record. The steps should be as follows:

- A. Find all non-fleet TVL/PVL license plate data (including data from Away Agency's local database) whose Effective date range includes the Video Transaction date/time.
- B. From the result set, find the latest Registration Date and utilize that data for posting/transmission.
- C. If no record is found in A and B, find all Fleet TVL/PVL license plate data (including data from Away Agency's local database) whose Effective date range includes the Video Transaction date/time.
- D. From the result set, find the latest Registration Date and utilize that data for posting/transmission.
- E. Local Transaction processing for pursuing payment.

NIOP-DIR-19. The Away Agency shall send at least one Transaction Submission to their Local Hub each day (unless no interoperable Transactions were generated since the last sending).

NIOP-DIR-20. The Away Agency may send Transaction Data to their Local hub in one submission per Home Agency or one submission with all Transactions.

NIOP-DIR-21. The Away Hub shall determine the Home Agency for those Transactions that are grouped together (where the Home Agency has not been determined by the Away Agency) before sending the Transactions to another Home Hub or Home Agency. Submissions that are received where a Home Agency is defined shall be submitted to the Home Hub associated with that Agency or to the Home Agency, intact, without determining the Home Agency.

NIOP-DIR-22. Upon receipt of the Transaction Submission by a NIOP Hub from a Local Agency, the NIOP Hub shall send the Transaction Submission(s) to the Other Hub and/or Local Agencies after sending the acknowledgment to the Local Agency.

NIOP-DIR-23. The Home Hub shall Acknowledge receipt of the Transaction Submission(s) from the Away Hub within sixty (60) minutes of receipt.
Note: The timing is based on the date and time in the submission header. If an ACK is not received, the submission should be resent. If still no ACK, the technical staff should be notified. The calculation using the fields in the NIOP ICD is: Home Hub Acknowledgement

Date/Time of the STRAN (or SCORR) (from Away Hub) minus Away Hub STRAN (or SCORR) Submission Date/Time <= 60.0 minutes.

- NIOP-DIR-24.** The Home Hub shall process the Away Agency's Transaction Submission, from the Away Hub, and provide the associated Reconciliation Submission, within forty-eight (48) hours of the Transaction Submission.
Note: The timing is based on the date and time in the submission header from the Away Hub. If the Reconciliation Submission is not received by the Away Hub, the Away Hub should generate Transaction reconciliation records with an "S" Posting Disposition for the Transactions that were not responded to. The calculation using the fields in the NIOP ICD is: Home Hub SRECON Transmission Date/Time minus Away Hub STRAN (or SCORR) Submission Date/Time <= 48.0 hours.
- NIOP-DIR-25.** Transaction submission(s) Acknowledgements shall be recorded by the Home Hub after the Home Agency Acknowledges the Transaction submission.
- NIOP-DIR-26.** There shall be two Acknowledgements for a Reconciliation Submission from the Home Hub, one to confirm the Reconciliation Submission has been received, the second to record the Reconciliation Date.
- NIOP-DIR-27.** The Away Hub shall determine the Reconciliation Date for a Reconciliation Submission based on the Away Agency's Acknowledgement Date or Date determined by the Away Hub.
- NIOP-DIR-28.** The Home Agencies shall use the second Reconciliation Submission ACK to determine the Reconciliation Date for the original Transaction submission.
- NIOP-DIR-29.** When the Home Agency posts an Interoperable Transaction to a customer's account, the following Transaction information shall be maintained: Transaction date, time, location, Tag ID and/or license plate, Vehicle classification, if available, and toll amount.
- NIOP-DIR-30.** If, by fault of the Away Agency, Transaction processing and posting has not or could not be performed via NIOP processes, then the Away Agency may pursue payment of the Transaction based on the Away Agency's business rules. If the Away Agency decides to pursue payment via invoicing without submitting Transactions to the Hub, the Away Agency will make their best effort to notify their Local Hub who will, in turn, notify the Other Hubs to notify their Agencies.
- NIOP-DIR-31.** A Home Agency may reject a non-guaranteed Interoperable Transaction that is created by a Vehicle associated with an Invalid Tag at the time of the Transaction.
- NIOP-DIR-32.** A Home Agency shall reject an Interoperable Transaction that (1) is a Duplicate Transaction, or (2) comprises a record that does not conform to the requirements of the ICD.
- NIOP-DIR-33.** Rejected Interoperable Transactions processed by the Home Agency shall be classified as "rejected" (or as a status as specified in the ICD) and returned to the Away Agency via

the Hub, where the Interoperable Transaction occurred. Rejected Interoperable Transactions are not subject to the guaranteed payment rules.

- NIOP-DIR-48.** The Away Agency shall utilize due diligence when investigating transactions rejected as duplicates and shall verify that the transaction is not a duplicate prior to resubmission to the Home Agency.
- NIOP-DIR-34.** Processing of customer Transactions at the Away Agency when the Tag is reported as invalid by the Home Agency will be pursuant to the rules and regulations of the Away Agency.
- NIOP-DIR-35.** The Agencies agree to facilitate the identification of violators by the sharing of appropriate information or submissions to the extent permitted by law and their end user license agreement.
- NIOP-DIR-36.** The Agencies will share customer account information only for the purpose of collecting tolls, the enforcement of toll policies or as otherwise applicable by law.
- NIOP-DIR-37.** The Away Agencies will process toll Transaction images in such a manner as to identify customers' accounts in good standing and thereby create a valid Transaction if the result is associated with a Valid Tag.
- NIOP-DIR-38.** If cash, or equivalent, is collected by the Away Agency for any Transaction when the tag is read and used as payment at the same time, the Away Agency will strive to not transfer any such Transactions to the NIOP Hub (and then to the Home Agency) for payment. For example: the Oklahoma Turnpike Authority (OTA) has cash paying customers who also pay via their PikePass. Resolution will be via the dispute process.
- NIOP-DIR-39.** The Home Agency may elect to not process Interoperable Transactions submitted to the Home Agency by the Away Agency more than ninety (90) days after the date and time of the Interoperable Transaction.
Note: The timing is based on the Transaction date. If the Transaction is sent to the Home Agency after the allotted time, the Home Agency may choose not to process the Transaction. If the Home Agency does not process the Transaction, the Away Agency may choose to invoice the Transaction. The calculation using the fields in the NIOP ICD is: Current date/time minus Transaction Exit Date/Time > 60.0 days.
- NIOP-DIR-40.** Away Agencies shall filter out duplicate Transactions prior to sending to the Home Agency.
- NIOP-DIR-41.** Home Agencies shall filter out duplicate Transactions from Away Agencies. In the event the Home Agency does receive duplicate Transaction(s), it shall not Post or remit payment to the Away Agency for the duplicate Transaction(s).
- NIOP-DIR-42.** If an Interoperable Transaction from an Away Agency's facility is adjusted, the Away Agency may submit the adjusted Transaction to the Home Agency for posting within one hundred-eighty (180) days of the Transaction date. Transaction adjustments

(corrections) are not guaranteed by the Home Agency.

Note: The timing is based on the Transaction date and adjustment (correction) date. If an adjustment is made after the allotted time, the Home Agency may choose to not process the adjustment. The calculation using the fields in the NIOP ICD is: Away Agency Correction Date/Time of the SCORR record minus Transaction Exit Date/Time of the original STRAN record <= 180.0 days.

- NIOP-DIR-43.** A Home Agency may identify a license plate as guaranteed in the TVL or PVL as defined in the NIOP ICD. Video Transactions associated with license plates that are guaranteed will be guaranteed in the same manner as Valid Tag Transactions.
- NIOP-DIR-44.** An NIOP Hub shall submit a customer Transaction only to one Home Agency for posting and payment.
- NIOP-DIR-45.** In the event there is more than one Home Agency for one Tag, the Away Hub shall determine where to send the Transaction.
- NIOP-DIR-46.** If a transaction is rejected due to insufficient funds, it may be resubmitted by the Away Agency. The Away Hub shall resubmit the Transaction to the same Home Agency as the original Transaction.
- NIOP-DIR-47.** In the event the Away Hub receives a status for the same tag from two different Home Agencies, the Away Hub should use the most recently updated 'good' tag status when processing Transactions.

For example, an Oklahoma Turnpike Authority (OTA) customer moves to Harris County Texas. They open an account at the Harris County Toll Road Authority (HCTRA) and have their OTA PikePass assigned to their HCTRA account. The customer does not close their OTA Account. Both Home Agencies (OTA and HCTRA) have the same tag with a good status.

OTA and HCTRA send the OTA Tag in their TVL to the Central US Hub. The Central US Hub detects the same tag from two different Home Agencies.

When a Transaction containing the OTA Tag occurs at an Away Agency, the Away Agency will send the Transaction to the Away Hub. The Away Hub will determine the Home Agency based on which tag has the most recent good status and send the Transaction to the Home Hub for routing to the Home Agency.

- NIOP-DIR-49.** A license plate in a TVL is considered valid starting at the License Plate Effective From Date and continues to be valid until the License Plate Effective To Date, if one is present. For License Plates in the TVL, the Tag Status must be Valid for a License Plate to be considered a Valid License Plate. License plates associated with an invalid tag will be considered invalid.

2.1.6 Reporting Requirements

- NIOP-REP-1.** All Interoperable Agencies shall comply with established reporting requirements as defined in these business rules.
- NIOP-REP-2.** The NIOP Hubs shall produce a Transaction Submission Performance report. This report shall contain at a minimum, the submission receive date, submission identifier, the date and time the contents of the submission are sent to each Home Agency, and the date and time the Transaction submissions are responded to by each Home Agency. Please refer to Business Rules for Interoperability – Appendix A – Reports.
- NIOP-REP-3.** In general, reports will be generated and distributed by each NIOP Hub and Agency, as applicable, for which there are Transactions to settle.
- NIOP-REP-4.** Every report shall be able to be exported in CSV (with and without titles) and pdf.
- NIOP-REP-5.** Data for summary reports shall be available for a period of two (2) years.
Note: The timing is based on the Transaction submission date. The calculation using the fields in the NIOP ICD is: Current date – Submission Date from the STRAN (or SCORR) submission <= 2.0 years.

2.1.7 Performance Requirements

2.1.7.1 Hub Performance Requirements

- NIOP-PER-1.** Receipt of a Transaction Submission shall be Acknowledged by the Home Hub to the Away Hub within sixty (60) minutes after receipt. Refer to NIOP-DIR-23.
Note: The timing is based on the date and time in the submission header. If an ACK is not received, the submission should be resent. If still no ACK, the technical staff should be notified. The calculation, using the fields in the NIOP ICD, is Home Hub Acknowledgement Date/Time of the STRAN (or SCORR) (from the Away Hub) minus Away Hub Submission Date/Time of the STRAN (or SCORR) <= 60.0 minutes.
- NIOP-PER-2.** Receipt of a TVL File shall be acknowledged by the Away Hub to the Home Hub within sixty (60) minutes after receipt.
Note: The timing is based on the date and time in the submission header. If an ACK is not received, the submission should be resent. If still no ACK, the technical staff should be notified. The calculation using the fields in the NIOP ICD is: Away Hub Acknowledgement Date/Time (first ACK) of the TVL (from the Home Hub) minus Submission Date/Time of the TVL (from the Home Hub) <= 60.0 minutes. Refer to NIOP-DIR-6.
- NIOP-PER-3.** The Away Hub shall process the Acknowledged TVL File and make available the Home TVL File to the Away Agencies within sixty (60) minutes after receipt.
Note: The timing is based on the date and time in the submission header. The calculation using the fields in the NIOP ICD is Date and Time the TVL is distributed (or made available – depending on how this is done) to the Away Agencies minus Away Hub

Acknowledgement Date/Time (first ACK) of the TVL (from the Home Hub) <= 60.0 minutes.

NIOP-PER-4. The Away Hub shall send the second TVL ACK, indicating the TVL activation date/time, to the Home Hub within four (4) hours. The Home Hub shall send the separate 2nd TVL ACK to its Home Agenc(ies) as needed.
Note: The timing starts at the date and time in the TVL's submission header. If the time is not met, the TVL will not become active. Transactions where tags are added as Valid may not be recognized by the Away Agency and Customers may receive invoices or other notifications to pay other than their toll posted to their account. Tags that have transitioned to Invalid may continue to be guaranteed due to an earlier Valid Tag Status. The calculation using the fields in the NIOP ICD is: Away Hub Acknowledgement Date/Time (second ACK) of the TVL (from Home Hub) minus Submission Date/Time of the TVL <= 4.0 hours.

NIOP-PER-5. The Away Hub shall send the second Reconciliation Submission ACK, indicating the Reconciliation Date, to the Home Hub within four (4) hours. The Home Hub shall send the separate 2nd Reconciliation Submission ACK to its Local Home Agenc(ies), as needed.
Note: The timing is based on the date and time in the Reconciliation submission header. Transactions will not have a Reconciliation Date until the 2nd ACK is received. The calculation using the fields in the NIOP ICD is: Away Hub Acknowledgement Date/Time (second ACK) of the SRECON (from Home Hub) minus Home Hub's SRECON Submission Date/Time <= 4.0 hours.

NIOP-PER-6. The Home Hub shall report, the status of a processed Interoperable Transaction within forty-eight (48) hours of receipt of the Transaction submission containing the Interoperable Transaction.
Note: The timing starts based on the date and time in the Transaction submission header. When the timing is not met the Home Hub should create Reconciliation records that contain "S" at the Posting Disposition for the Transactions that were not responded to. The calculation using the fields in the NIOP ICD is: Home Hub SRECON Transmission Date/Time minus Away Hub STRAN (or SCORR) Submission Date/Time <= 48.0 hours. Refer to NIOP-DIR-24.

2.1.8 Fees

NIOP-FEE-1. The Away Agency shall pay the Home Agency (via the Home Hub's Custodian) a Base Transaction Fee and/or Variable Fee for each Interoperable Toll Transaction that is not rejected, as defined by the Interoperability Agreement between two NIOP Hubs.

NIOP-FEE-2. Transaction Fees shall be reviewed and determined in accordance with procedures agreed upon by the parties to the Interoperability Agreement between two NIOP Hubs. The determined Transaction Fees shall be adopted by, and applicable to, all Interoperable Agencies unless a bilateral agreement exists between Agencies establishing a specific fee.

NIOP-FEE-3. Transaction Fees may be adjusted when a Transaction correction is processed, as defined by the applicable Interoperability Agreement between two NIOP Hubs. A Transaction correction is defined to be a class adjustment, toll credit (ignore original Transaction), location correction, toll adjustment or other reason where the toll is adjusted, as defined in the ICD.

2.1.9 Testing Requirements

2.1.9.1 Hub Testing Requirements

NIOP-TST-1. Each NIOP Hub shall undergo and pass the minimum set of agreed-upon test requirements for certification promulgated by the NIOP Test document.

NIOP-TST-2. Testing for Interoperability shall be at the expense of the Local Hub Agencies who are serviced by the NIOP Hub.

2.1.9.2 Home and Away Agency Testing Requirements

NIOP-TST-3. Each Agency shall undergo and pass the minimum set of agreed-upon test requirements for certification promulgated by the NIOP Test document.

NIOP-TST-4. Testing for Interoperability shall be at the expense of the Agency being certified as interoperable.

2.1.10 Notification of Maintenance and Modifications

NIOP-MNT-1. Interoperable Agencies shall strive to provide a minimum of thirty (30) days notification of tolling system changes, including lane configuration changes that affect interoperability. Agencies will notify their Local Hub, who will strive to disseminate the information to the Other Hubs. The Other Hubs will strive, in turn, to disseminate the information to their Local Agencies.

Note: This is a process managed by the Agency engaging in tolling system changes.

NIOP-MNT-2. Each Interoperable Agency, in receipt of another Interoperable Agency's configuration change or update notification, shall provide notification of intent to configure any required modification to their system's configuration within thirty (30) days. For example, Agencies will notify their Local Hub, who will strive to disseminate the information to the Other Hubs. The Other Hubs will strive, in turn, to disseminate the information to their Local Agencies. NIOP Agencies will make configuration changes, as needed, to accept and process Transactions from the additional roadway.

Note: This is managed operationally.

NIOP-MNT-3. Interoperable Agencies shall strive to provide a minimum of thirty (30) days' notice of scheduled system maintenance to their respective system that will impact another Interoperable Agency and/or the processing of Transactions.

Note: This is a process managed by the Agency engaging in the system maintenance activities.

- NIOP-MNT-4.** Interoperable Agencies will provide immediate notification of a delay in transaction processing that may impact interoperable transactions. Agencies will notify their Local Hub, who will strive to disseminate the information to the Other Hubs. The Other Hubs will strive, in turn, to disseminate the information to their Local Agencies.
- NIOP-MNT-5.** Interoperable Agencies that identifies needed change(s) to National Interoperability shall discuss change(s) within its Region. After review, the Region may draft a change request and present it to the other Regions. The Regions, jointly, will discuss and evaluate the proposed change.
- NIOP-MNT-6.** After discussion and evaluation of a needed change(s), the Region originating the change request will develop any specific technical recommendations for consideration by all the Regions. Upon approval by all the Regions, the change(s) will be made and documented in the NIOP Business Rules and ICD, as applicable. Changes will be phased into each Hub, as needed.
- NIOP-MNT-7.** Semi-annual technical meetings will be scheduled to review technical interoperability topics.

2.1.11 Interoperability Using License Plates Only

The business rules in this section are specified to address interoperability of Vehicles where a License Plate is not associated with a Valid Tag.

NIOP-LP-1. Accepting and processing Plate Validation Lists and utilizing the list for transaction processing is optional for agencies without video toll capabilities.

NIOP-LP-2. There may be multiple Home Agencies for license plates that are eligible for interoperability and a license plate may be in more than one Plate Validation List

2.1.11.1 License Plate Validation Lists

NIOP-LP-3. The Home Agency shall provide its interoperable license plates that are not associated with Tags separately from the license plates that are associated with Tags. License plates associated with Tags shall be in the TVL, license plates not associated with Tags shall be in the PVL.

NIOP-LP-4. The NIOP Hubs shall electronically exchange Bulk Plate Validation Lists (PVL) on a regular schedule, at least once per week. The Bulk PVL will have “current” valid license plates. License plates that are not valid are excluded from the Bulk PVL.

Note: If a Home Agency does not provide their Bulk PVL in sufficient time to be included in the Home Hub’s Bulk PVL, the Home Hub should derive the Bulk PVL for the Home Agency and include the derived PVL in the Home Hub’s Bulk PVL. Refer to NIOP ICD Appendix D.

NIOP-LP-5. A license plate in a PVL is considered valid starting at the License Plate Effective From Date and continues to be valid until the License Plate Effective To Date, if one is present.

NIOP-LP-6. When changes occur to the Plate Validation List, Home Agencies shall create a Differential Plate Validation List and distribute via the NIOP Hubs. The Differential PVL contains new or updated valid license plates as compared to the last Bulk PVL and license plates that are no longer valid. The Differential PVLs are exchanged at least daily.

Note: If a Home Agency does not provide their PVL in sufficient time to be included in the Home Hub’s Differential PVL, the Home Hub should include the most recent Home Agency Differential PVL received after the most recently active Bulk PVL and include it in the Home Hub’s Differential PVL.

NIOP-LP-7. Each Plate Validation List (Bulk or Differential) shall be acknowledged (ACK) by the receiving Hub within sixty (60) minutes of receipt.

Note: The timing is based on the date and time in the submission header. If an ACK is not received, the submission should be resent. If still no ACK, the technical staff should be notified. The calculation using the fields in the NIOP ICD is: Away Hub Acknowledgement Date/Time (first ACK) of the PVL (from Home Hub) minus PVL Submission Date/Time <= 60.0 minutes.

NIOP-LP-8. Each Hub shall maintain a historical record of each Plate Validation List sent to and received from the other Interoperable Agencies and Hubs for a minimum period of one hundred-eighty (180) days.

Note: The timing starts when the PVL is acknowledged. If the history is not maintained, it may be difficult to research customer complaints. The calculation using the fields in the NIOP ICD is: Away Hub Acknowledgement Date/Time of the PVL (from Home Hub) minus PVL Submission Date/Time <= 180.0 days

NIOP-LP-9. Each Hub shall provide a utility to be used by authorized users to pull a license plate's history in the event of a dispute or other inquiry.

NIOP-LP-10. The Local Agency's PVL (ACK) date and time is recorded by the NIOP Local Hub who made the PVL available.

NIOP-LP-11. In the event the Home NIOP Hub receives a status for the same license plate from two different Home Agencies, the NIOP Hub shall not filter the license plates when creating and distributing the PVLs.

2.1.11.2 Transactions

NIOP-LP-12. A transaction dated after the License Plate Effective To date will not be included in the Transaction Submission to the Local Hub.

NIOP-LP-13. When the Home Agency posts an Interoperable Transaction to a customer's account the license plate number, state and country shall be maintained for Video Transactions.

NIOP-LP-14. The Away Agencies will process toll Transactions and their associated images in such a manner as to identify Valid Tags and/or Valid License Plates in the TVL and/or PVL and create a Valid Transaction.

NIOP-LP-15. Video transactions associated with a Valid License Plate in the PVL will be guaranteed in the same manner as Valid Tag Transactions for the purpose of interoperability if the license plate is identified as "guaranteed" in the PVL.