Tolling and Customer Service Work Group

2020 Deliverables

2021 IBTTA Board Recommendations

January 8, 2021

This document includes deliverables for IBTTA 2020 initiatives for the Emerging Technologies Committee, Tolling and Customer Service Workgroup as approved by the IBTTA Board of Directors. Included in this document are Third-Party Customer Service Benchmarks, Third-Party Interface Control Document, Third-Party Legal Agreement.

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Introduction

Tolling and Customer Management Background

The Tolling and Customer Management work group is currently focused on the Toll Operator and third-party account issuer relationship. The work group was formed in 2019 as part of the IBTTA Board approved initiative under the Tolling and Emerging Technologies Committee. The deliverable for 2019 was a white paper which served as a roadmap of considerations for working with a third-party account issuer. The paper focused on four (4) main areas:

1. Why would an agency work with a third-party for account issuance?
2. What are the legal considerations when working with a third-party?
3. What are the technical considerations when working with a third-party?
4. What are the customer service considerations when working with a third-party?

2020 Deliverables

In January, 2020, the IBTTA Board approved the white paper deliverable and accepted our recommendations to provide standardized tools for Toll Operators and Vendors to connect to one another. The deliverables for the 2020 year include:

- Standardized Legal Agreement This agreement is a global agreement that any Toll Operator can use to connect to a third-party. The agreement provides required legal language to ensure that Toll Operator, vendor, and customer information is handled appropriately, legal roles and responsibilities are identified, and includes other necessary legal assurances for all parties.

- Standardized Technical ICD The ICD is a standard ICD that any Toll Operator may use to connect a third-party to their back-office system. The ICD is considered open-source and has been evaluated and developed by this work group. This ICD will follow Open Source Initiative (OSI) standards https://opensource.org and will incorporate interoperability initiatives where appropriate. The ICD will be published by IBTTA, upon approval, for all members to access and use.
- Baseline, Standardized Customer Service Requirements These customer service requirements are benchmarks that a vendor should be prepared to meet, as a third-party provider. The CS requirements are not prescriptive as in the case of most back-office models. Since third-parties provide specialized services and solutions, the CS requirements focus on ensuring that the third-party provider has the necessary tools to support customers in managing their accounts.

Important Note: These deliverables are meant to serve all IBTTA member Toll Operators and Vendors, alike. As such, it was tantamount that all participants provided input that was unbiased and could be shared with the industry. Any information contained in these documents is for the benefit and consumption of all IBTTA members and should not be considered confidential or proprietary.

2021 Recommendations

1. Third-Party Pilot Project - Solicit a Toll Operator interested in implementing a third-party solution using all three deliverables including:
    a. Legal Agreement
    b. Interface Control Document
    c. Customer Service Benchmarks

This will provide an opportunity to test and improve the deliverables while documenting the process for additional recommendations.

2. Expand ICD and Work Group Participants - Explore recommendations for expanding the ICD for other third-party services including MaaS, Road User Charging, Rideshare, Parking, and other in-vehicle services. Deliverables for 2021 are possible pilot projects with additional third-party providers.
3. Standardized Procurement – Create a standardized procurement for Toll Operators to evaluate and implement third-party services. As third-party solutions differ to meet specific Toll Operator needs and; as fleet providers have evolved and changed over the years, these differences do not lend themselves to a competitive, apples-to-apples comparison process. The procurement would be intended to provide the Toll Operators a method and process to evaluate and

determine if a solution is a viable option for their specific needs.

4. Work Group Name Change – We are requesting to change the work group name from Tolling and Customer Management to Third-Party Providers. Third-party Providers best describes the work group as we continue to expand the scope to include additional providers including MaaS, rideshare, RUC, Auto OEMs and other tolling and transportation services/solutions.

Tolling and Customer Service Work Group

Third-Party Legal Agreement

January 8, 2021

This document is a draft legal agreement for Toll Operators and third-party providers who wish to enter into a relationship for third-party account issuance services.

Workgroup Chair: *Shannon Swank*

Key Contributing Authors: *Elizabeth Wang*

Committee Members: *Elizabeth Wang*

Committee Chair Liaison: *Frank Velez*

AGREEMENT FOR THIRD PARTY

ACCOUNT MANAGEMENT AND COLLECTION OF TOLLS

THE STATE OF_____§

COUNTY OF _____§

This agreement for third party account management and collection of tolls ("Agreement") is made and entered into as of _____, 2020 ("Effective Date"), between the [TOLL OPERATOR], a [TYPE OF ENTITY] and a political subdivision of the state of [NAME OF STATE], ("Operator") and [THIRD PARTY], a [TYPE OF ENTITY], ("Contractor"). [Toll Operator] and [Third Party] are sometimes referred to in this Agreement individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, pursuant to [STATUTORY CITE] Operator is legally authorized to enter this Agreement with Contractor;

WHEREAS, Operator seeks to offer the public alternative payment methods for their use of Operator's tolled roads;

WHEREAS, Operator seeks to contract with a third party vendor for the [SPECIFIC SERVICES TO BE PROVIDED] for which the third party vendor will operate and manage;

WHEREAS, Operator seeks for this third party vendor to provide a [TYPE ACCOUNT MANAGEMENT e.g. PHONE APP, SALE OR DISTRIBUTION OF TRANSPONDERS], whereby the third party's customers may register to pay tolls using a [TYPE OF ACCOUNT TOOL e.g. SMARTPHONE, CUSTOMER SERVICE CENTER, PHONE APP] for account management and [TYPE OF IDENTIFIER e.g. VEHICLE LICENSE PLATE OR TRANSPONDER] as an account identifier;

WHEREAS, Contractor has represented to Operator that it is experienced, qualified and prepared to perform all of the services described herein with due diligence;

WHEREAS, Operator is satisfied that Contractor is capable of performing the required services and desires to contract with Contractor to perform the services described in the Scope of Work set forth herein; and

WHEREAS, Contractor proposes to provide these services at no cost to the Operator, by charging fees to its Customers.

NOW, THEREFORE, in consideration of the mutual covenants, agreements, benefits and conditions to the Parties set forth below, the Parties agree as follows:

1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Agreement.

2. Agreement Document. Incorporated into this Agreement are: [LIST ANY PROVISIONS OF EXTRINSIC CONTRACTS THAT MAY BE BINDING ON THE PARTIES OF THIS AGREEMENT FOR THE LIMITED PURPOSES OF PROVIDING THE SERVICES HEREIN DESCRIBED].

3. Definitions. Unless otherwise defined herein, terms with initial capital letters and abbreviations used in this Agreement shall have the definitions set forth in Exhibit A.

4. Term and Termination. This Agreement shall be for [NUMBER] years and shall begin on the Effective Date and shall end on the day before the [NUMBER] anniversary of the Effective Date ("Initial Term").

4.1 [SELECT ONE OF THE OPTIONS BELOW.]
[Option 1] Thereafter, Operator may elect to renew this Agreement on the same terms and conditions for up to [NUMBER] additional renewal period(s), each with a term of up to [NUMBER] year(s) ("Renewal Term"), which shall be evidenced by an amendment signed by both Parties.

[Option 2] Following the expiration of the Initial Term, this Agreement shall automatically renew for an additional term of [NUMBER] year(s) ("Renewal Term"), unless Operator notifies Contractor in writing at least thirty (30) days before the expiration of the Initial Term that Operator elects to not renew this Agreement.

4.2 The Initial Term and any Renewal Terms may be referred to collectively as the "Term."

4.3 Either Party may terminate this Agreement upon one hundred and twenty (120) days written notice to the other Party.

4.4 The Parties agree to prepare a Termination Plan within sixty (60) days of receiving a notice of termination. The Termination Plan shall include, but shall not be limited to: 1) reconciliation of all accounts and 2) notification by Contractor to its Customers of the option to transition to an Operator's account.

4.4.1 Operator shall provide Contractor, in writing, a [METHOD e.g. PHONE NUMBER WEBSITE ADDRESS] Contractor Customers' may use to transition to an Operator's account. This [METHOD e.g. PHONE NUMBER WEBSITE ADDRESS] shall be included in Contractor's notification to its Customers.

5. Compensation. The Contractor shall be compensated for all services it provides under this Agreement as follows.

5.1 [DESCRIBE COMPENSATION]

SCOPE OF WORK

6. Transaction Processing and Payment. Contractor shall provide [DESCRIBE SERVICE(S) TO BE PROVIDED e.g. MAKE PHONE APP AVAILABLE ON THE APP STORE, SELL A PHONE APP ON THE APP STORE, SELL OR DISTRIBUTE A TRANSPONDER AND TRANSPONDER PACKAGING] for the processing and payment of Transactions incurred on Operator's roads and other interoperable toll roads.

6.1 The cost of the [CONTRACTOR'S PROGRAM/PRODUCT] are defined in Exhibit B.

6.1.1 Customers will be able to [PURCHASE OR DOWNLOAD] a [NAME OF APP OR TRANSPONDER] for an amount set forth in Exhibit B.

6.1.2 All fees charged to Contractor's Customers are defined in Exhibit B and subject to the approval of Operator, which shall not be unreasonably withheld or delayed.

6.1.3 Contractor will not charge its Customers a toll rate that is more than the rate Operator calculates. The foregoing is not intended to restrict Contractor from imposing its own fees or charges related to the activation, maintenance or administration of account for Contractor's Customers, separate and apart from the Tolls charges.

6.3 Contractor shall establish a bank account at a federally insured banking institution where it will deposit its Customers' toll funds. Contractor shall provide Operator periodic audit reports of the Contractor's bank account and Contractor shall allow Operator to view, at any time, the balance of the Contractor's bank account.

6.4 Contractor shall provide Operator a valid credit card for the automatic billing of toll charges for Transactions incurred by a vehicle associated with a Contractor's Customer Account or Contractor shall credit, no less than monthly, Operator's bank account for all such toll charges.

6.5 Contractor shall pay Operator the full amount of all tolls for which Contractor is responsible under this Agreement; no partial payment of any toll will be sufficient to satisfy this obligation.

6.6 Contractor shall have the right to provide other tolling agencies Account Information for the purpose of allowing other tolling agencies to charge Contractor's Customers for tolls.

6.7 Operator shall be responsible for the collection of any Transaction incurred when an Account is reported inactive.

7. Transponder and Transponder Packages. Contractor shall design and develop the Transponder and Transponder Package.

7.1 The Transponder Packages shall include and shall not be limited to: activation instructions; placement of transponder instructions; "User Directions;" "Terms of Use;" and [SPECIFIC REQUIRED CONTENTS].

7.2 Contractor shall seek Operator's approval for any use of Operator's logos, trademarks, or other assets.

7.3 When Contractor completes its design of the Transponder and Transponder Package, it shall send the design to Operator for review and approval. Operator shall review and comment within three (3) business days of the date the design is sent by Contractor, otherwise the design shall automatically be approved at the expiration of this three-day period.

7.4 Upon completion and approval of the design, the Operator shall produce the Transponders and Transponder Packages through Operator's contractor.

7.5 Contractor shall purchase Transponders and Transponder Packages from Operator and manage the inventory of Transponders, refill cards and Transponder Packages.

7.6 Contractor shall distribute the Transponders and Transponder Packages from [DISTRIBUTION LOCATION].

8. Business Rule Development. Contractor shall develop business rules with the approval of Operator, which shall not be unreasonable withheld or delayed.

8.1 Contractor shall develop business rules for:

8.1.1 Distribution of the [CONTRACTOR'S PRODUCT NAME];

8.1.2 The tracking and activation by the [CONTRACTOR'S REQUIREMENT]; and

8.1.3 Operation, management and audit of any Transponder Program developed or used under this Agreement.

9. Integration. Contractor shall work with Operator to develop and to provide a technical interface that enables the exchange of electronic data between the Parties' respective computer systems.

9.1 The Parties agree to operate in accordance with an Interface Control Document ("ICD").

9.2 This interface shall have sufficient network connectivity capacity to satisfy the requirements of this Agreement.

9.3 Contractor shall provide Operator its Customer Transponder Information and license plate information through this interface as soon as reasonably possible.

9.4 Contractor shall provide Operator with its Customers' Transponder Identification and status as defined in the ICD.

9.5 All toll transactions processed under this Agreement shall flow through Operator's system interface and shall be accessible to designated Operator staff.

10. Costs and Expenses. Operator shall not be responsible for any costs or expenses incurred by Contractor in order to comply with the terms of this Agreement, unless otherwise agreed upon by the Parties.

11. Reconciliation and Settlement. Reconciliations shall include, at a minimum, the number of transactions sent, the number of transactions received, and the number of transactions rejected.

11.1 Contractor and Operator shall reconcile transactions daily.

11.2 At the end of each month, Contractor and Operator shall prepare a monthly comprehensive reconciliation, which shall include:

11.2.1 Tolls owed to Operator;

11.2.2 Any adjustments/credits to Contractor; and

11.2.3 Any shortfall payment to the Operator.

11.3 Each monthly reconciliation shall be completed by the tenth (10^{th}) business day of the following month.

11.4 Any settlement of monies owed shall be made within fifteen (15) days after the reconciliation.

12. Customer Service. Contractor is responsible for all customer service and account related issues.

12.1 The Parties shall develop a process for the resolution of customer service issues and transaction disputes (collectively referred to as "Customer Issues").

12.1.1 This process shall notify, address, and resolve Customer Issues related to Operator's toll system and interoperable partners.

12.1.2 This process shall include sending relevant documentation of any Customer Issue to the Operator.

12.2 The Parties shall work to resolve Customer Issues within three (3) business days following the date of first contact by the Customer regarding the issue.

12.3 Each Party shall identify key personnel who are authorized to address Customer Issues related to Operator's toll system or other interoperable partners where Operator is the representative for the user account on an interoperable network.

12.3.1 Although third party contractors hired to provide customer service or technical assistance may be included among the identified key personnel, the Parties shall each designate at least two employees with authority to address Customer Issues.

12.4 The Parties will jointly develop training material for use by their respective customer service representatives to ensure consistent information is provided to Customers.

12.5 Contractor shall maintain a dedicated telephone number and email address for communication with Customers.

12.6 Contractor shall provide the following customer service and support for its retail sale or other distribution of the Transponder Program:

IVR	7 days a week; 24 hours
Call Center	Monday - Friday; 6:00 a.m. to 6:00 p.m.
Text Message Alerts	7 days a week; 24 hours
Phone Application	7 days a week; 24 hours
Email Support	Monday - Friday; 6:00 a.m. to 6:00 p.m.

13. Requests for Transaction Detail.

13.1 Contractor may request Transaction Detail for transponders and vehicles that are being used in violation of Contractor's Terms of Use or for vehicles that Contractor believes are using a stolen transponder.

13.1.1 Contractor shall provide evidence of its belief that the Contractor's Terms of Use have been violated or that a vehicle is operating with a stolen transponder.

13.1.2 Upon Contractor's request, the Operator shall timely provide the Transaction Details of all transactions for the requested vehicle.

13.2 Should Operator observe a transaction for a Contractor's transponder that has not been properly activated with Operator, Operator shall report the Transaction Details to Contractor without requiring a request from Contractor.

14. Transfer of Contractor's Transponder to Operator Account. Under this Agreement, Contractor Customers may, at any time, add their Contractor Transponder to an Operator Account.

14.1 Upon notification by its Customer, Contractor shall immediately direct the Customer to Operator's call center by providing the Customer a phone number designated by Operator.

14.2 Contractor shall not penalize its Customers for choosing to add their Transponder to an Operator Account.

14.3 Contractor shall be responsible for refunding any monies remaining on its Customer's Transponder.

15. Marketing. The Parties agree to work to develop a plan for marketing any Transponder and Transponder Package developed under this Agreement.

15.1 All Contractor marketing, customer education materials and media statements related to or provided pursuant to this Agreement that mention or refer to Operator must be approved in advance by Operator.

16. Records and Audit Rights. Contractor shall maintain, consistent with its standard practices, accurate and complete books and records relating to Contractor's performance under this Agreement.

16.1 Contractor shall make its books and records relating to this Agreement and any Transaction processed and paid pursuant to this Agreement available for examination, audit and inspection by Operator, or any duly authorized agent of Operator, without charge.

16.1.1 Contractor will make these books and records available during normal business hours at the location where such books and records are customarily maintained.

16.1.2 Contractor shall retain the books and records for a minimum of five (5) years after the date the record or document is generated.

16.2 Operator may conduct any such examination, audit, and inspection upon three (3) business days written notice and without prior notice where there is good faith suspicion of fraud.

16.3 Any records relating to claims and disputes between the Parties, or any known third-party claim against either Party, will be retained until such claims or disputes are finally resolved.

17. Confidential Information. The Parties shall only disclose, transfer, use, copy or allow access to any Confidential Information to an employee or to a third party who has a need to know such Confidential Information in order for either Party to perform under this Agreement, otherwise such Confidential Information shall not be disclosed, transferred, used, copied or allowed access to without authorization in writing from the Party owning the Confidential Information.

18. Customer Confidential Information. The Parties shall maintain Customer Confidential Information in the same manner as Confidential Information under this Agreement and in compliance with all applicable laws and regulations.

18.1 The Parties shall not make use of Customer Confidential Information for any purpose other than the performance of this Agreement.

GENERAL PROVISIONS

19. Notices. All Notices between the Parties shall be in writing and shall be sent by certified mail, return receipt requested, hand delivered, or via reputable overnight air courier, to the address and person set forth below.

19.1 Parties initially designate as the place and person upon whom all Notices shall be served, as follows:

If to Operator:

[TOLL OPERATOR]
Attention: [NAME OF DESIGNATED PERSON]
[STREET ADDRESS]
[CITY, STATE ZIP CODE]
Telephone:
Email:

If to Contractor:

[THIRD PARTY]
Attention: [NAME OF DESIGNATED PERSON]
[STREET ADDRESS]
[CITY, STATE ZIP CODE]
Telephone:
Email:

19.2 Either Party may change the above address or designated person by sending written notice of such change to the other Party in the manner provided for above.

19.3 All Notices shall be effective upon receipt by the Party to whom notice is directed.

20. Exhibits. Exhibits referred to in this Agreement and attached hereto are incorporated herein in full as if each of such exhibits were set forth in the body of this Agreement and duly executed by the Parties.

21. Written Amendments. Any changes in the character, agreement or responsibilities of the Parties shall be enacted through a written amendment and executed by both Parties.

22. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which, taken together, shall be construed as a single instrument.

23. Entire Agreement. This Agreement sets forth the entire understanding and supersedes any prior agreement between the Parties relating to the services herein described. Neither Party shall be bound by any prior condition, provision, representation, warranty, covenant or promise not incorporated into this Agreement.

24. Authorization. Each Party represents to the other that it is fully authorized to enter into this Agreement and to perform its obligations hereunder and that no waiver, consent, approval, or authorization from any third party is required to be obtained or made in connection with the execution, delivery, or performance of this Agreement in accordance with its terms, other than those that have been obtained.

25. Interpretation. No provision of this Agreement shall be construed against or interpreted to the disadvantage of any Party by any court or other governmental or judicial authority by reason of such Party having or being deemed to have drafted, prepared, structured, or dictated such provision. The use of the word "shall" in this Agreement connotes a contractual right, covenant or obligation, as applicable.

26. Relationship of the Parties. In performing services under this `Agreement, Contractor acts and is an independent contractor, and no provision of this Agreement shall be construed as making Contractor the agent, servant, or employee of Operator.

26.1 Without limiting the foregoing, the Parties' purposes for entering this Agreement are separate and distinct, and there are no pecuniary interests, common purposes, and/or equal rights of control among the Parties. Contractor shall be responsible for and retain full control of all means and methods employed in performing the services under this Agreement.

27. Assignment and Sub-Contracting. Contractor shall not assign this Agreement or any portion thereof without the prior written consent of Operator, which shall not be unreasonably withheld or delayed.

27.1 Without implication that this Agreement may be transferred and assigned other than as herein provided, rights and privileges, terms and conditions, and duties and obligations created in this Agreement shall be binding upon and shall inure to the benefit of the Parties and their respective successors, administrators and assignees.

28. No Third-Party Beneficiaries. Nothing is this Agreement or in any approval subsequently provided by either Party shall be construed as conferring any benefits, rights, remedies, or claims to any person not a party to this Agreement.

29. Contracts with Other Toll Road Entities. Contractor retains the right and ability to enter into contracts with other toll road entities for service similar to those it will provide hereunder.

29.1 No provision of this Agreement shall be construed as limiting Contractor's ability to enter into a such contracts.

29.2 If Contractor desires to enter an agreement with another toll road entity in [STATE], Contractor shall provide Operator ninety (90) days-notice prior to signing the agreement.

30. Compliance with Laws. Contractor shall comply with all federal, state and local laws, statutes, ordinances, rules and regulations, and the order and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement.

31. Representations, Warranties & Covenants. Both Parties represent and warrant that all prerequisite actions to their execution of this Agreement have been duly and effectively taken; that the

Agreement will be a valid and enforceable obligation in accordance with the terms and conditions of this Agreement.

32. Limitations. All covenants and obligations of the Parties under this Agreement will be deemed to be valid covenants and obligations of said entities, and no officer, director, or employee of Operator or Contractor will have any personal obligations or liability hereunder.

33. Indemnification. Contractor agrees to, and hereafter shall, indemnify, hold harmless, release, protect and defend Operator against any and all claims, liabilities, obligations, losses, damages, penalties, actions and causes of action of every kind, cross-actions, third-party actions, actions in intervention, actions for contribution and indemnity, judgments, administrative actions and proceedings, administrative orders, costs, expenses, disbursements or requirements of any kind or any nature whatsoever which have been or may ever be asserted by any person with respect to any negligent or wrongful act of the offending party arising out of or pertaining to this Agreement, or any action taken or omitted by the offending party under or pursuant to this Agreement or its duties and obligations under this Agreement. Such acts or omissions are expressly limited to those that constitute negligent failure, contractual misrepresentations, or willful malfeasance in performance of obligations under this Agreement. Such indemnity includes any judgment against non-offending party including reasonable attorney's fees, and necessary litigation expenses related to defending the matter.

34. Waiver. No consent or waiver, express or implied, by either Party to any breach or default by the other Party of any provision of this Agreement shall be deemed or construed as consent or waiver of the rights of a Party under this Agreement. No such consent or waiver shall serve to establish a course of performance between the Parties contradictory to the provisions of this Agreement. Any such consent or waiver must be in writing in order to be effective.

35. Severability. If any provision of this Agreement or the application thereof to any person or circumstance is rendered or declared illegal for any reason and is invalid or unenforceable, all other parts of this Agreement shall remain in full force and effect to the greatest extent permitted by applicable law.

36. Force Majeure. Neither Party shall be liable for any failure or delay in performing an obligation under this Agreement that results from any of the following causes, to the extent beyond the Party's reasonable control: act of God, accident, riot, war, terrorist act, epidemic, pandemic, quarantine, civil commotion, breakdown of communication facility, breakdown of web host, breakdown of internet service provider, natural catastrophe, governmental act or omission, change in law or regulation, national strike, fire, explosion, general lack of availability of raw material or energy.

37. Dispute Resolution. Any disputes between the Parties concerning this Agreement that cannot be resolved at the staff level will be referred to each Party's respective authorized representative for resolution. If the Parties' representatives do not resolve the dispute, then the Party making a claim may advance it in accordance with the laws and administrative rules applicable at the time of the dispute. The Parties will satisfy the requirement for alternative dispute resolution by participating in non-binding mediation, unless otherwise agreed to by the Parties.

38. Governing Law and Venue. This Agreement shall be governed by and construed in accordance with the laws of the State of [NAME OF STATE].

38.1 Exclusive venue for all disputes arising from this Agreement shall be in the proper courts of [NAME OF COUNTY, NAME OF STATE], and each Party submits to the jurisdiction of such courts.

APPROVED AS TO FORM AND SUBSTANCE:

[TOLL OPERATOR]
[STREET ADDRESS]
[CITY, STATE ZIP CODE]

By: _____
Name: _____
Title: _____
Date: _____

[THIRD PARTY]
[STREET ADDRESS]
[CITY, STATE ZIP CODE]

By: _____
Name: _____
Title: _____
Date: _____

EXHIBIT A: DEFINITIONS

As used in this Agreement, the capitalized terms set forth below shall have the respective meanings below.

"Account" means an account created by either the Contractor or Operator to track and/or pay tolls and fees that contains, but is not limited to, the name of a vehicle's registered owner, license plate number, vehicle information and transaction data.

"Account Information" means information relating to an Account such as, but not limited to, the name of a vehicle's registered owner, license plate number, vehicle information, transaction history and charges of tolls and fees.

"Agreement" has the meaning set forth in the introductory paragraph of this Agreement.

"Confidential Information" means all non-public, confidential or proprietary information of a Party of this Agreement, which includes, but is not limited to, specifications, samples, patterns, designs, plans, drawings, documents, data, business operations, pricing, discounts or rebates, disclosed during the term of this Agreement.

"Contractor" has the meaning set forth in the introductory paragraph of this Agreement.

"Contractor Customer" means the registered owner of a vehicle that has an Account with the Contractor.

"Contractor Transponder" means a transponder acquired through the Contractor.

"Customer" means the registered owner of a vehicle traveling on Operator's road.

"Customer Confidential Information" means a Customer's Account and travel records, including, but not limited to, all personal information such as name, address, social security number, email address, telephone number, financial profile, credit card information, driver's license information, vehicle registration information, medical data, law enforcement records and customer identification numbers.

"Customer Issues" means customer service issues and/or transaction disputes.

"Customer Transponder Information" means information relating to a Transponder such as, but not limited to, transponder identification number, name of the transponder account holder, name of the vehicle's registered owner, license plate number associated with the transponder, vehicle information, transaction history and status of the transponder.

"Effective Date" has the meaning set forth in the introductory paragraph of this Agreement.

"Initial Term" has the meaning set forth in the introductory paragraph of this Agreement.

"Interface Control Documents" also referred to as "ICD" means the formal means of establishing, defining, and controlling interfaces between systems and of documenting detailed interface design information and interface rules.

"Notices" means, but is not limited to, all notices, demands, invoices, change orders, relating to this Agreement.

"Operator" has the meaning set forth in the introductory paragraph of this Agreement.

"Operator Account" means a registered owner's Account with the Operator.

"Party" also referred to as "Parties" has the meaning set forth in the introductory paragraph of this Agreement.

"Renewal Term" has the meaning set forth in the introductory paragraph of this Agreement.

"Term" means the time period in which this Agreement shall be effective and binding on the Parties.

"Termination Plan" means a plan jointly developed by Operator and Contractor that sets forth, in detail, how the commencement and termination of this Agreement will be conducted without loss of data or interruption to either Party.

"Toll" and "Tolls" means a charge for each Transaction.

"Transaction" means an electronic record of each single passage through the Operator's gantry by a vehicle.

"Transaction Detail" means information regarding any Transaction that includes, but not limited to Transaction timestamp, location of Transaction including lane, vehicle classification and any images associated with the Transaction.

"Transponder" means a small, thin electronic collection device that adheres to a vehicle's windshield and is associated with an Account that automatically deducts the proper tolls when used on a toll road.

"Transponder Package" means a package containing an individual Transponder.

"Transponder Program" means the distribution of transponders including financial and customer service account maintenance.

"Violation" means failure to pay a Transaction, in part or in full, as required by operation of a vehicle on Operator's road.

EXHIBIT B: COSTS

Contractor is responsible for negotiating terms and agreements that adhere to the costs as defined below.

PRODUCT COST (not to exceed): Program Cost is the cost of packaging, inventory control, shipping, retail infrastructure, customer service support for activation, account management, and app support. This cost may fluctuate depending on retail and other infrastructure requirements.	**$**
PRE-LOADED TOLLS: Pre-loaded Tolls are the tolls loaded into an account and available for use by the Customer upon activation.	**$**
TRANSPONDER COST / APP DOWNLOAD COST	**$**
TOTAL TRANSPONDER PACKAGE SALE OR APP DOWNLOAD (not to exceed)	**$**
RELOAD OR OTHER FEES (not to exceed): Reload Fees are service fees charged in addition to tolls.	**$**

Tolling and Customer Service Work Group

Third-Party Interface Control Document (ICD)

January 8, 2021

This Interface Control Document is an open-source ICD for all International Bridge Tunnel and Turnpike members to use for third-party back office connection and data exchange, in particular, account issuance and transaction management.

Workgroup Chair: *Shannon Swank*

Key Contributing Authors: *Scott Cooper, Glenn Deitiker, Barb Jewell, John Mike, Heather Nolan, Courtney Powell, Terri Slack, Shannon Swank*

Committee Members: *Scott Cooper, Glenn Deitiker, Franz Hlava, Mark Hoffa, Barb Jewell, John Mike, Rajesh Murugiah, Heather Nolan, Courtney Powell, Terri Slack, Robert Todd*

Committee Chair Liaison: *Frank Velez*

Document History

Date	Version	Author	Summary of Changes
January 8, 2021	V0.1	TPP	Initial Submittal

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1 Background

In 2019 the International Bridge Tunnel and Turnpike Association (IBTTA) Board of Directors formed the Emerging Technologies (ET) Committee. The Tolling and Customer Management Work Group is a subcommittee under the ET Committee. As part of the ET Committee goals, each work group was charged with the development of a white paper and subsequent recommendations for the Board for the IBTTA's 2020 year goals.

To that end, the Tolling and Customer Management Workgroup, developed a White Paper to provide a roadmap for engaging third-party providers that offered the evaluation of the following for Toll Operators:

- Why engage a third-party?
- Legal Considerations
- Technical Considerations
- Customer Service Considerations

The paper described high level concepts for each consideration listed above. At the end of the paper, recommendations were made to the Board to continue the work that Tolling and Customer Management was performing. Recommendations included:

- Legal Recommendations
    - Develop a standardized legal agreement that agencies could use as a base for engaging third-parties.
- Technical Recommendations
    - Develop a Standard ICD that agencies could use to engage third-parties
    - The ICD would be a basic, real-time ICD as a starting point for the industry. It will likely be our recommendation to evolve the ICD in 2021 and beyond. With changes in technology, the continued development of Block Chain and Big Data concepts, it will become increasingly important to update and evolve the initial ICD.
- Customer Service Recommendations
    - The work group recommended the development of Customer Service benchmarks. The benchmarks are not meant to be prescriptive but rather a metric to ensure that agencies are not inundated with calls about a third-party solution; and that customers receive the support they need to manage and gain information from their accounts.

As a result, this ICD is the product of those recommendations as approved by the IBTTA Board.

NOTE: This ICD focuses primarily on the US/North American market. It has been recommended to the Emerging Technologies Committee to explore other standardized ICDs for non-US markets. This ICD was developed out of a desire and a need for a standard third-party ICD for account issuance and management in the US/North American market. All other markets are beyond this scope of work.

1 Purpose

The IBTTA interface is used to exchange information between a Third-Party Provider (TPP) and participating Agencies in support of the requirements of the Third-Party Tag Program, a Phone App or other Third-Party Program that requires a data exchange.. This document defines the network architecture, the messaging protocol, and the specific request and response sequences.

1.1 General

This section provides information about the purpose, and definitions, acronyms, and abbreviations found within this document.

1.2 Definitions, Acronyms, and Abbreviations

The following table provides definitions, acronyms, and abbreviations associated with this document.

Table 1: Definitions, Acronyms, and Abbreviations

Term	Summary of Changes
Agency	The Toll Operator / Collector / POS Point-of-Sale
TPP	The Third-Party Provider / Vendor / Issuer of Account Services
Element	A logical component of an XML document which begins with a start-tag and ends with a matching end-tag. The characters between the start- and end-tags, if any, are the element's content, and may contain markup, including other elements, which are called child elements. An example of an element is: <AccountID>12345</AccountID>
Facility	A toll facility is usually a separately funded construction project. Examples of toll facilities are the Westpark Tollway, Katy Managed Lanes, and Hardy Toll Road.
HTTP	Hypertext Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
ICD	Interface Control Document
Lane	A lane is a single lane of traffic at a toll collecting point.
Markup and Content	XML documents consist of markup and content. Markup begins with the character “<” and ends with a “>”. Strings of characters which are not markup are content.
Plaza	In toll collection, a plaza traditionally includes a physical structure that may include: gates, toll booths, coin baskets, unattended lanes, open-road gantry and so on. The term plaza is sometimes used interchangeably with tolling zone, even though there is no physical plaza with open-road tolling.
Tag	A Tag is a markup construct that is used in XML documents. It begins with “<” and ends with “>”.
UTC	Coordinated Universal Time

XML	Extensible Markup Language - a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable.
XML Document	This ICD defines data structures in XML format for the purpose of passing data from one system to another. The data structures are called “XML Documents.”
XSD	XML Schema Definition: A set of rules to which an XML document must conform in order to be considered ‘valid’.

2 Requirements

2.1 Overview

The interface uses webservices. The webservices observe the following architectural requirements. Agency specific requirements are included in Appendix E.

2.1.1 DNS

TPP and the agency will use DNS / IP resolution as defined in the Agency Specific Requirements to resolve the end points of the webservers used in the interface. This allows both sides to utilize global load balancers within their environment to provide a very high level of availability for both inbound and outbound data flows.

TPP will use the DNS of: DNS.TPP.com. The TPP and the Agency DNS is defined in Appendix E.

2.1.2 Network Transport Security

The Third-Party Provider (TPP) and the Agency will use the latest in commercially available webservers for the interface with a foreseeable upgrade path of at least five years. The webservice shall use TLS 1.2 or better. End point certificates based on the DNS shall use SHA-256. Each party will procure their own certificates.

2.1.3 Network Authentication

Connections to webservices shall be verified with both IP validation and password authentication.

The Agency public IP for this interface is defined in Appendix E. TPP will only allow this public IP to access the TPP side of the interface.

The TPP public IP for this interface is defined in in Appendix E. The Agency will only allow this public IP to access the Agency side of the interface.

Both parties shall exchange passwords which will be used to authenticate. The passwords will not be included in this document

2.1.4 Message Security

The webservice will be invoked through HTTPS(SSL). The SSL certificate needs to be installed on the web service servers, and web service client needs to be implemented with HTTPS.

2.1.5 Message Format

Messages will be formatted using XML 1.0 and UTF-8 standard. See individual methods for examples.

2.1.6 Message Delivery

The interface will use a guaranteed message delivery protocol. See individual methods for examples.

2.1.7 Message Contents

Messages will follow a defined request and response process. The interface is designed to operate in real-time. Allowed times for message response is listed in Appendix A. For messages that require time for processing, a second message-set can be used to indicate status of the request. See individual methods for examples.

2.1.8 Message Retry

The web service client system shall generate alert and inform its production support personnel in the event of a response with error, no acknowledgement message, or any other unsuccessful responses. The production support of source system shall be informed if the issue is on the source system side. After the issue is resolved, the client system will attempt to retry the message.

2.1.9 Environments

To support the Agency's approved software development methodology, four environments will be supported. These will be Development, Test, User Acceptance Test (UAT), and Production. Both parties will provide Development, Test, UAT and Production web service portals.

2.1.10 Performance

The UAT and Production environments will support four times the projected volume of message traffic. The defined volume of traffic is the projected average daily traffic at the end of the third year of operations for this interface.

2.1.11 Response and Reporting

Systems will report on key response indicators to include times for message response and disposition turnaround times.

2.1.12 Reconciliation and Reporting

Reporting of reconciliation and exceptions is outside of the scope of this document, and is at the discretion of the individual implementations.

It is strongly recommended that at a minimum the agency interface will report on key performance indicators to include message delivery, exceptions and reconciliation.

2.1.13 System Timeout

Messages will follow a defined request and response process. Response times are defined in Appendix A. In the event that a message is not able to be sent, it will be deemed to have timed out after 5 unsuccessful attempts.

3 System Interfaces

3.1 Protocol

The protocol for the exchange of data utilized in this ICD is Representational State Transfer (RESTful) Web Service/HTTPS for the Web Service. The table below lists all message types in this document for the completion of the specification. Refer to Appendix D for a RESTful Web Service server/client example in Java.

Table 2: Message Types

Message Type	Format	Push / Pull	Method / Protocol	Web Service Method Name	Frequency
Interface Is Active	XML	TPP or Agency pushes to other entity.	Web Service / HTTPS & REST	isActive	Web Service called by either system before any other Web Services is invoked.
Tag Activation Request	XML	TPP Pushes to the Agency	Web Service / HTTPS & REST	tagChangeRequest (call with RequestType=A)	Agency Web Service called by the TPP system when a tag is activated in the TPP system.
Tag Deactivation Request	XML	TPP Pushes to the Agency	Web Service / HTTPS & REST	tagChangeRequest(call with RequestType=D)	Agency Web Service called by the TPP system when a tag is deactivated in the TPP system.
Search Tag Status	XML	TPP Pushes to the Agency	Web Service / HTTPS & REST	searchTagStatus	Agency Web Service that may be called by the TPP system to verify the tag status in the Agency system.
Tag Activation Disposition	XML	Agency Pushes to TPP	Web Service / HTTPS & REST	tagChangeDisposition(call with RequestType=A)	TPP Web Service called by the Agency to provide the latest disposition of the Tag Activation Request to TPP.

Tag Deactivation Disposition	XML	Agency Pushes to TPP	Web Service / HTTPS & REST	tagChangeDisposition(call with RequestType=D)	TPP Web Service called by the Agency to provide the latest disposition of the Tag Deactivation Request to TPP.
Tag Reassignment Disposition	XML	Agency Pushes to TPP	Web Service / HTTPS & REST	tagReassignmentDisposition	TPP Web Service called by the Agency to provide the latest disposition of the Tag Reassignment Request to TPP. Note that there is no request for this message.
Transaction Post Request	XML	Agency Pushes to TPP	Web Service / HTTPS & REST	transactionPostRequest	TPP Web Service called by the Agency to post a toll transaction to TPP.

4 Message Format

Web Service discussed within this section use HTTPS protocol using various Web Service methods. The Web Service method transfers the data through request message and response message. The data is transferred in XML format and follows the Second Edition of XML Schema documented at:
http://www.w3.org/TR/xmlschema-0/

4.1 Overview

In general, each request/response message contains Header and Body section. The Header defines the time of the request/response and the unique identifier of the message. The Body contains the data for the request tagged appropriately. An example is provided below.

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
    ...
   </MessageHeader>
<MessageBody>
    ...
   </MessageBody>
</TPP-Agency>
```

4.2 Message Sections

This section specifies the structure for the sections of the message.

4.2.1 Message Headers

```
<MessageHeader>
 <MessageID>12345</MessageID>
 <MessageTime>20150801 235959.123</MessageTime>
</MessageHeader>
```

4.2.1.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
MessageHeader	Y	String	Designates the beginning of the message header
MessageID	Y	String(20)	ID for this message

MessageTime	Y	String(20)	The date and time for the message in the UTC time Zone Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF

4.2.2 Message Body

```
<MessageBody>
    <DataElement1>12345</DataElement1>
    <DataElement2>N</DataElement2>
   </MessageBody>
```

4.2.2.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
MessageBody	Y	String	Designates the beginning of the message body

5 Message Contents

The message contents will be the actual request and response messages used to transfer information in support of the TPP-Agency business operations. Each transfer of messages in support of a particular business process will use a web service method to accomplish the transfer. Should a method require subsequent processing in the target system, a related disposition method should be used to return the message with the results of the processing.

5.1 Overview

The figure below presents an overview of the TPP to Agency interfaces. The Web Services exchange different types of data, and work independently. The Agency System provides the web services #1 through #4, and the TPP system the web services #5 through #9.

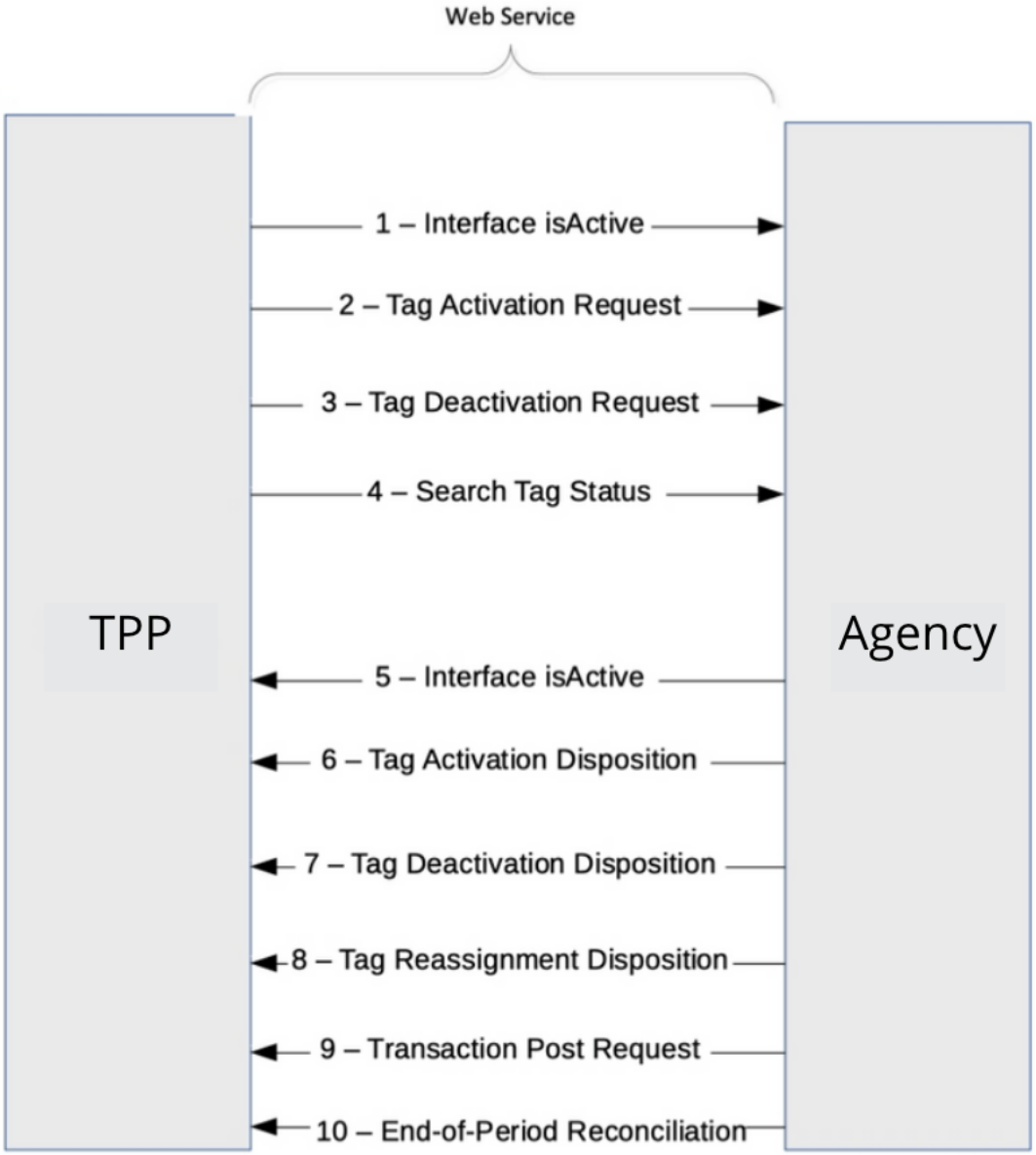

Figure 1: Message Flow

5.1.1 Process Flow Explanation

5.1.1.1 Third-Party Provider

The Third-Party Provider (TPP) invokes the Agency Web Service requests to send the appropriate event information to the Agency. These events include the following:

- Interface Is-Active
- Tag Activation Request
- Tag Deactivation Request

- Search Tag Status

TPP Invokes the Agency Web Service requests to send appropriate event information to the Agency. The Agency receives and processes the Web Service requests. The conclusion of the TPP request processing includes the Agency sending an acknowledgement reply to the TPP system based upon the specific Web Service request processed.

5.1.1.2 Agency

The Agency invokes TPP Web Service requests to send appropriate event information to TPP. These events include the following:

- Interface Is-Active
- Tag Activation Disposition
- Tag Deactivation Disposition
- Tag Reassignment Disposition
- Transaction Post Request

The Agency invokes TPP Web Service requests to send appropriate event information to the TPP system. TPP receives and processes the Web Service requests. The conclusion of the Agency request processing includes the TPP system sending an acknowledgement reply to the Agency based upon the specific Web Service request processed.

5.2 Web Service Interface Process Flow

The Web Service interface process flow includes the tasks and steps shown in the table below. It is provided as an example to explain how the Agency or TPP web service is invoked and processed.

Table 3: Web Service Process Flow Tasks

Task	Description
Initiator sends the Web Service request	The Initiator invokes the Agency Web Service method.
The Responder processes Web Service request	The Responder receives, parses and evaluates the message. If an issue is found, an alert is generated for support staff.
The Responder sends acknowledgement reply	The Responder sends the acknowledgement reply to the Initiator system with appropriate response code.
Initiator processes response message	The Initiator receives, parses and evaluates the reply message. If an issue is found, the message is corrected and the Web Service request is resent.

The following flow diagram depicts the Web Service interface process flow:

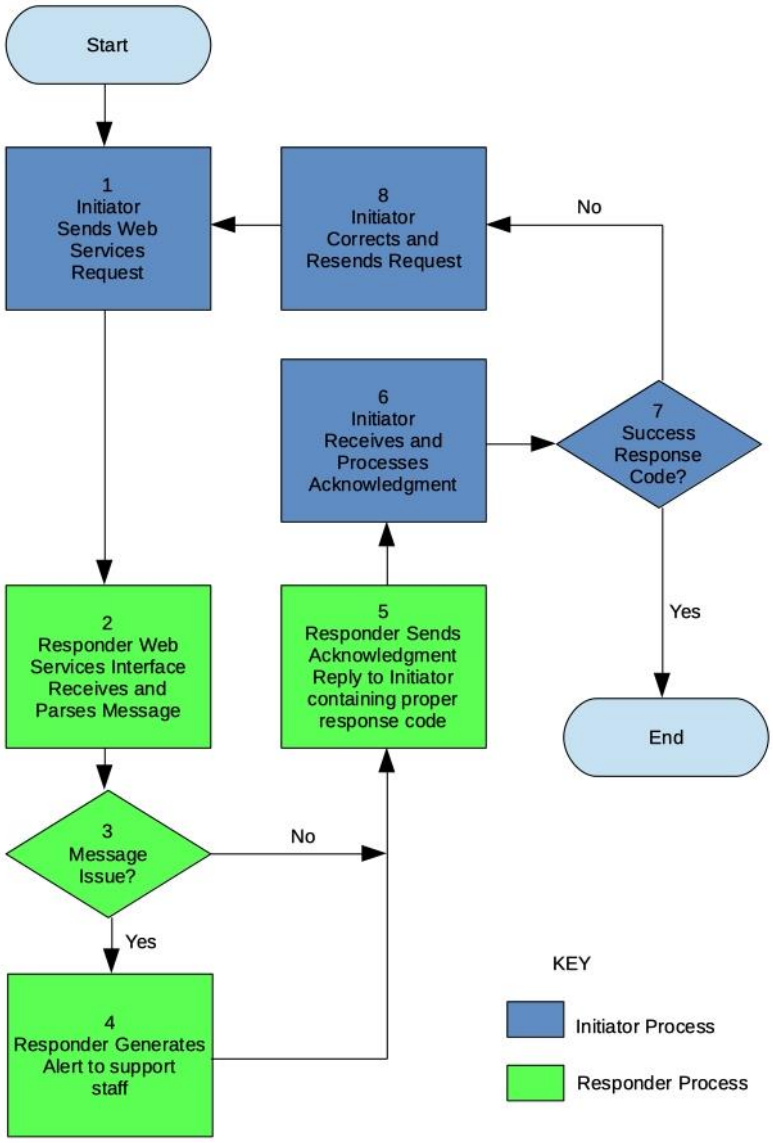

Figure 2: Web Service Interface Process Flow

5.2.1 Web Service Process Flow Explanation

1. Initiator invokes the Recipient Web Service request to send the appropriate event information to the Responder.

Responder receives the Web Services request and parses the message.

Responder evaluates the message based on the checks below:

2. Required data elements have been specified
3. Data elements are of the proper data type and range as specified in the XML Schema Definition (XSD). Please refer to Appendix D for the XML Schema Definition.
4. If message failure checks, outlined in step 3, an alert is created and sent to support staff.
5. Responder sends an acknowledgment reply with the appropriate response code (Success or Failure condition) to the Initiator system. The table below lists the response code ranges. A detailed list of codes can be found in Appendix A — Response Codes and Messages.

Response Code Range	Response Message
0	Success
101 - 109	System/Request Validation error

Figure 3: Web Service Response Code Ranges

6. TPP receives and processes the acknowledgment.
7. TPP evaluates the Response Code returned. If the code is Success the process ends.
8. If the Response Code returned is a failure condition, the TPP system shall resolve the issue and resend the request. Step 1 is then performed again.

5.3 Discrete Method Definition

5.3.1 Interface Is-Active Method

5.3.1.1 Method Overview

This Web Service method is provided by both the Agency and TPP. It provides an immediate response. No subsequent response is expected.

The interface is-Active method is called prior to initiating any other methods. The intent is to ensure the target system is ready to receive messages and also allows the target system to tell the source system to wait due to planned or unplanned outages.

If an acknowledgement is received with active status, then the source system shall be able to send messages for the next five minutes. If the target system is not ready to receive request, it will send an acknowledgement with inactive status. The source system shall then wait five minutes and try again.

5.3.1.2 Method Retry

Each system shall generate alert and inform its production support personnel in the event of a response with and error, no acknowledgement message, or any other unsuccessful responses. When an unsuccessful response is received, the support personnel shall inform the support personnel of the other system. After the issue is resolved, the system will attempt to retry the message.

5.3.1.3 Request Message

This request message is sent to the target system to inquire if the target system is ready to receive messages.

5.3.1.4 Data Elements

No data elements in message body.

5.3.1.4.1 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
 <MessageHeader>
   <MessageID>12345</MessageID>
   <MessageTime>20150801 235959.123</MessageTime>
  </MessageHeader>
</TPP-Agency>
```

5.3.1.5 Response Message

This response is provided at the time of the Is-Active method request and indicates the target system is ready or not to receive messages.

5.3.1.5.1 Data Elements

TagName	Required(Y/N)?	Data Type	Notes
IsActive	Y	String(1)	Y/N indicates the interface is available. Y – The Recipient is active N – The Rescipient is not active

TagName	Required(Y/N)?	Data Type	Notes
ResponseCode	Y	Int	Response code retuned.. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages
ResponseDescription	Y	String(500)	Response description retuned Valid Range: 0 – 999 Please refer to Appendix A for a list of response codes and messages.

5.3.1.5.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
   <MessageID>12345</MessageID>
   <MessageTime>20150801 235959.123</MessageTime>
  </MessageHeader>
<MessageBody>
   <IsActive>Y</IsActive>
<ResponseCode>0</ResponseCode>
<ResponseDescription>Request received successfully</ResponseDescription>
</MessageBody>
</TPP-Agency>
```

5.3.2 Tag Change Request Method (Activation/Deactivation/Suspension/Occupancy)

5.3.2.1 Method Overview

This Web Service method is provided by the Agency and invoked by TPP. The purpose of this method is to send the request that TPP wants to activate, deactivate or suspend a tag. There is an immediate response only to acknowledge receipt of the message. A subsequent call is expected from the Agency to the TPP Tag Activation/Deactivation/Suspension Disposition Method to pass the final status of the request.

Second and subsequent tag activation requests will be considered as updates to the original request.

If the messages are queued up at TPP due to network issues at the Agency, the Agency will honor the activation time in the request.

5.3.2.2 Method Retry

The TPP system shall generate alert and inform its production support personnel in the event of a response with error, no acknowledgement message, or any other unsuccessful responses. The TPP personnel shall inform the Agency production support if the issue is found on the Agency side. After the issue is resolved, the TPP system will attempt to retry the message.

5.3.2.3 Request Message

This request message is sent to the target system to indicate that the Tag must be activated or deactivated.

5.3.2.3.1 Data Elements

Tag Name	Required?(Y/N)	Data Type	Notes
HomeAgency	Y	String(20)	This will always be "TPP"
TagAgency	? (see notes)	String(4)	Physical Tag Agency Name using NIOP 4-digit agency id. Only if there is a TagID below.
TagID	N	String(20)	Physical Tag Number. For Phone App, the Tag Id May be blank or faked with a virtual ID provided by the toll agency.
LPState	N	String(10)	Physical Vehicle Plate State
LPNumber	N	String(15)	Physical Vehicle Plate Number
LPType	N	String(15)	Physical Vehicle Plate Type
VehicleOccupancy	N	String(2)	The number of vehicle occupants the user has declared.
VehicleClass	N	String(10)	Physical vehicle class Please refer to Appendix B.1 Vehicle Classes
RequestType	Y	String(1)	Request Type to indicate the action for a tag. A – Tag Activation D – Tag Deactivation (permanent) S – Tag Suspension (temporary)

			O – Occupancy
RequestTime	Y	String(20)	Requested Date and Time in UTC time zone. Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF
RequestNote	N	String(500)	Comments regarding the request

5.3.2.3.2 Examples

5.3.2.3.2.1 Tag Activation Request

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
 <MessageHeader>
   <MessageID>12345</MessageID>
   <MessageTime>20150801 235959.123</MessageTime>
 </MessageHeader>
 <MessageBody>
   <HomeAgency>TPP</HomeAgency>
   <TagAgency>1234</TagAgency>
   <TagID>111111</TagID>
   <LPState>TX</LPState>
   <LPNumber>4498734</LPNumber>
   <LPType>Type</LPType>
   <VehicleClass>2</VehicleClass>
   <RequestType>A</RequestType>
   <RequestTime>20150801 235959.123</RequestTime>
   <RequestNote>Activate Tag note text</RequestNote>
 </MessageBody>
</TPP-Agency>
```

5.3.2.3.2.2 Tag Deactivation Request

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
<MessageHeader>
   <MessageID>12345</MessageID>
   <MessageTime>20150801 235959.123</MessageTime>
 </MessageHeader>
 <MessageBody>
   <HomeAgency>TPP</HomeAgency>
   <TagAgency>1234</TagAgency>
   <TagID>111111</TagID>
```

```
   <LPState>TX</LPState>
   <LPNumber>4498734</LPNumber>
   <LPType>Type</LPType>
   <RequestType>D</RequestType>
   <RequestTime>20150801 235959.123</RequestTime>
   <RequestNote>Deactivate Tag note text</RequestNote>
 </MessageBody>
</TPP-Agency>
```

5.3.2.3.2.3 Tag Suspension Request

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
<MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
 </MessageHeader>
 <MessageBody>
   <HomeAgency>TPP</HomeAgency>
   <TagAgency>1234</TagAgency>
   <TagID>111111</TagID>
   <LPState>TX</LPState>
   <LPNumber>4498734</LPNumber>
   <LPType>Type</LPType>
   <RequestType>S</RequestType>
   <RequestTime>20150801 235959.123</RequestTime>
   <RequestNote>Suspend Tag note text</RequestNote>
 </MessageBody>
</TPP-Agency>
```

5.3.2.3.2.4 Occupancy Request

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
<MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
 </MessageHeader>
 <MessageBody>
   <HomeAgency>TPP</HomeAgency>
   <TagAgency>1234</TagAgency>
   <TagID>111111</TagID>
   <VehicleOccupancy>3</VehicleOccupancy>
   <RequestType>O</RequestType>
   <RequestTime>20150801 235959.123</RequestTime>
   <RequestNote>Vehicle Occupancy note text</RequestNote>
 </MessageBody>
</TPP-Agency>
```

5.3.2.4 Response Message

This response is provided at the time of the Tag Change Request Method request and indicates that the message was received.

5.3.2.4.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
ResponseCode	Y	Int	Response code retuned. Generated by the Agency. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages
ResponseDescription	Y	String(500)	Response description retuned. Generated by the Agency. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages

5.3.2.4.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
   <MessageID>12345</MessageID>
   <MessageTime>20150801 235959.123</MessageTime>
  </MessageHeader>
<MessageBody>
   <ResponseCode>0</ResponseCode>
<ResponseDescription>Request received successfully</ResponseDescription>
</MessageBody>
</TPP-Agency>
```

5.3.3 Tag Change Request Disposition Method (Activation/Deactivation/Suspension/Occupancy)

5.3.3.1 Method Overview

This Web Service method is provided by the TPP system and invoked by the Agency. The purpose of this method is to indicate that a Tag was activated/deactivated/suspended in the Agency system. This is a response to the Tag Activation/Deactivation/Suspension request message. There is an immediate response only to acknowledge receipt of the message. No other subsequent response from TPP is expected by the Agency.

5.3.3.2 Method Retry

The Agency shall generate alert and inform its production support personnel in the event of a response with error, no acknowledgement message, or any other unsuccessful responses. The Agency personnel shall inform the TPP production support if the issue is found on the TPP side. After the issue is resolved, the Agency will attempt to retry the message.

5.3.3.3 Request Message

This request message is sent to TPP when the tag activation/deactivation/suspension is complete in the Agency.

5.3.3.3.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
HomeAgency	Y	String(20)	This will always be “TPP”
TagAgency	? (see notes)	String(4)	Physical Tag Agency Name using NIOP 4-digit agency id. Only required if there is a TagID.
TagID	N	String(20)	Physical Tag Number, if tag is used to identify vehicle.
LPState	N	String(10)	Physical Vehicle Plate State
LPNumber	N	String(15)	Physical Vehicle Plate Number
LPType	N	String(15)	Physical Vehicle Plate Type
VehicleClass	N	String(10)	Physical vehicle class Please refer to Appendix B.1 Vehicle Classes

RequestType	Y	String(1)	Request Type to indicate the action for a tag. A – Tag Activation D – Tag Deactivation S – Tag Suspension O – Occupancy
RequestTime	Y	String(20)	Original Requested Date and Time in UTC time zone. Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF
DispositionStatus	Y	String(20)	Disposition Status, Y or N
DispositionNote	Y	String(100)	Comments for the Disposition
DispositionTime	Y	String(20)	Tag Activation/Deactivation/Suspension/Occupancy Date and Time in local UTC time zone. This is the time in which the disposition was changed within the agency system. Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF

5.3.3.3.2 Examples

5.3.3.3.2.1 Tag Activation Request Disposition

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
<MessageBody>
    <HomeAgency>TPP</HomeAgency>
    <TagAgency>1234</TagAgency>
    <TagID>444444</TagID>
    <LPState>TX</LPState>
    <LPNumber>4498734</LPNumber>
    <LPType>Type</LPType>
   <VehicleClass>2</VehicleClass>
```

```
        <RequestType>A</RequestType>
    <RequestTime>20150801 235959.123</RequestTime>
    <DispositionStatus>Y</DispositionStatus>
    <DispositionTime>20150801 235959.212</DispositionTime>
   </MessageBody>
</TPP-Agency>
```

5.3.3.3.2.2 Tag Deactivation Request Disposition

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
<MessageBody>
    <HomeAgency>TPP</HomeAgency>
    <TagAgency>1234</TagAgency>
    <TagID>444444</TagID>
    <LPState>TX</LPState>
    <LPNumber>4498734</LPNumber>
    <LPType>Type</LPType>
        <RequestType>D</RequestType>
    <RequestTime>20150801 235959.123</RequestTime>
    <DispositionStatus>Y</DispositionStatus>
    <DispositionTime>20150801 235959.212</DispositionTime>
   </MessageBody>
</TPP-Agency>
```

5.3.3.3.2.3 Tag Suspension Request Disposition

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
<MessageBody>
    <HomeAgency>TPP</HomeAgency>
    <TagAgency>1234</TagAgency>
    <TagID>444444</TagID>
    <LPState>TX</LPState>
    <LPNumber>4498734</LPNumber>
    <LPType>Type</LPType>
        <RequestType>S</RequestType>
    <RequestTime>20150801 235959.123</RequestTime>
    <DispositionStatus>Y</DispositionStatus>
    <DispositionTime>20150801 235959.122</DispositionTime>
```

```
   </MessageBody>
</TPP-Agency>
```

5.3.3.3.2.4 Tag Occupancy Request Disposition

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
   <MessageID>12345</MessageID>
   <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
<MessageBody>
   <HomeAgency>TPP</HomeAgency>
   <TagAgency>1234</TagAgency>
   <TagID>444444</TagID>
      <RequestType>O</RequestType>
   <RequestTime>20150801 235959.123</RequestTime>
   <DispositionStatus>Y</DispositionStatus>
   <DispositionTime>20150801 235959.122</DispositionTime>
   </MessageBody>
</TPP-Agency>
```

5.3.3.4 Response Message

This response is provided at the time of the Tag Activation/Deactivation Request Disposition Method request and indicates that the request message was received.

5.3.3.4.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
ResponseCode	Y	Int	Response code retuned. Generated in the TPP system. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages.
ResponseDescription	Y	String(500)	Response description retuned. Generated in the TPP system. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages

5.3.3.4.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
<MessageBody>
    <ResponseCode>0</ResponseCode>
<ResponseDescription>0</ResponseDescription>
<ResponseDescription>Request received successfully</ResponseDescription>
</MessageBody>
</TPP-Agency>
```

5.3.4 Search Vehicle Status Status

5.3.4.1 Method Overview

This Web Service method is provided by the Agency and invoked by TPP. The purpose of this method is to provide the current tag status for a tag in the Agency system. It provides an immediate response. No subsequent response is expected.

5.3.4.2 Method Retry

The TPP system shall generate alert and inform its production support personnel in the event of a response with error, no acknowledgement message, or any other unsuccessful responses. TPP shall inform the Agency production support if the issue is found on the Agency side. After the issue is resolved, the TPP system will attempt to retry the message.

5.3.4.3 Request Message

This request message is sent to the Agency to inquire the current tag status in the Agency system at the time provided in the request.

5.3.4.3.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
HomeAgency	Y	String(20)	This will always be “TPP”
TagAgency	? (see notes)	String(4)	Physical Tag Agency Name using NIOP 4-digit agency id. Only required if there is a TagID.

TagID	N	String(20)	Physical Tag Number, if tag is used to identify vehicle.
LPState	N	String(10)	Physical Vehicle Plate State
LPNumber	N	String(15)	Physical Vehicle Plate Number
LPType	N	String(15)	Physical Vehicle Plate Type

5.3.4.3.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
   <MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
<MessageBody>
    <HomeAgency>TPP</HomeAgency>
    <TagAgency>1234</TagAgency>
    <TagID>5555555</TagID>
   </MessageBody>
</TPP-Agency>
```

5.3.4.4 Response Message

This response provides the current tag status of the requested tag in the Agency System.

5.3.4.4.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
TagStatusCode	Y	Int	Valid Range: 0 –9 Please refer to Appendix B.2 Tag Statuses
TagStatusDesc	Y	String(50)	Tag Status Description Please refer to Appendix B.2 Tag Statuses
ResponseCode	Y	Int	Response code retuned. Generated in the Agency System. Valid Range: 0 – 999

			Please refer to Appendix A Response Codes and Messages.
ResponseDescription	Y	String(500)	Response description retuned. Generated in the Agency System. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages

5.3.4.4.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
<MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
<MessageBody>
    <TagStatusCode>2</TagStatusCode>
    <TagStatusDesc>VALID</TagStatusDesc>
    <ResponseCode>0</ResponseCode>
<ResponseDescription>Request received successfully</ResponseDescription>
   </MessageBody>
</TPP-Agency>
```

5.3.5 Tag Reassignment Request Method

5.3.5.1 Method Overview

This Web Service method is provided by the TPP system and invoked by the Agency. The purpose of this method is to indicate that a Tag was reassigned to the Agency from the TPP. The agency is reassigning the tag from a previous TPP User to the Agency as the account holder. There is an immediate response only to acknowledge receipt of the message. No other subsequent response from the TPP system is expected.

5.3.5.2 Method Retry

The Agency shall generate alert and inform its production support personnel in the event of a response with error, no acknowledgement message, or any other unsuccessful responses. The Agency personnel shall inform the TPP production support if the issue is found on the TPP side. After the issue is resolved, the Agency will attempt to retry the message.

5.3.5.3 Request Message

This request message is sent to TPP when the tag reassignment is complete in the Agency System.

Tag Name	Required Y/N?	Data Type	Notes
HomeAgency	Y	String(20)	This will always be “TPP”
TagAgency	N	String(4)	Physical Tag Agency Name using NIOP 4-digit agency id.
TagID	N	String(20)	Physical Tag Number
RequestTime	Y	String(20)	Original Requested Date and Time in UTC time Zone. Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF
RequestType	Y	String(20)	Authorization for TAG Reassignment – A Settlement of TAG reassignment – S Reversal of settled TAG reassignment - R
RequestNote	N	String(100)	Comments for the TAG reassignment
TagReassignmentTime	Y	String(20)	Tag reassignment Date and Time in UTC time zone Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF

5.3.5.3.1 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
   <MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
```

```
<MessageBody>
    <HomeAgency>TPP</HomeAgency>
    <TagAgency>1234</TagAgency>
    <TagID>444444</TagID>
    <RequestTime>20150801 235959.123</RequestTime>
    < RequestType>A</RequestType>
<RequestNote> Reassignment initiated by CSR</ RequestNote>
    < TagReassignmentTime >20150801 235959.212</ TagReassignmentTime >
   </MessageBody>
</TPP-Agency>
```

5.3.5.4 Response Message

This response is provided at the time of the Tag Reassignment Request Disposition Method request and indicates that the request message was received.

5.3.5.4.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
ResponseCode	Y	Int	Response code retuned. Generated in the TPP system. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages.
ResponseDescription	Y	String(500)	Response description retuned. Generated in the TPP system. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages.

5.3.5.4.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
    <MessageID>12345</MessageID>
    <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
```

```
<MessageBody>
   <ResponseCode>0</ResponseCode>
<ResponseDescription>Request received successfully</ResponseDescription>
</MessageBody>
</TPP-Agency>
```

5.3.6 Transaction Post Request Method

5.3.6.1 Method Overview

This Web Service method is provided by the TPP system and invoked by the Agency. The purpose of this method is to provide to TPP a transaction to post to a Tag account. There is an immediate response only to acknowledge receipt of the message. No subsequent response is expected by the Agency to indicate the transaction was posted.

5.3.6.2 Method Retry

The Agency shall generate an alert and inform its production support personnel in the event of a response with error, no acknowledgement message, or any other unsuccessful responses. The Agency personnel shall inform the TPP production support if the issue is found on the TPP side. After the issue is resolved, the Agency will attempt to retry the message.

If the transaction gets rejected by TPP the Agency can attempt to repost it at the Agencies discretion. Please refer to Appendix A Transaction Posting disposition codes.

5.3.6.3 Request Message

This request message is sent to the TPP system to indicate that the transaction must be posted.

5.3.6.3.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
TransactionID	Y	String(16)	Internal transaction ID in the Agency system.
HomeAgency	Y	String(20)	This will always be “TPP”.
TagAgency	? (see notes)	String(4)	Physical Tag Agency Name using NIOP 4-digit agency id. Only required if there is a TagID.
TagID	N	String(20)	Physical Tag Number, if tag is used to identify vehicle.

LPState	N	String(10)	Physical Vehicle Plate State
LPNumber	N	String(15)	Physical Vehicle Plate Number
LPType	N	String(15)	Physical Vehicle Plate Type
FacilityCode	Y	String(20)	Facility where the transaction occurred. When both Entry and Exit are supported, this is the Exit facility. Please refer to Appendix B.3 Facility, Plaza, Lane and Agency Codes.
PlazaCode	Y	String(20)	Plaza where the transaction occurred. When both Entry and Exit are supported, this is the Exit plaza. Please refer to Appendix B.3 Facility, Plaza, Lane and Agency Codes.
LaneCode	Y	String(20)	Lane where the transaction occurred. When both Entry and Exit are supported, this is the Exit lane. Please refer to Appendix B.3 Facility, Plaza, Lane and Agency Codes.
EntryFacilityCode	N	String(20)	When both Entry and Exit are supported, this is the facility where the transaction Entry occurred. Please refer to Appendix B.3 Facility, Plaza, Lane and Agency Codes.
EntryPlazaCode	N	String(20)	When both Entry and Exit are supported, this is the plaza where the transaction Entry occurred. Please refer to Appendix B.3 Facility, Plaza, Lane and Agency Codes.

EntryLaneCode	N	String(20)	When both Entry and Exit are supported, this is the lane where the transaction Entry occurred. Please refer to Appendix B.3 Facility, Plaza, Lane and Agency Codes.
TransactionTime	Y	String(20)	Transaction Date and Time in UTC time zone. Where both Entry and Exit are supported, this is the exit time. Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF
PostTime	Y	String(20)	Transaction posted Date and Time in UTC time zone Fractions of seconds in 3 digits are required. Format: YYYYMMDD HH24MISS.FFF This represents the date/time that the transaction is posted, not necessarily the time the transaction actually occurred. This can sometimes be agency specific.
LPState	N	String(10)	Physical Vehicle Plate State
LPNumber	N	String(15)	Physical Vehicle Plate Number
LPType	N	String(15)	Physical Vehicle Plate Type
PostClass	N	String(10)	Physical vehicle class of the transaction Please refer to Appendix B.1 Vehicle Classes
PostFareAmount	Y	String(10)	The amount of the transaction.
PostFPLCode	N	String(50)	The facility, plaza, lane (FPL) agency code.
PostFPLDescription	N	String(100)	The FPL agency Description

5.3.6.3.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
 <MessageHeader>
   <MessageID>12345</MessageID>
   <MessageTime>20150801 235959.123</MessageTime>
 </MessageHeader>
 <MessageBody>
<HomeAgency>TPP</HomeAgency>
   <TagAgency>1234</TagAgency>
   <TagID>423444</TagID>
   <FacilityCode>HDY</FacilityCode>
   <PlazaCode>HDYN</PlazaCode>
   <LaneCode>HDY-HDYN-01</LaneCode>
   <FacilityCode>HDY</FacilityCode>
   <PlazaCode>HDYN2</PlazaCode>
   <LaneCode>HDY-HDYN-03</LaneCode>
   <TransactionTime>20150801 235950.042</TransactionTime>
<PostTime>20150801 235959.002</PostTime>
<LPState>TX</LPState>
<LPNumber>988654</LPNumber>
<LPType>Type</LPType>
<PostClass>02</PostClass>
<PostFareAmount>2.00</PostFareAmount>
<PostFPLCode>Agency</PostFPLCode>
<PostFPLDescription> Agency Full Name </PostFPLDescription>
 </MessageBody>
</TPP-Agency>
```

5.3.6.4 Response Message

This response is provided at the time of the Transaction Post Method request and indicates that the message was received.

5.3.6.4.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
ResponseCode	Y	Int	Response code retuned. Generated in the TPP system. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages.

ResponseDescription	Y	String(500)	Response description retuned. Generated in the TPP system. Valid Range: 0 – 999 Please refer to Appendix A Response Codes and Messages.
FirstTransaction	Y	String(1)	Y or N, indicating whether TPP believes the transaction to be the “First Transaction” posted to an account. This can be agency specific.

5.3.6.4.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
  <MessageHeader>
       <MessageID>12345</MessageID>
       <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
   <MessageBody>
      <ResponseCode>0</ResponseCode>
      <ResponseDescription>Request received successfully</ResponseDescription>
      <FirstTransaction>Y</FirstTransaction>
   </MessageBody>
</TPP-Agency>
```

5.3.7 End-of-Period Reconciliation Method

5.3.7.1 Method Overview

This Web Service method is provided by the TPP system and invoked by the Agency. The purpose of this method is to provide allow TPP and the Agency to reconcile after a predetermined period.

The Agency sends to the TPP system during the period to be reconciled. For every transaction the Agency sends, the TPP system responds with an Ack/Nack indicating if the transaction was accepted, as described in the “Transaction Post Method”, above.

At the end of the period, the Agency system and the TPP system will reconcile the transactions to verify both systems match in total transaction count as well as total transaction value. This method allows the Agency to request totals from the TPP system. It is then up to the Agency to verify that the TPP totals match the Agency totals.

5.3.7.2 Method Retry

The Agency shall generate an alert and inform its production support personnel in the event of a response with error, no acknowledgement message, or any other unsuccessful responses. The Agency personnel shall inform the TPP production support if the issue is found on the TPP side. After the issue is resolved, the Agency will attempt to retry the message.

5.3.7.3 Request Message

This message is sent to the TPP system to request transaction totals.

5.3.7.3.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
PostedFromDate	Yes	String	Requesting date period from date based on the Transactions Posting Date
PostedToDate	Yes	String	Requesting date period to date based on the Transactions Posting Date

5.3.7.3.2 Example: Request Reconciliation Data for March 31, 2019

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
   <MessageHeader>
       <MessageID>12345</MessageID>
       <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
   <MessageBody>
      <PostedFromDate>2019-03-31</PostedFromDate>
      <PostedToDate>2019-03-31</PostedToDate>
   </MessageBody>
</TPP-Agency>
```

5.3.7.4 Response Message

This response is provided at the time of the Transaction Post Method request and indicates that the message was received.

5.3.7.4.1 Data Elements

Tag Name	Required Y/N?	Data Type	Notes
ResponseCode	Yes	Int	Response code retuned. Generated by TPP. Valid Range: 0 – 999 Please refer to Appendix A for a list of Response Codes.
ResponseDescription	Yes	String	Response description retuned. Generated by TPP. Valid Range: 0 – 999 Please refer to Appendix A for a list of Response Codes.
DetailedReport	No	Array of Reconciliation Item Structure	Contains a list of counts of transactions processed to be reported grouped by posted date. Mandatory if errorCode = 0.
ArrayElement minOccurs=”0” maxOccurs=”unbounded”			
PostedDate	Yes	String	Posted Date without time component. If the request spans across more than one date, one record must be returned for each posted date. The posted date refers to date when the transaction was accepted by the TPP System. The date expressed in ISO 8601. E.g.: 2019-03-31
TransactionsReceived	Yes	INT	Number of transactions received (both accepted and rejected) by TPP

ReceivedFareAmount	Yes	String	Total Fare amount received (both accepted and rejected) in the transaction posting period. Must follow currency format to represent dollars and cents.
TransactionsAccepted	Yes	INT	Number of transactions accepted by TPP during the transaction posting period.
AcceptedFareAmount	Yes	String	Total Fare amount from the accepted transactions. Must follow currency format to represent dollars and cents.
TransactionsRejected	Yes	INT	Number of transactions rejected by TPP.
RejectedFareAmount	Yes	String	Total Fare amount from the rejected transactions. Must follow currency format to represent dollars and cents.
FirstTimeTransactions	Yes	INT	Number of transaction that TPP recognized as first time transponder user.

5.3.7.4.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<TPP-Agency>
   <MessageHeader>
       <MessageID>12345</MessageID>
       <MessageTime>20150801 235959.123</MessageTime>
   </MessageHeader>
  <MessageBody>
      <ResponseCode>0</ ResponseCode >
      <ResponseDescription>Request received successfully</ResponseDescription>
      <DetailedReport>
         <PostedDate>2019-03-31</PostedDate>
         <TransactionsReceived>1200</TransactionsReceived>
         <ReceivedFareAmount>6000.00</ReceivedFareAmount>
         <TransactionsAccepted>1188</TransactionsAccepted>
         <AcceptedFareAmount>5940.00</AcceptedFareAmount>
         <TransactionsRejected>12</TransactionsRejected>
```

```
            <RejectedFareAmount>60.00</RejectedFareAmount>
            <FirstTimeTransactions>25</FirstTimeTransactions>
         </DetailedReport>
      </MessageBody>
   <MessageBody>
   </TPP-Agency>
```

Appendix A Response Codes and Messages

The following table contains the possible response codes and response messages associated with Web Service calls. More response codes and messages will be added as required. **Time Limit** is the amount of time allowed for the responder to respond with the Response Code.

Table 4: Web Service Response Codes and Messages

Response Code	Response Message	Time Limit
0	Request received successfully	5 sec
101	System is down for maintenance	5 Sec
102	General Error (undefined)	5 Sec
103	Invalid data \"%s1\" in field \"%s2\"	5 Sec
104	Unknown plaza \"%s\"	5 Sec
105	Unknown Lane \"%s1\" for plaza \"%s2\"	5 Sec
106	Missing required field, \"%s\"	5 Sec
107	Tag not found	5 Sec
108	Duplicate Transaction	5 Sec
109	XML format error \%s	5 Sec
110	Tag validation status out of date - Posting failed	5 Sec
111	Transaction out of date, too old (more than 60 days) or dated prior to the current date.	5 Sec
112	No Status change requested	

Appendix B Field Code Mapping

Appendix B includes sections which outline the mapping of various fields used in the Web Services.

B.1 Vehicle Classes

Table 5: Vehicle Classes

Class	Description
2	Vehicle with two axles
3	Vehicles with three axles
4	Vehicles with four axles
5	Vehicles with five axles
6	Vehicles with six axles

B.2 Vehicle Statuses

The values for vehicle statuses. Theses statuses are defined as follows:

Table 6: Tag Statuses

StatusCode	Description
0	INVALID
2	VALID

Appendix C RESTful Web Server/Client Example in Java

Appendix C provides an example for RESTful Web Service Server/Client implementation in Java.

Server:

```
@Path("/data")
public class JSONService {

    @POST
    @Path("/post")
    @Consumes(MediaType.TEXT_XML)
    public Response createDataInXML(String data) {

        String result = "Data post: "+data;

        return Response.status(201).entity(result).build();
    }
```

Client:

```
public class ClientPost {

  public static void main(String[] args) {

    try {

        Client client = Client.create();

        WebResource webResource = client.resource("http://localhost:8080/your-
app/rest/data/post");

        String requestMessage = "<MessageHeader>test</MessageHeader>";

        ClientResponse response = webResource.type("text/xml")
           .post(ClientResponse.class, requestMessage);

        if (response.getStatus() != 201) {
            throw new RuntimeException("Failed : HTTP error code : "
                 + response.getStatus());
        }
        System.out.println("Output from Server .... \n");
        String responseMessage = response.getEntity(String.class);
        System.out.println(responseMessage);

      } catch (Exception e) {
        e.printStackTrace();
      }
    }
}
```

Appendix D XML Schema Definition

This section provides XML Schema Definition for the TPP Interface Web Service methods.

D.1 IS-Active

Request Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>
```

Response Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="isActive" type="xs:string" />
<xs:element name="ResponseCode" type="xs:integer"/>
<xs:element name="ResponseDescription" type="xs:string"/>
```

```
<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="isActive"/>
      <xs:element ref="ResponseCode"/>
      <xs:element ref="ResponseDescription"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

D.2 Tag Change Request(Activation/Deactivation/ Suspension/Occupancy)

Request Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="HomeAgency" type="xs:string" />
<xs:element name="TagAgency" type="xs:string"/>
<xs:element name="TagID" type="xs:string"/>
<xs:element name="LPState" type="xs:string"/>
<xs:element name="LPNumber" type="xs:string"/>
<xs:element name="LPType" type="xs:string"/>
<xs:element name="VehicleOccupancy" type="xs:string"/>
<xs:element name="VehicleClass" type="xs:string"/>
<xs:element name="RequestType" type="xs:string"/>
```

```
<xs:element name="RequestTime" type="xs:dateTime"/>
<xs:element name="RequestNote" type="xs:string"/>

<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="HomeAgency" fixed="TPP"/>
      <xs:element ref="TagAgency"/>
      <xs:element ref="TagID"/>
      <xs:element ref="LPState" />
      <xs:element ref="LPNumber" />
      <xs:element ref="LPType" />
      <xs:element ref="VehicleClass"/>
      <xs:element ref="RequestType"/>
      <xs:element ref="RequestTime"/>
      <xs:element ref="RequestNote"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:attribute ref="MessageHeader"/>
      <xs:attribute ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>
```

Response Message (Same response XSD is used for Tag Change Disposition, and Tag Reassignment Disposition):

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="ResponseCode" type="xs:integer"/>
<xs:element name="ResponseDescription" type="xs:string"/>
```

```
<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="ResponseCode"/>
      <xs:element ref="ResponseDescription"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:attribute ref="MessageHeader"/>
      <xs:attribute ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

D.3 Tag Change Disposition(Activation/Deactivation/ Suspension/Occupancy)

Request Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="HomeAgency" type="xs:string" />
<xs:element name="TagAgency" type="xs:string"/>
<xs:element name="TagID" type="xs:string"/>
<xs:element name="LPState" type="xs:string"/>
<xs:element name="LPNumber" type="xs:string"/>
<xs:element name="LPType" type="xs:string"/>
<xs:element name="RequestType" type="xs:string"/>
<xs:element name="RequestTime" type="xs:dateTime"/>
<xs:element name="RequestNote" type="xs:string"/>
<xs:element name="VehicleClass" type="xs:string"/>
<xs:element name="DispositionStatus" type="xs:string"/>
```

```
<xs:element name="DispositionNote" type="xs:string"/>
<xs:element name="DispositionTime" type="xs:dateTime"/>

<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="HomeAgency" fixed="TPP"/>
      <xs:element ref="TagAgency"/>
      <xs:element ref="TagID"/>
      <xs:element ref="LPState" />
      <xs:element ref="LPNumber" />
      <xs:element ref="LPType" />
      < xs:element ref="VehicleClass" />
      <xs:element ref="RequestType"/>
      <xs:element ref="RequestTime"/>
      <xs:element ref="DispositionStatus"/>
      <xs:element ref="DispositionNote"/>
      <xs:element ref="DispositionTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

Response Message: same as Tag Change Request Response.

D.4 Search Tag Status

Request Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
```

```
</xs:element>

<xs:element name="HomeAgency" type="xs:string" />
<xs:element name="TagAgency" type="xs:string"/>
<xs:element name="TagID" type="xs:string"/>

<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="HomeAgency" fixed="TPP"/>
      <xs:element ref="TagAgency"/>
      <xs:element ref="TagID"/>

    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>
```

Response Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="TagStatusCode" type="xs:integer" />
<xs:element name="TagStatusDesc" type="xs:string"/>
<xs:element name="ResponseCode" type="xs:integer"/>
<xs:element name="ResponseDescription" type="xs:string"/>

<xs:element name="MessageBody">
  <xs:complexType>
```

```
    <xs:sequence>
      <xs:element ref="TagStatusCode"/>
      <xs:element ref="TagStatusDesc"/>
      <xs:element ref="ResponseCode"/>
      <xs:element ref="ResponseDescription"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

D.5 Tag Reassignment Disposition

Request Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="HomeAgency" type="xs:string" />
<xs:element name="TagAgency" type="xs:string"/>
<xs:element name="TagID" type="xs:string"/>
<xs:element name="LPState" type="xs:string"/>
<xs:element name="LPNumber" type="xs:string"/>
<xs:element name="LPType" type="xs:string"/>
<xs:element name="RequestTime" type="xs:string"/>
<xs:element name="DispositionStatus" type="xs:string"/>
<xs:element name="DispositionNote" type="xs:string"/>
<xs:element name="DispositionTime" type="xs:string"/>

<xs:element name="MessageBody">
  <xs:complexType>
```

```
      <xs:sequence>
        <xs:element ref="HomeAgency" fixed="TPP"/>
        <xs:element ref="TagAgency"/>
        <xs:element ref="TagID"/>
        <xs:element ref="RequestTime"/>
        <xs:element ref="DispositionStatus"/>
        <xs:element ref="DispositionNote"/>
        <xs:element ref="DispositionTime"/>
      </xs:sequence>
    </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

Response Message: same as Tag Change Request Response.

D.6 Transaction Post Request

Request Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="HomeAgency" type="xs:string" />
<xs:element name="TagAgency" type="xs:string"/>
<xs:element name="TagID" type="xs:string"/>
<xs:element name="LPState" type="xs:string"/>
<xs:element name="LPNumber" type="xs:string"/>
<xs:element name="LPType" type="xs:string"/>
<xs:element name="TransactionID" type="xs:string" />
<xs:element name="FacilityCode" type="xs:string"/>
```

```
<xs:element name="PlazaCode" type="xs:string"/>
<xs:element name="LaneCode" type="xs:string"/>
<xs:element name="TransactionTime" type="xs:dateTime"/>
<xs:element name="PostTime" type="xs:dateTime"/>
<xs:element name="PostClass" type="xs:string"/>
<xs:element name="PostFareAmount" type="xs:string"/>
<xs:element name="PostFPLCode" type="xs:string"/>
<xs:element name="PostFPLDescription" type="xs:string"/>

<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="TransactionID"/>
      <xs:element ref="HomeAgency" fixed="TPP"/>
      <xs:element ref="TagAgency"/>
      <xs:element ref="TagID"/>
       <xs:element ref="LPState"/>
      <xs:element ref="LPNumber"/>
      <xs:element ref="LPType"/>
      <xs:element ref="FacilityCode"/>
      <xs:element ref="PlazaCode"/>
      <xs:element ref="LaneCode"/>
      <xs:element ref="TransactionTime"/>
      <xs:element ref="PostTime"/>
      <xs:element ref="LPState"  minOccurs="0"/>
      <xs:element ref="LPNumber"  minOccurs="0"/>
      <xs:element ref="LPType"  minOccurs="0"/>
      <xs:element ref="PostClass"/>
      <xs:element ref="PostFareAmount"/>
      <xs:element ref="PostFPLCode"/>
      <xs:element ref="PostFPLDescription"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody" />
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>
```

Response Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
```

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="ResponseCode" type="xs:integer"/>
<xs:element name="ResponseDescription" type="xs:string"/>
<xs:element name="FirstTransaction" type="xs:string"/>

<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="ResponseCode"/>
      <xs:element ref="ResponseDescription"/>
      <xs:element ref="FirstTransaction"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:schema>
```

D.7 End-of-Period Reconciliation

Request Message:

```
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
```

```
</xs:element>

<xs:element name="PostedFromDate" type="xs:date" />
<xs:element name="PostedToDate" type="xs:date"/>

<xs:element name="MessageBody">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="PostedFromDate"/>
      <xs:element ref="PostedToDate"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="AgencyTPP">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="MessageHeader"/>
      <xs:element ref="MessageBody" />
    </xs:sequence>
  </xs:complexType>
</xs:element>

</xs:schema>
Response Message:
<?xml version="1.0" encoding="UTF-8" ?>
<?xml version="1.0" encoding="UTF-8" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

<xs:element name="MessageHeader">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="MessageID" type="xs:integer"/>
      <xs:element name="MessageTime" type="xs:dateTime"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="ResponseCode" type="xs:integer"/>
<xs:element name="ResponseDescription" type="xs:string"/>

<xs:element name="DetailedReport">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="PostedDate" type="xs:date"/>
      <xs:element name="TransactionsReceived" type="xs:string"/>
      <xs:element name="ReceivedFareAmount" type="xs:string"/>
      <xs:element name="TransactionsAccepted" type="xs:string"/>
```

```
        <xs:element name="AcceptedFareAmount" type="xs:string"/>
        <xs:element name="TransactionsRejected" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

  <xs:element name="MessageBody">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="ResponseCode"/>
        <xs:element ref="ResponseDescription"/>
        <xs:element ref="DetailedReport" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

  <xs:element name="AgencyTPP">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="MessageHeader"/>
        <xs:element ref="MessageBody"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  </xs:schema>
```

Appendix E Agency Specific Requirements

This section lists agency specific attributes and business rules

Tolling and Customer Service Work Group

Customer Service Benchmarks

January 8, 2021

This paper describes the various types of Customer Service Support that Third-Parties may offer, and provides suggestions for evaluation and implementation.

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Tolling and Customer Management Background

Background

The Tolling and Customer Management Work Group was developed to address Third-Parties who provide toll account issuance and customer management tools and solutions to the tolling industry. This paper focuses on customer service as it relates to Third-Party providers; and provides an overview of User, Agency, and Third-Party requirements and expectations for customer service.

This is a continuation of the White Paper as developed in 2019 for the International Bridge Tunnel & Turnpike Association's (IBTTA) Board of Director's charge for the Emerging Technologies Work Group – Tolling and Customer Management. In 2019, recommendations were made to the IBTTA Board to continue the Work Group and further the concepts described in the white paper. The Tolling and Customer Management Work Group's charge for this year, 2020, is to develop working tools for the industry based on the concepts as described in the white paper and our recommendations.

Specifically, this paper provides recommendations for Agencies as they evaluate customer service tools and benchmarks for Third-Party providers.

Consumer and Agency Expectations

Users want to travel the Agency's facilities and experience a seamless way to pay. Agencies want Users to pay for using the facility and experience a safe, expedient trip. Their goals are typically aligned.

However, the evolution of tolling practices and technology has brought about many challenges for various groups of Users, to establish and maintain an account.

For some Users, the removal of cash collection from the roadside, also removes the ability to conveniently pay for the road. These Users are most commonly:

- Untagged/Infrequent Users
- Cash-based & Underserved Users
- Trucking & Commercial Fleets
- Rental Vehicles

Third-Party providers can offer a User an opportunity to establish and maintain a toll account when they are challenged by participating within the constructs of the Agency's existing back

office and customer service program(s), and business rules. There are likely two major reasons why an Agency might engage a Third-Party provider:

1. Valued Partnership A Third-Party can be a valuable partner to help Agencies offer an alternative solution that fits the differing needs of various types of Users (cash-based, underserved/non-bankable, infrequent users).

2. Operational Cost Savings Third-Parties can also provide more efficient solutions in some cases, thereby reducing costs and increasing the productivity and revenue in overall program (trucking fleets, rental cars, lease vehicles, rideshare vehicles).

When engaging a Third-Party, Agencies often have specific concerns about the relationship between the Third-Party and the User including:

- Customer Service
- User Terms and Conditions or Terms of Service
- Customer Service SLAs
- Marketing and Customer Messaging

It is important to note that often these items mirror traditional back office/operations offering, but rather take on the requirements and needs of the customer in which the Third-Party is serving. Therefore, when possible, minimum requirements should be established without providing a prescriptive approach to customer service requirements.

Below is a breakdown of these critical elements and suggestions for base or minimum requirements.

Customer Service

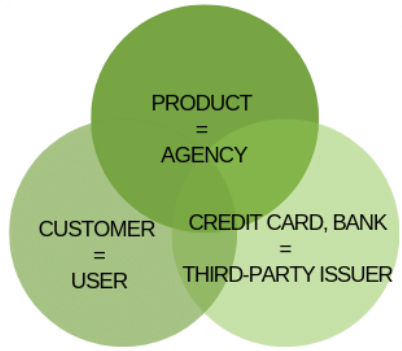
Agencies often have concerns about the support needed to manage an account. At a minimum, agencies who implement Third-Party systems are often concerned that, :

Q. Will users understand who they need to contact if there is an issue with their account? (Third-Party versus Agency)

Q. Will the customer clearly understand that the Third-Party is handling customer service for the account?

A. Messaging is critical to the User. The User should understand that the Agency is providing the toll road service, while the Third-Party, as the account issuer, is responsible for any issues or questions related to their account. A good example of the delineation of Service, Account Issuer, and Customer is the retail model. Messaging should focus on the responsibilities of each party.

- The Agency's responsibility is to provide a quality product/service.
- The User's responsibility is to pay for the product/service using an acceptable form of payment.
- The Account Issuer's (Third-Party) responsibility is to ensure that payments are remitted to the Agency on behalf of the User, as well as to provide support to the User for any account issues.



Q. What does account management look like?

A. Account management should, at a minimum, provide the User with tools to establish, update, and change their account information. The level and type of account management is dependent on the type of User the Third-Party is servicing. However, account establishment and management should include all necessary information required to:

- Identify the User
- Identify the vehicle being used
- Any other information critical to driving the road

Q. How do fees play a factor in Third-Party account management?

A. Fees can be a complex component as there are many factors to consider. As with a retail model, the more ways to pay provides the User more choices to manage their accounts. To that end, the element of competition becomes a distinct factor and the market will drive pricing and customer service.

In the case where there is more than one provider of the same type of service, Users can choose the best type of account management that fits their personal needs. If a provider is offering a service with associated high fees, the User has the option to determine if that service is acceptable and the fees justified.

For example, grocery and food delivery has become extremely popular. Users can order food, and have it delivered for a fee. Arguably the cheapest way to get said food is to go to the store or restaurant and purchase the food yourself. However, delivery is more convenient in

some cases. The ability to simply make a purchase online and have it delivered is, to some, worth the associated fees and cost.

Consider banking services as yet another example. Banks all offer the same base services related to account management. When choosing a bank, Users tend to look past the base services and focus on additional offerings as well as associated fees. Does the bank offer an app for account management? Do they provide paper or electronic statements? Do they provide additional services? There are usually bells and whistles that are attractive to that particular User, which factors into their choice.

Another factor for consideration is legal. For some Agencies, fees are regulated at a maximum. For example, some agencies do not allow more than a $2 fee to be imposed for services outside of the cost of the toll. In such cases, the Third-Party model must fit within the financial confines of the legislated requirements or the governing body that oversees tolling.

Finally, much attention should be paid to Third-Parties where there is a lack of competition. While the Third-Party may provide a solution to a group of Users who are challenging for an Agency to capture, services associated with high fees and a lack of additional, competing options can be difficult for an agency to manage under public scrutiny.

Q. How are disputes handled?

A. Third-Parties can be valuable in vetting and handling disputes for Users. In the case of a Third-Party representing a User, the Third-Party should have the ability to submit a dispute and help work to resolve the dispute. As in the retail model, if a User experiences a charge that they deem inappropriate, the User will call their credit card issuer or bank. The bank will submit a request for proof of purchase in order to resolve the dispute.

In the case of tolling disputes, there should be a process for the Third-Party to request proof of the transaction in question such as an image of the vehicle or other supporting transaction information.

In addition to advocating for and managing the User, Third-Parties can also provide a valuable first line of customer service and "buffer" for Agencies. The Third-Party should be able to perform initial research of the User's account to determine things as: the vehicle's license plate registered correctly to the account, correct axel count, and confirm the account was properly funded at the time of the transaction in dispute. This initial evaluation of a dispute saves the Agency resources and time by ensuring that a dispute is deemed reasonably valid prior to involving the Agency. The Third-Party should also collect the proper information prior to involving the Agency such as a copy of the violation, bill, or notice from the Agency. The Third-Party should also collect all the pertinent account information such as tag ID, license plate number, and any other required vehicle information.

Suggested Standard Terms of Service

Customer service also encompasses clearly defined contractual obligations between the account holder (User) and the account issuer (Third-Party). The following sections provide considerations for standard Terms of Service elements that should be included in a consumer facing agreement.

Each Third-Party should have a Terms of Service (TOS), Terms and Conditions, or some sort of contractual relationship with the User. The agreement should define requirements, roles and responsibilities of all parties involved, particulars related to the management of the account, and the goods or services provided. Suggested inclusions in TOS agreement are:

- Definitions – as terms vary, it is helpful to define the components of the product and/or service. There are many terms to define, some examples include:
    - Video Tolls. A Video Toll ("V-Toll")
    - Dispute
    - Violation
    - Transponder, Toll Tag, Sticker Tag
- Privacy and personal information handling – the agreement should include a section that clearly identifies how a User's information is handled as well as disclosures if a User's information will be shared or sold to additional parties for purposes outside of the intended service. For example: use for general marketing, the marketing and sale of addition services, or other.
- Responsibility to the Agency – language that lets the User know that each Agency has various rules and laws for using their system. Signing up for a Third-Party service does not in any way absolve the User from their responsibility to operate within the preconditions and requirements of the Agency. For example, if a User has previous violations or outstanding debts that have been unpaid/uncollected, using the services of the Third-Party does not absolve the User from their previous debts. In addition, some Agencies do not allow a User to drive their road until all debts are paid. The language should remind users of their obligation to understand the rules and requirements of driving the respective roads, as well as the conditions in which the Agency will consider them a valid User. Suggested legal language is included in the Legal section of this paper.

Customer Service SLAs

Customer service is an important aspect of each Third-Party offering. The type of customer service offered is often directly related to the type of solution it supports. While it's important to allow Third-Parties the flexibility to architect their own customer service solution, Agencies require some assurances that:

- Users are not taken advantage of or charged unnecessary or exorbitant fees.
- Users will have the necessary tools to manage their account.
- Users are being charged within the guidelines and legal statutes of the Agency and governing body.
- The Third-Party's offering will not generate bad publicity

Account Establishment

In order for the Third-Party to provide account service, key information needs to be captured and made available to the Agency. Third-Party Service Providers should establish a method or process to on-board a User that obtains the required, pertinent information. This information may vary depending on the solution (tag versus license plate, etc.). Suggested components of information include:

- Tag ID
- License Plate
- A way to identify the account holder - account number or other
- A way to contact the account holder
    - Email
    - Phone
    - Mobile Phone
    - Mailing Address

Customer Service Support

Customer service support is defined in this section as the tools required for a User to reach the Third-Party when they are establishing an account, have questions, or have a dispute. The customer service tools will vary from Third-Party to Third-Party however, they should be

substantial enough for the customer to understand how to contact the Third-Party provider for any issues rather than the Agency. Tools will likely vary with one, two or any combination of methods listed below.

Minimum channel requirements should include any combination of the below:

- IVR
- Customer Service Call Center
- Phone Application
- Website for Account Management
- Text Message Support
- Email Support
- Walk-In Customer Service Center

Dispute Handling

When addressing a dispute, the Agency and Third-Party provider must work together to determine if the dispute is valid or not. As previously mentioned, when a User disputes a transaction, Third-Party providers can be an excellent first line of defense. In the case of an issued violation, pay-by-mail bill, or mistaken transaction, the Third-Party provider should be able to determine if the dispute is reasonably valid before its submitted to the Agency. A few factors in the initial determination of a valid dispute include:

- Was the User's account funded at the time?
- Was the correct vehicle information associated with the account?
- License Plate
- Make/Model of the Vehicle
- Number of vehicle axels or vehicle class
- Does the violation or pay-by-mail notice match the User's account information?

All of these elements should be reviewed and confirmed prior to contacting the issuing agency or the Third-Party's home agency. Once the account elements of the dispute have been confirmed, the dispute process should be pursued.

User's expect the same level of customer support from an Agency as other customers who have direct accounts with the agency. The User expects that the dispute will be investigated in a timely manner, and that the transactional details and images are provided as proof that the User was charged correctly or incorrectly. In order to achieve this, the Agency and the Third-Party must work together. Suggestions for dispute handling are described in detail below.

Initiating A Dispute

It is critical to clearly define within the Agency and Third-Party agreement a process for dispute handling. The following should be included as part of the process.

Contact

The Third-Party provider should clearly understand who their initial contact is to initiate the dispute. Should the Third-Party reach out to the Agency in question or to their Host Agency in order to initiate the dispute? This can differ depending on interoperable agreements and the rules or policies for governing disputes

- There should be a designated person or contact email assigned to the Third-Party, specifically for disputes.

Submission & Response Time

There should be a defined process associated with the submission of the dispute as it relates to the required information, To and From, the Agency and Third-Party provider. Timing is an important element in the process as the User will want a quick response and speedy resolution to any issues. Response times should be defined for the following:

- How long after a transaction is posted can the User issue a dispute? This is likely dependent on how long the agency keeps transactional information, e.g. Images, transaction data including axel count, date, time, and location of the transaction, etc.

- If a User is issued a violation or pay-by-mail notice and the notice ages into collections, can the User still dispute the transaction through the Third-Party and the agency, or will they have to address the notice with a collections firm? Are they permitted from disputing the transactions, once they are submitted to collections, or have they given up their right to dispute as it was not addressed in a timely manner? These are important to define for the Third-Party and for the Third-Party to communicate to its Users.

- How long does the Agency have to investigate and address the dispute? It is important to set expectations with the User for a timely response. This could be dependent on the type of the dispute and should be defined.

Required Information: Third-Party Provider

Clearly defining the information required from a Third-Party provider in support of the dispute is important as the Agency will need evidence that the dispute is considered valid. Suggested required information includes:

- A copy of the violation or pay-by-mail notice if the dispute involves an invalid notice
- A copy of the User's account information including:
- License Plate
- Tag ID
- Proof that the account was in good standing/funded at the time of the transaction(s) in question
- Any other information the Agency deems appropriate in order to conduct their investigation into the dispute
- A brief narrative or description of the reason for the dispute.

Required Information: Agency

Agencies should provide the same type of information that they would provide to an existing User who has an account directly with the Agency. Depending on the dispute an Agency should be able to provide the following information:

- Image of the vehicle and transaction – this information is undisputed proof that the vehicle in-question is or is not the correct vehicle. The license plate should be clearly visible and match that of the User's. The image of the vehicle will also provide valuable axle count information.
- Transaction information – date, time, location of the transaction, vehicle classification.

See a sample overview of suggested information to initiate and resolve a dispute.

Third-Party Initiates Dispute

From: Disputes@ThirdParty.com
Date: Monday, September 30, 2019 at 2:10 PM
To: Support@TollOperatorUSA.com
Subject: Violation Dispute

Hello,

The below User received a violation notice (copy attached). According to our records, the User's account was funded and in good standing when the violation notice was issued. Please research the dispute and provide the results of your findings.

Tag ID: USA123 456 789

Vehicle License Plate: ABC 999

Account Balance (date of transaction dispute): $50.00 *(attach pdf of account overview with funds noted)*

Regards,

Third-Party Supervisor
888-888-8888

Agency Dispute Response

From: Support@TollOperatorUSA.com
Date: Monday, September 30, 2019 at 2:14 PM
To: Disputes@ThirdParty.com

Subject: Re: Violation Dispute

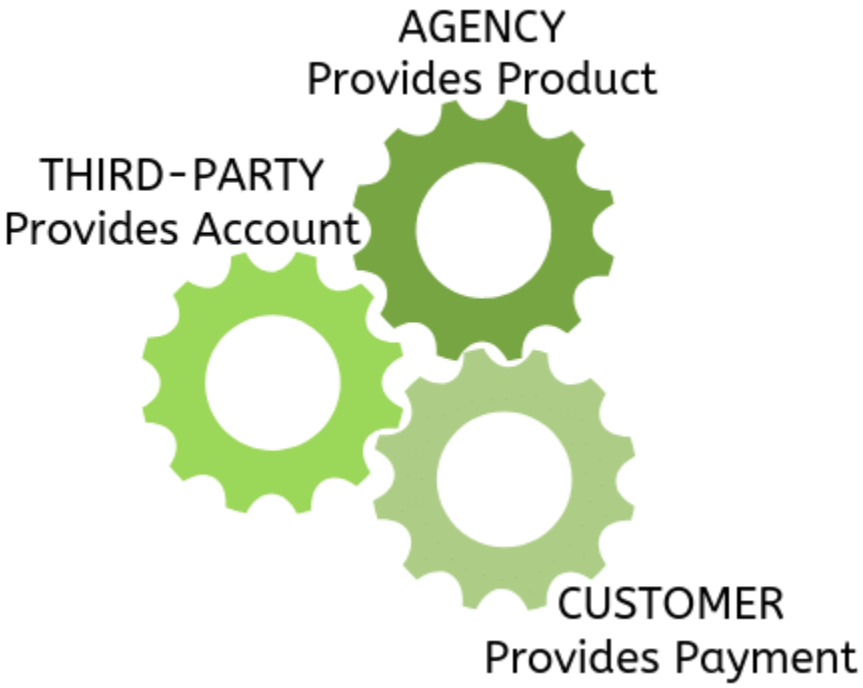
Good afternoon,
The User received a violation notice in error. The vehicle image does not match the User's vehicle.
OR
The violation is valid as the Tag ID associated with the vehicle in question does not match the license plate given.

Regards,
Toll Operator Supervisor

Dispute processes will likely evolve as technology evolves and processes become more efficient, and perhaps, even automated.

Marketing and Customer Messaging

Marketing and customer messaging are important and sometimes complicated elements based on the User, Agency, and Third-Party provider relationship dynamics. The basic relationships between the three can be complicated as they are not one-to-one relationships.



Customer messaging should take on the appropriate roles and responsibilities of the User, Third-Party, and Agency as described below.

- The User is responsible for keeping their account in good-standing with the Third-Party
- The User is responsible for paying for the usage of the Agency's road.
- The Third-Party is responsible for providing account information to the Agency. The Third-Party is also responsible for providing the User tools to manage their account.
- The Agency is responsible for providing a sound product (the toll road). A Agency is also responsible for proving dispute tools and transactional information to Third-Party providers to support the end User.

Suggestions for creating successful messaging to consumers are described below.

New Solution Launch: Press, Media, and Marketing Considerations

Leveraging media and press for the launch of a new solution can provide a big boost to a Agency's reputation and to the Third-Party's ability to gain new customers. As the Third-Party

is usually a completely separate operating entity, the Agency and Third-Party should create a sandbox environment of agreed upon messaging, logo use, and other elements that are important to each respective party. See below, examples of a sandbox environment:

- Approved logo usage – this can be as broad as a branding guide or as specific as how the logo is used in conjunction with the Third-Party offering, including placement on their website or in marketing ads

- Defined audiences – clearly define who the Third-Party product is targeted to, in order to define the proper and not competing or conflicting messaging. Messaging suggestions include:

    - Agency's reason for engaging the Third-Party

    - List the differences between the Agency's offering and the Third-Party's offering so the User can make an informed choice for account management

    - Talk about how to engage or contact the Third-Party provider so the Agency is not overwhelmed by Users looking to sign up for or ask questions about, the Third-Party solution

    - Define any required approvals for marketing or creative

Presenting a partnership approach can be incredibly beneficial not only for the Agency and the Third-Party, but the User as well.

System Maintenance, Outages, Agency Issue Considerations

As with Agency managed User accounts, Third-Parties should also be considered when communicating to Users about toll system issues. Third-Parties often experience increased customer service calls and interactions with their Users when there is an issue with the Agency's operations or system. This can be a road closure, system maintenance downtime, system outage, delays in transaction posting, or other issues. Clearly communicating this to Third-Party providers in a timely manner can create an opportunity for the Third-Party to proactively address Users in order to avoid any negative press or customer issues.

Providing appropriate and approved system issue messaging for the Third-Party to release or share with their Users can be extremely helpful. As with most Agencies, Third-Parties also participate in social media and can help reach a large number of Users for communication purposes which is a valuable tool as well.

Customer Service Benchmarks

Below is a table that lists customer service tools. Agencies may use the table to determine if a Third-Party has the necessary tools to meet the needs of the customers they service and to ensure that agencies are not inundated with calls regarding the Third-Party's account management tool. The table marks are an example of a Third-Party program. A Third-Party must receive a minimum of one X in each category no matter the tool in order for the customer service of a Third-Party to be considered acceptable. For example, each User category could be marked with an X for each Customer Service Tools category using one or more tools.

Benchmark Table

		USER CATEGORIES					
CUSTOMER SERVICE TOOLS	CUSTOMER SERVICE TOOL	USER CAN CONTACT THIRD PARTY	USER CAN GET TRANSACTION INFO	USER CAN INQUIRE ABOUT SPECIFIC TRANSACTIONS	PREPAID ACCOUNTS USER CAN SEE BALANCE (WHERE APPROPRIATE)	USER CAN CHANGE PAYMENT METHOD	USER CAN CHANGE OR UPDATE INFO SUCH AS LICENSE PLATE
	PHONE APP	X	X	X	X	X	X
	CUSTOMER SERVICE CALL CENTER	X	x	X	X		X
	IVR SYSTEM	X	x	X	X		
	TEXT MESSAGING	X	X		X		X
	EMAIL	X	X	X	X		X