BAIFA
BAY AREA INFRASTRUCTURE FINANCING AUTHORITY

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April 11, 2014

Addendum No. 5
REQUEST FOR BEST AND FINAL OFFER
to
REQUEST FOR PROPOSALS
BAIFA Express Lane Network
Toll System Integration & Maintenance
dated November 7, 2013

Dear Consultant:

The Bay Area Infrastructure Financing Authority (BAIFA) requests that your firm submit a Best and Final Offer (BAFO) to provide Express Lane Network Toll System Integration & Maintenance for BAIFA's Express Lanes, as described in the Request for Proposal (RFP) dated November 7, 2013, as last amended January 9, 2014 by Addendum 4. Your BAFO should be based on the revisions to the RFP described in this Addendum 5, taking into consideration also the discussions held with BAIFA's evaluation panel and the list of questions provided as an attachment to this Addendum. Any exceptions to the provisions in this Request for BAFO shall render proposals conditional and shall be grounds for rejection.

BAFO Format and Due Date

BAFOs with all changes accepted shall not exceed the page limits set forth in Addendum 5, Appendix 1 (Proposal Organization and Mandatory Page Limits), excluding proposal covers, resumes, design samples and writing samples. Your BAFO must include the following:

- "Red-lined" revised Technical and Cost Proposals, with all changes to your original proposals indicated by revision text or strike-out. Please submit the Technical Proposal in six (6) bound copies and one electronic copy in Microsoft Word, Microsoft Excel and/or Adobe Acrobat PDF. Submit one original of the Cost Proposal and one electronic copy in Microsoft Word, Microsoft Excel and/or Adobe Acrobat PDF.
- Revised Technical Proposal (BAFO) with all changes accepted. Please submit one (1) unbound original BAFO and electronic unrestricted PDF version on a CD.
- Revised Cost Proposal (BAFO) with all changes accepted must be submitted in print and electronic Microsoft Word versions.
- The table of BAFO Questions & Clarifications provided with the BAFO request and completed per the instructions to indicate the Proposal Section and page numbers for all red-lined revisions.

You may, in addition and at your option, provide a summary of, or a key to, major substantive changes under the Executive Summary section of the technical proposal. Your BAFO shall include a statement that it is a binding offer for one hundred twenty (120) days from the submission of the BAFO. Please submit your BAFO to the following address:

Jim Macrae
Metropolitan Transportation Commission
Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, CA 94607-4700
jmacrae@mtc.ca.gov

Your BAFO must be received by 4:00 p.m., PDT, on May 2, 2014. BAFOs received after that date and time will not be considered.

This addendum modifies the Request for Proposal (RFP) for Express Lane Network Toll System Integration & Maintenance services as follows. Where text is revised, deleted text is shown in strike-through format; added text is *italicized*. There are six (6) attachments to this addendum.

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
1	RFP Section IX, Form of Proposal, Page 12	Please see Addendum 5, Appendix 1, attached hereto, for a revised Table 1: Proposal Organization and Mandatory Page Limits.
2	RFP Section IX, Form of Proposal, Subsection B.4, Proposed Project Schedule, Pages 23-4	Item 4. The proposed project schedule ~~which may be high-level~~, shall demonstrate the understanding of all tasks required to deliver the project with an emphasis on the critical path. ***Proposal Section 2.4*** ~~shall~~ *should* specifically: 1) Provide a ~~preliminary~~ project schedule in GANTT format that meets *or exceeds* BAIFA's schedule for milestones as specified in Attachment B, Schedule & Project Milestone Dates; 2) Include on the schedule the Work Breakdown Structure identification number with each activity. This can be included at the summary activity level. 3) *Include on the ~~proposed~~ schedule* ~~shall include~~: *a. All Implementation Payment Milestones* *b. Qualifying Events and other interim deliverables to reach the Qualifying Events and Milestones, documentation review and approval cycles (see Implementation Requirement 1.3.8)* *c. Logic for interdependent tasks (predecessors and successors)* *d. Estimated durations for all tasks (including time for BAIFA reviews and approvals on all tasks)* *e. General identification of resources (TSI, BAIFA, third-party, etc.)* *f. Identification of critical path items necessary to complete the scope of work and meet the deadlines as set forth in Attachment B Schedule & Project*

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
		(using formatting such as fonts, colored cells, etc.) *g. Identification of tasks that are critical areas of coordination (e.g., pricing algorithm approval, site turnovers, end-to-end testing preparation, etc.), using formatting like fonts, colored cells, etc.* *h. Activities required for the implementation of each successive corridors (e.g. software updates, regression testing, updates to plans, training, etc.)* *i. Expected NTP dates for the items denoted by the asterisks per the schedule in Attachment B* In addition to the schedule, include a narrative that: 1. Identifies specific tasks, *interdependencies*, durations and logic to deliver each Qualifying Event and interim deliverables associated with the Implementation Payment Milestones shown in Attachment B; 2. ~~Describes the project schedule and the critical assumptions in detail.~~ *Provides a list of variables, critical assumptions and touch points with other project schedules that may affect the delivery of the items included in the proposed schedule, including the impact(s) on toll commencement dates*; 3. Identifies the schedule management tool; 4. Identifies the largest risk areas within the schedule and describe proposed techniques to manage that risk; 5. Identifies and describes techniques for schedule acceleration; *6. Describes your approach to the delivery tasks/deliverables that may require concurrent reviews by BAIFA and its staff, if any, and any assumptions that would make a concurrent review necessary and successful;* *7. Identifies key dates in your schedule where you have proposed increased staffing levels, if any, to handle work with short turnaround times, and describes your approach to increased staffing during key or critical areas within the schedule;* and *8. Describes the impact on schedule in the event any key assumptions are not fulfilled (e.g. work you are assuming will be performed sequentially (e.g. civil work being completed in sequence from site to adjacent site) is not performed sequentially). Specify any potential impacts to Tolling Commencement milestones.*
3	RFP Appendix 2, Form "C" Series,	See Addendum 5, Appendix 2, attached hereto, for revised Cost Proposal Forms. (Note: Revised forms in the editable format will

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
	Cost Proposal	also be provided.)
4	RFP, Appendix 1 Attachment A-1, System Requirements, Page 17	Req. 2.6.2.1 The Zone LED panel shall be ~~28 inches high by 10~~ *11 feet to 12* feet wide to display Zone toll rate information.
5	RFP, Appendix 1 Attachment A-1, System Requirements, Page 17	Req. 2.6.2.2 The Segment LED panel shall be ~~28 inches high by 10~~ *11 feet to 12* feet wide to display the toll rate information for passage to the end of the Segment.
6	RFP, Appendix 1 Attachment A-1, System Requirements, Page 17	Req. 2.6.2.3 The general message LED panel shall be ~~28 inches high by~~ *26 feet to* 27 feet wide to display other tolling information.
7	RFP, Appendix 1 Attachment A-1, System Requirements, Page 29	Req. *3.9.1.5 Users shall have the ability to select and apply pre-populated toll rate parameters, toll rates, and other toll rate configuration settings to selected Read Points, Zones, Segments, Corridor.*
8	RFP, Appendix 1 Attachment A-1, System Requirements, Page 29	Req. *3.9.1.6 Users shall have the ability to view and report out toll rate settings by Read Points, Zones, Segment, or Corridor.*
9	RFP, Appendix 1 Attachment A-1, System Requirements, Page 32	Req. *3.9.6.11 User shall have the ability to do toll rate manual override by raising or lowering toll rates by percentage or dollar amounts simultaneously for Zones, Segments, or Corridor.*
10	RFP, Appendix 1 Attachment A-1, System Requirements, Page 35	Req. *3.9.9.23 The Host shall assign a confidence level to every Image Based Trip Transaction that indicates how certain the system is that the associated license plate information is correct. Confidence level shall be assigned such that higher confidence levels are correlated with lower license plate information error rates among Trip Transactions with a given confidence level.*
11	RFP, Appendix 1 Attachment A-1, System Requirements, Page 39	~~3.11 Rebuilt Trip Transaction~~ ~~3.11.1 For Trip Transactions sent back with an "Overlapping Trip Transaction" reason code in the same RCSC reconciliation file, the Host shall attempt to build new Trip Transactions using newly provided license plate information. The Host designates these Trip Transactions as "Rebuilt" Trip Transactions. See *Attachment A-4*, Business Rules for "Overlapping Trip Transaction." If Trips Transaction cannot be rebuilt, they shall be treated as anomalies.~~

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
12	RFP, Appendix 1 Attachment A-1, System Requirements, Page 39	~~3.11.2 The TCS shall make turning on or off automatic rebuilding user configurable.~~
13	RFP, Appendix 1 Attachment A-1, System Requirements, Page 40	3.12.1.1 The Host shall provide a color coded zoomable interactive map of each EL Corridor on which the location and health status of the following equipment are indicated by the colors and symbols displayed: 3.12.1.1.1 Read Points, Lane Controllers and subsystems 3.12.1.1.2 VTMS 3.12.1.1.3 TMS 3.12.1.1.4 Traffic surveillance CCTV cameras 3.12.1.1.5 DVAS *3.12.1.1.6 Network communications*
14	RFP, Appendix 1 Attachment A-1, System Requirements, Page 54	*4.1.2 For interfaces between the Host and Roadside Systems, the TSI shall communicate using ICDs developed during the design phase.* *4.1.3 ICDs shall be created or modified to describe all hardware and software interfaces, including, but not limited to, the following:* *4.1.3.1 Lane Controllers* *4.1.3.2 VTMS's* *4.1.3.3 TMS's* *4.1.3.4 CCTV's* *4.1.4 Each ICD shall include file formats, message guarantee structure and receipt acknowledgement, error checking and handling, retransmission procedures, archiving and other related specifications.* *4.1.5 The ICDs shall address the physical, functional and performance aspects of all interfaces.*
15	RFP, Appendix 1 Attachment A-1, System Requirements, Page 66	~~9.3.1.5.2 If fiber is used, new trunk fiber-optic cable shall be used.~~
16	RFP, Appendix 1 Attachment A-1, System Requirements, Page 66	~~9.3.1.5.3 Fiber optic cable can use available BAIFA designated conduit as identified in Reference 2, Diagrams, Drawings and Schematics. The use of any identified BAIFA designated conduit shall be coordinated with BAIFA. The use of non-empty conduit is subject to BAIFA approval."~~
17	RFP Appendix 1 Attachment A-1, System Requirements,	~~9.3.1.5.4~~ *9.3.1.5.2* In locations where the Backhaul Network trunk fiber is located along the I-680 and I-880 Corridors, access to ~~12~~ *36* strands of Backhaul Network trunk fiber will be

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
	Page 66	made available to the TSI. Four (4) strands of fiber optic cable will be supplied for the SR-92 and SR-84 bridge approaches between the Toll plazas and the bridge sign banks. Access to more strands of Backhaul trunk fiber is subject to availability of fiber strands and BAIFA approval. The TSI shall coordinate with BAIFA for access to any Backhaul ~~n~~Network fiber strands.
18	RFP Appendix 1 Attachment A-1, System Requirements, Page 66	*9.3.1.6.3 Splicing of TSI provided fiber optic cable into the Backhaul fiber optic trunk cable shall be performed by the Backhaul Contractor. The TSI shall coordinate with the Backhaul contractor and provide a schedule to BAIFA and Backhaul contractor for splice connection requests.*
19	RFP Appendix 1 Attachment A-1, System Requirements, Page 66	*9.3.1.6.4 The TSI shall work in good faith with BAIFA and the Backhaul contractor to resolve Roadside network to Backhaul network communications, interconnectivity and interoperability issues in a timely manner.*
20	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 1	Req. 1.1.3 The TSI shall schedule all documents in the project management section for BAIFA approval according to Attachment B, Schedule and Project Milestone Dates. The schedule shall allow time for BAIFA review and TSI updates according to the requirements in Section 1.3.~~6~~*8,* Deliverable Management.
21	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 2	Req. 1.3.3.7 Deliverable management, which includes the process for producing high quality deliverables that meet the requirements described in Section 1.3.~~6~~*8*
22	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 18	4.3.2.1 *Roadside* ~~Lane Level~~ Systems •Vehicle detection and separation •Automatic Vehicle Identification (AVI) (vehicle association, antenna position and configuration, tuning, preventing cross lane reads, etc.) •Vehicle processing in exception cases (two tags, tag with no vehicle, cross lane reads, buffered tags, etc) •Violation Enforcement System •Variable Toll Message Signs (VTMS) operations and failure logic •Traffic Monitoring System (TMS) •Data collection and storage in local servers •~~Messages between controllers and Host~~ *ICDs for the interfaces* between Host and Roadside Systems •Prevention of theft or vandalism of lane equipment

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
		•Functionalities during equipment failures
23	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 19	Req. 4.5.1 The TSI shall provide Bill of Materials Tracking Report to track the bill of materials as approved in the final SDD, *including approved spare parts.*
24	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 20	5.1 Functional Demonstration Plan TSI shall deliver a Functional Demonstration Plan that details the overall approach to conducting reviews and demonstrations of the system and the component functions listed below. The Functional Demonstration Plan will undergo the same round of submissions, review, updates and approval as required in Section 1.3.~~6~~*8*.
25	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 27	Please see Addendum 5, Appendix 3, attached hereto, for the revised Implementation Requirements in Section 8.3, Lane Closures.
26	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 40	*10.4.6.3 During the first Corridor Test, the TSI shall demonstrate the correlations between confidence levels assigned to Image Based Trip Transactions and error rates for Trip Transactions with that confidence level. Based on the correlation results from the first Corridor Test, BAIFA will choose a threshold confidence level for Image Based Trip Transactions.*
27	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 41	10.4.9.4 ~~The TSI shall create a punch list of defects and a report on performance requirements early in the operations testing period to allow early fixes and retesting without requiring significant delays in the project.~~ BAIFA approval depends on at least 30 consecutive days of ELN operations at the specified performance requirements and without the detection of *defects associated with Essential Roadside System Functions and Essential Host System Functions, as defined in Section 1.6 of Attachment C, Performance Requirements and Penalties.* ~~high priority defects~~.
28	RFP, Appendix 1 Attachment A-2, Implementation Requirements, Page 41	*10.4.9.5 The TSI shall deliver an Operations Test report within 45 days of go-live without regard to system performance at that time. The TSI shall continue to deliver Operations Test reports at 30-day intervals until the system meets the standards for approval.*
29	RFP, Appendix 1 Attachment A-3,	1.2 The TSI shall provide these services during the Warranty period *(as defined in Section 3.2 below)* and the ~~m~~*M*aintenance

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
	Maintenance and Warranty Requirements, Page 1	period *(as defined in Section 4.4 below).* ~~The TSI shall provide these services during the Warranty period and the maintenance period as defined in the Agreement.~~
30	RFP, Appendix 1 Attachment A-3, Maintenance and Warranty Requirements, Page 3	*Req. 2.4 The SMP shall include the initial spare parts inventory list for approval by BAIFA. The proposed cost for spare parts inventory shall be included.*
31	RFP, Appendix 1 Attachment A-3, Maintenance and Warranty Requirements, Page 3	Req. 3.2 *Maintenance during the Warranty period for* the Toll Collection System (TCS) ~~Equipment~~ *Software* and Hardware ~~Warranty~~ shall be in effect for one (1) year commencing upon approval of the Operations Test milestone shown in Attachment B, Schedule and Project Milestone Dates for each Corridor. ~~Warranty periods may not necessarily be concurrent for equipment and Hardware commissioned at different times.~~
32	RFP, Appendix 1 Attachment A-3, Maintenance and Warranty Requirements, Page 3	*Req. 4.4 The maintenance period after Hardware, Software, and TCS warranty periods (referred to as "Maintenance" herein) shall commence for each Corridor at the completion of the respective Warranty period.*
33	RFP Appendix 1 Attachment A-4, Business Rules, Page 9	Req. 2.3.1 Toll rates for a *Read Point*, Zone, *Segment, or Corridor* can be manually overridden by the ELN operator during an incident.
34	RFP Appendix 1 Attachment A-4, Business Rules, Page 12	Req. 3.1.10 Trip Transactions with an HOV toll rate of $0 ~~will/~~will not ~~(TBD)~~ be sent to the RCSC for posting at $0 to the FasTrak account on which the transponder ID is listed. Trip Transactions associated with non revenue tags will be sent to the RCSC for posting.
35	RFP Appendix 1 Attachment A-4, Business Rules, Page 12	Req. 3.1.11 Trip Transactions with an HOV toll rate of $0 toll applied ~~will/~~will not ~~(TBD)~~ appear on customer statements.
36	RFP Appendix 1 Attachment A-4, Business Rules, Page 16	Req. 5.2.1 *The RCSC will filter Trip Transactions so that the same transponder ID or License Plate Account is not charged twice for the same Zone within the same Trip Transaction (based on date/time).* ~~The RCSC will wait until all images are reviewed for an associated set of Trip Transactions before posting to accounts. Sets of Trip Transactions will be associated by time periods.~~
37	RFP Appendix 1 Attachment A-4, Business Rules, Page	Req. 5.2.2 *NOT USED*. ~~During the processing of a set of Trip Transactions, the RCSC will check for any overlap between two or more Trip Transactions posting to the same account. If the~~

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
	16	~~RCSC finds overlap between two or more Trip Transactions in a set, these overlapping Trip Transactions are all rejected with an "overlapping" reason code. Otherwise, RCSC posts the Trip Transaction. (Overlapping Trip Transactions are Trip Transactions containing one or more identical zones occurring within a configurable time of each other).~~
38	RFP Appendix 1 Attachment A-4, Business Rules, Page 16	Req. 5.2.3 *NOT USED*. ~~If the RCSC performed image review on an overlapping Trip Transaction, the License Plate information from the image review will be sent back to the Host with the Trip Transaction reconciliation information.~~
39	RFP Appendix 1 Attachment B, Schedule and Project Milestone Dates, Page 3	Guaranteed Completion Date for Milestone 2-10, *I-680* Operations Test. TSI Scheduled Date: Maximum of ~~60~~ *90* days after Tolling Commencement.
40	RFP Appendix 1 Attachment B, Schedule and Project Milestone Dates, Page 4	Guaranteed Completion Date for Milestone 3-14, I-880 Operations Test. TSI Scheduled Date: Maximum of ~~30~~ *60* days after Tolling Commencement.
41	RFP Appendix 1 Attachment B, Schedule and Project Milestone Dates, Page 5	Guaranteed Completion Date for Milestone 4-8, I-80 Operations Test. TSI Scheduled Date: Maximum of ~~30~~ *60* days after Tolling Commencement.
42	RFP, Appendix 1 Attachment C, Performance Requirements and Penalties, Page 1, Introduction	Regardless of whether or not a Corridor maintenance period has begun, BAIFA will assess penalties for failure by the Toll System Integrator (TSI) to comply with the Performance Requirements beginning ~~60~~ *90* ~~working~~ days after Tolling Commencement on the first Corridor, and ~~30~~ *60* ~~working~~ days after Tolling Commencement on each subsequent Corridor.
43	RFP, Appendix 1 Attachment C, Performance Requirements and Penalties, Page 6	Please see Addendum 5, Appendix 4, attached hereto, for a revised Table 3: Host Accuracy and Performance Transaction Processing.

<table>
<tr><th>Addendum Item</th><th>Reference</th><th>Change (Addition or <s>Deletion</s>)</th></tr>
<tr><td>44</td><td>RFP Appendix 1 Reference 1, Glossary of Acronyms, Terms and Definitions, Page 7; RFP Appendix 3, Agreement, Glossary of Terms, Page vii</td><td><table><tr><td>Backhaul Contractor</td><td>The contractor(s) responsible for the construction and maintenance of the Backhaul Network infrastructure.</td></tr></table></td></tr>
<tr><td>45</td><td>RFP Appendix 2 Reference 1, Glossary of Acronyms, Terms and Definitions, Page 8; RFP Appendix 3, Agreement, Glossary of Terms, Page ix</td><td><table><tr><td>Corridor</td><td>A continuous stretch of the express lane roadway operated by the same operator and containing predefined start and end points in the same travel direction (e.g. I-680 is two corridors).</td></tr></table></td></tr>
<tr><td>46</td><td>RFP Appendix 1 Reference 2E, Conduit Inventory Table</td><td>This reference has been removed from the RFP.</td></tr>
<tr><td>47</td><td>RFP Appendix 1 Reference 3, Communications Network Conceptual Pre-Design, Page 4</td><td>The communications infrastructure leverages:
New BAIFA Backhaul Network fiber optic trunk cable installed by the Backhaul Contractor in existing and new conduit <s>for fiber optic cable</s> owned by Caltrans along:
<s>Portions of</s> I-880 from <s>Davis Street</s> Hegenberger Road in Oakland <s>San Leandro</s> to Highway 237
I-680 from the Caltrans <s>East</s> West Dublin hub at I-580 to the Caltrans hub at Walnut Creek
Existing fiber-optic cable for the Silicon Valley ITS Program fiber-optic cable, owned and maintained by the City of San Jose, from the San Jose Traffic TMC to the Fremont BART station
<s>Four</s> Eight (8) existing strands of BART fiber-optic cable assigned to <s>Caltrans</s> BAIFA that will be used to connect the Backhaul Network <s>to BAIFA and</s> to the primary and secondary Host sites. <s>The communications on those four strands comprise a Caltrans regional SONET OC-192 network.</s>
See Appendix 1 for the existing infrastructure and conceptual alternatives, by Corridor.

The communications infrastructure utilizes existing conduit</td></tr>
</table>

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
		owned by Caltrans, the City of San Jose, BART, and BAIFA and new *Backhaul Network* fiber-optic cable will be installed in those conduits.
48	RFP Appendix 1 Reference 3, Communications Network Conceptual Pre-Design, Page 4	~~The TSI installs new trunk fiber-optic cable in existing conduit as shown in *Reference 2E,* Conduit Inventory Table.~~ *The TSI utilizes 36 strands of Backhaul Network fiber optic trunk cable in existing conduit along the I-680 and I-880 corridors.*
49	RFP Appendix 1 Reference 3, Communications Network Conceptual Pre-Design, Page 5-6	Communications Design The TSI is responsible for coordinating work with the Civil Contractor for installation of cabinets and equipment. Working with BAIFA staff, the TSI is responsible for coordinating work with the Pacific Gas and Electric (PG&E) Company for electrical service connections and the TSI is also responsible for coordinating work with the CALNET vendor for leased communication connections. The TSI is responsible for coordinating with BAIFA staff for Backhaul Network access, data center access and any resulting connectivity. *The TSI is responsible for coordinating with the Backhaul Contractor for access to Backhaul Network trunk fiber optic cable. The TSI is responsible for working with the Backhaul Contractor to resolve any roadside network to Backhaul Network communications interconnectivity and interoperability issues. Splicing of TSI provided fiber optic cable into the Backhaul Network fiber optic trunk cable will be performed by the Backhaul Contractor.* The TSI will prepare communications design plans. All work within the Caltrans right-of-way complies with Caltrans requirements and BAIFA's encroachment permits issued by Caltrans. The TSI utilizes ~~existing conduit or~~ *new lateral* conduit *and pullboxes at Backhaul Network fiber optic cable splice locations* being installed by the Civil *and Backhaul* Contractors to install fiber-optic cable. As-built plans and a summary report of the proofed or tested conduits will be provided to the TSI when available. For those areas where *lateral* conduit exists, the TSI installs fiber-optic cable.
50	RFP Appendix 1 Reference 3, Communications Network Conceptual	~~Req. 6.4.3.1 Appendix 1, Reference 2E, Express Lanes Conduit Inventory, lists the segments with existing conduit where fiber-optic cable is installed.~~ Req. ~~6.4.3.2~~ *6.4.3.1* Cable Labeling Nomenclature: Develop a

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
	Pre-Design, Page 11	nomenclature plan for identification of fiber-optic cable in accordance with TIA/EIA standards and industry best practices. Submit the nomenclature plan to BAIFA for approval. Use approved cable nomenclature to create cable tags for the identification of fiber-optic cable. Provide permanent cable tag identification on all test results or fiber related documents provided to BAIFA. Req. ~~6.4.3.3~~ *6.4.3.2* Install the fiber-optic cable by hand by the manufacturer's recommended procedures. Ensure that at no time the manufacturer's recommended maximum pulling tension is exceeded. Ensure that cable-pulling lubricant used during installation is recommended by the optical fiber cable manufacturer. Provide and store fiber-optic cable at each pull box and splice box to allow for future splices, additions, or repairs to the fiber network. Store the fiber-optic cable without twisting or bending the cable below the minimum bend radius. Store a total of 200 feet of fiber-optic cable in splice vaults, with 100 feet of cable on each side of the cable splice point. Store 50 feet of spare fiber-optic cable in pull boxes. Req. ~~6.4.3.4~~ *6.4.3.3* Coil 50 feet of slack cable for each cable entering and exiting the splice enclosure in the splice vault or pull box where enclosure is located. Where fiber-optic cables are installed but not immediately spliced, store 50 feet of drop cable and 50 feet of fiber-optic trunk cable inside the manhole or junction box to facilitate subsequent splicing in the splice enclosure. At each ELN cabinet, splice drop cable to trunk cable in the pull box. After termination, coil and store in the base of the equipment cabinet 20 feet of drop cable plus any additional drop cable in excess of what is needed for storage.
51	RFP Appendix 1 Reference 3, Communications Network Conceptual Pre-Design, Page 11	~~Req. 6.4.4 Single Mode Fiber-Optic Trunk Cable~~ ~~Req. 6.4.4.1 Size the roadside trunk cable to include those strands needed for the project plus an additional *24* 60 strands reserved for future use by BAIFA.~~ ~~Req. 6.4.5 Single Mode Fiber-Optic Drop Cable~~ *Req. 6.4.3.4* Size the drop cables to include all fiber strands for a redundant network plus 100% spare strands. Round the drop cable size to the next highest standard size cable.
52	RFP Appendix 1 Reference 3,	See Addendum 5, Appendix 5 attached hereto, for revised Figures 1-6.

Addendum Item	Reference	Change (*Addition* or ~~Deletion~~)
	Communications Network Conceptual Pre-Design, Figures 1-6	
53	RFP Appendix 1 Reference 8	Please see Addendum 5, Appendix 6, attached hereto, for a new Reference 8E: Caltrans ATMS Traffic Management Center Network Architecture.

The remaining provisions of the RFP, dated November 7, 2013, as last amended on January 9, 2014, remain unchanged. In the event of a conflict between this addendum and the previous version(s), this addendum takes precedence.

Any questions concerning this addendum to the RFP should be directed to Jim Macrae, Project Manager, at (510) 817-5714 or jmacrae@mtc.ca.gov.

Sincerely,

Andrew B. Fremier
Deputy Executive Director, Operations

AF:jm
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Addendum No. 5, Appendix 1

RFP Table 2: Proposal Organization and Mandatory Page Limits

PROPOSAL SECTION	Mandatory Page Limit
SECTION 1: Proposer Information (Original + Copies + CD)	
1.1 Transmittal Letter	2 *+BAFO question table (with section/page numbers)*
1.2 Title Page	1
1.3 Table of Contents	No Page Limit
1.4 Company Overview & Qualifications	15
1.5 Conflict of Interest Statement	No Page Limit
SECTION 2: Technical Proposal (Original + Copies + CD)	
2.1 Executive Summary	~~4~~ *8*
2.2 Work Plan	-
2.2.1 Tolling System	~~75~~ *135*
2.2.2 Roadside Communication Network	~~30~~ *55*
2.2.3 Implementation and Testing	~~30~~ *55*
2.2.4 Maintenance	~~20~~ *30*
2.2.5 Disposition/Issues Matrix (Form G)	No Page Limit
2.2.6 Preliminary Bill of Materials	No Page Limit
2.2.7 Software List	No Page Limit
2.3 Qualifications & Staff Experience	-
2.3.1 Project Organization and Staffing	~~5~~ *10*
2.3.2 Staff Qualifications and Résumés	2/résumé; 1/profile
2.3.3 Project Descriptions & References (including Form B)	2 (narrative only) plus form
2.4 Proposed Project Schedule	~~5~~ *15* (narrative only)
2.5 Required Supplemental Documentation	-
2.5.1 Example Reports	100
2.5.2 System Design Work Plan	15
2.5.3 Sample Project Management Plan	No Page Limit
2.5.4 Subcontractor Management Plan	15
2.5.5 Sample Maintenance Management Plan	No Page Limit
SECTION 3: Proposer Affirmations/Certifications (Original + CD)	
3.1 California Levine Act (Form D)	No Page Limit
3.2 Iran Contracting Act (Form E)	No Page Limit
3.3 Acknowledgement of Rights in Data Provisions (Form F)	No Page Limit
3.4 Disclosure of Past and Pending Legal Actions (Form H)	No Page Limit
3.5 Insurance Provisions Acknowledgement (Form I)	No Page Limit
SECTION 4: Cost Proposal (Original, Separate Cover + Separate CD)	
4.0 Completed Cost Proposal Forms (Form "C" Series)	No Page Limit
SECTION 5: Financial Statements (Hard Copy Only, Separate Cover)	
5.0 Audited financial statements described in Section IX.E.	No Page Limit

Addendum No. 5, Appendix 2

RFP Appendix 2, Required Proposal Form – Revised Form “C” Series

Form C, COST PROPOSALS

Cost Proposal Form “C” Series includes:

- Submittal Signature Page
- Form C-1: Implementation
- Form C-2: Maintenance
- Form C-3: Unit Prices
- Form C-4: Hourly Labor Rates
- Form C-5: Implementation Milestone Payments
- Form C-6: Hypothetical Project Estimate

SUBMITTAL SIGNATURE

The Cost Proposal contains the minimal information that is desired by BAIFA for specific functions and components. The prices herein will be utilized in the event that additional components are to be added or removed from the Agreement.

Only one (1) set of Cost Proposal forms shall be submitted in the Cost Proposal. Prices shall reflect the cost for a fully compliant proposal and shall not include any alternatives or additions noted in Form G, Disposition/Issues Matrix.

Should there be a discrepancy in calculations on the Cost Proposal forms, the Unit and Lump Sum prices, and their quantities, shall prevail.

Cost Proposal Form "C" Series shall become Attachment C to the Agreement for execution.

SIGNATURE BLOCK

Note: Please return all pages with your Proposal (printed and scanned).

_____	_____
Company Name	Authorized Signature
_____	_____
Mailing Address	Printed Name
_____	_____
City, State, Zip Code	Title
_____	_____
Federal Employer ID Number	Phone Number
_____	_____
Type of Entity (S-Corp, LLC, etc.)	Official EMAIL Address

COST PROPOSAL Form C-1
IMPLEMENTATION

General Instructions:

The total Implementation pricing for the project is included in Form C-1.

The empty lines on Form C-1, Implementation, are to be used by the proposer to add any additional items that have not been specified but are included in the estimate.

Description of Items Requested:

The descriptions below are listed to provide guidance for completing Form C-1, Implementation, as intended. If the proposer's system is different than the descriptions found below, proposers must add the changes to the "Description Modifications" column to reflect the Technical Proposal, including moving descriptions from one item to another, if appropriate. The descriptions are not intended to replace requirements defined in the Attachment A, Scope of Work, or any other terms of the Agreement.

1. Section A: Project Costs

Item	Description	Description Modifications
Payment Bond	Payment Bond for the total Implementation amount (Milestone Series 1 through 5) is paid for by the proposer but is separated and included in the Total TCS Implementation Cost so that the Proposer's Unit prices and Lump Sum prices are indicative of the actual costs of the component pricing.	
Performance Bond	A Performance Bond for the total Implementation amount (Milestone Series 1 through 5) is paid for by the proposer but is separated and included in the Total TCS Implementation Cost so that the Proposer's Unit prices and Lump Sum prices are indicative of the actual costs of the component pricing.	
Escrow for Lane System	Escrow fees are paid for by the proposer but are separated and included through System Acceptance in the Total TCS Implementation Cost so that the Proposer's Unit prices and Lump Sum prices are indicative of the actual costs of the component pricing. Escrow fees after System Acceptance are included on Form C-2 Maintenance.	

2. Section B: TCS

Item	Description	Description Modifications

I-680 Toll Collection System	The Lump Sum for the I-680 Toll Collection System price includes, but is not limited to:
	• Furnishing, installing and testing:
	  o CCTV systems
	  o Variable Toll Message Signs (VTMS)
	  o Violation Enforcement System (VES)
	  o Traffic Monitoring Stations (TMS)
	  o Automatic Vehicle Detection and Automatic Vehicle Classification (AVD/AVC)
	  o Automatic Vehicle Identification System (AVI)
	  o Lane equipment (Lane Controllers, switches, UPS, etc.)
	  o Roadside Communications Network, switches and equipment
	• Performing all required testing to demonstrate a fully operational system, including end-to-end testing with the RCSC
	• Coordination with BAIFA, their designated representatives, other contractors, and project partners
	• Fulfilling all requirements and terms of the Agreement
	• For electrical conductor length, assume the total length from electrical service drops to tolling equipment locations	

I-880 Toll Collection System/SR-84 Dumbarton Approach/SR-92 San Mateo Approach	The Lump Sum for the I-880 Toll Collection System/SR-84 Dumbarton Approach/SR-92 San Mateo Approach Toll Collection System price includes, but is not limited to:
	• Furnishing, installing and testing:
	  o CCTV systems
	  o Variable Toll Message Signs (VTMS)
	  o Violation Enforcement System (VES)
	  o Traffic Monitoring Stations	

Item	Description	Description Modifications
	(TMS) o Automatic Vehicle Detection and Automatic Vehicle Classification (AVD/AVC) o Automatic Vehicle Identification System (AVI) o Lane equipment (Lane Controllers, switches, UPS, etc.) o Roadside Communications Network, switches and equipment • Performing all required testing to demonstrate a fully operational system, including end-to-end testing with the RCSC • Coordination with BAIFA, their designated representatives, other contractors, and project partners • Fulfilling all requirements and terms of the Agreement • For electrical conductor length, assume the total length from electrical service drops to tolling equipment locations	
I-80 Toll Collection System	The Lump Sum for the I-80 Toll Collection System price includes, but is not limited to: • Furnishing, installing and testing: o CCTV systems o Variable Toll Message Signs (VTMS) o Violation Enforcement System (VES) o Traffic Monitoring Stations (TMS) o Automatic Vehicle Detection and Automatic Vehicle Classification (AVD/AVC) o Automatic Vehicle Identification System (AVI) o Lane equipment (Lane Controllers, switches, UPS, etc.) o Roadside Communications Network, switches and equipment • Performing all required testing to	

Item	Description	Description Modifications
	demonstrate a fully operational system, including end-to-end testing with the RCSC • Coordination with BAIFA, their designated representatives, other contractors, and project partners • Fulfilling all requirements and terms of the Agreement • For electrical conductor length, assume the total length from electrical service drops to tolling equipment locations	
Host Systems	The Lump Sum for the Host price includes, but is not limited to: • Furnishing, installing and testing: o All servers o All development of the solution software • All documentation • System interfaces • Trip pricing software algorithm • Simulator • All Hardware necessary, workstations, terminals, switches, UPSs, storage, printers, etc. • All report development and testing • User interfaces • Video solution, interfaces and all required equipment • Performing all required testing to demonstrate a fully operational system, including end-to-end testing with the RCSC • Toll Roadway Operations Center • Network communication • All other functionality as described in the RFP for the Host system	

3. Section C: Toll System Integrator (TSI) Services and Development

Item	Description	Description Modifications
Design Development	The Design and Development Lump Sum price includes, but is not limited to:	

Item	Description	Description Modifications
	• As-builts • Backup and Recovery Plan • Detailed Design Document • Electrical Design • Final Acceptance Testing • Interface Control Documents (ICDs) • Maintenance Plan, Preventive Maintenance Plan • Network Design • Preliminary and Final Deployment Plan • Preliminary Design Document • Quality Management Plan, Project Management Plan • Software Development Plan, Configuration Management Plan • Software Documentation • Software Specifications • System Commissioning Testing • System Design (Hardware) • Technical Management (System, Electrical Network, Technical Meetings • Test Plans (Prelim Test Plan, FAT Plan, Field Test Plan) • Training • Training Plans • User Manuals • Wiring Diagrams, Shop Drawings • All other requirements as described in the RFP for the design and development of the TCS	
Program Management	The Project Management Lump Sum price includes, but is not limited to: • Project management activities (status meetings, schedule updates, invoices, progress reports, etc.) • All other requirements as described in the RFP for the program and project management	

4. Section D: Additional Items

Item	Description	Description Modifications
Additional Items	The Additional Item prices include, but are not limited to: • All Costs for Maintenance of Traffic (MOT) to Install Test and maintain the systems (use one line item per Corridor) • ~~Initial spare parts inventory~~ • Any additional items that the Proposer requires for a fully operational toll system	

COST PROPOSAL Form C-1
IMPLEMENTATION

ITEM / LINE		DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL
A	**1**	**Project Costs**				
	2	Payment Bond	Lump Sum	1		
	3	Performance Bond	Lump Sum	1		
	4	Escrow for Lane System	Lump Sum	1		
	5					
	6	**Subtotal – Project Costs Section A**				
B	**7**	**Toll Collection System**				
	8	I-680 Corridor TCS	Lump Sum	1		
	9	I-880/SR-92/SR84 Corridor TCS	Lump Sum	1		
	10	I-80 Corridor TCS	Lump Sum	1		
	11	TCS Host Systems	Lump Sum	1		
	12					
	13					
	14					
	15					
	16	**Subtotal - Toll Collection System Section B**				
C	**17**	**TSI Services & Development**				
	18	Design Development	Lump Sum	1		
	19	Program Management	Lump Sum	1		
	20					
	21					
	22					
	23					
	24	**Subtotal - TSI Services & Dev. Section C**				
D	**25**	**Additional Items**				
	26	Maintenance of Traffic for I-680	Lump Sum	1		
	27	Maintenance of Traffic for I-880/SR-92/SR-84	Lump Sum	1		
	28	Maintenance of Traffic for I-80	Lump Sum	1		
	29	~~Spare Parts~~	~~Lump Sum~~	~~1~~	-	-
	30					
	31	**Subtotal - Additional Items Section D**				
E	32	**Total TCS Implementation Cost (Sections A, B, C, and D)**				

COST PROPOSAL Form C-2
MAINTENANCE

General Instructions:

Cost Proposal Form C-2 provides Agreement Maintenance Costs for monthly maintenance by Corridor, by combinations of Corridors, and in total. The Unit (one month) price shall be inclusive of all maintenance activities and services as defined in the Attachment A, Scope of Work, and any other terms of the Agreement.

It is expected that maintenance for multiple Corridors will be consolidated into one monthly price; therefore, combined prices shall reflect synergies and cost savings for the total cost of maintenance on multiple Corridors as shown in the form.

Description of Items Requested:

Prices shall reflect the cost for maintenance of the Host and TCS associated with the Corridors.

Prices for Corridor Maintenance shall be based on the quantities of installed TCS Corridor Hardware and equipment shown in Attachment A, Scope of Work *Reference Document 2A*, Tolling Location Details.

The quantity of months for maintenance are based on Tolling Commencement dates from Attachment B, Schedule and Project Milestone Dates, and are included to assist in pricing of Maintenance during and after Warranty Periods. Maintenance during Warranty Periods is the time when hardware is under warranty and labor is the only factor as materials are covered under warranty.

Item	Description
TCS Maintenance (and TCS Maintenance during Warranty Periods)	The Toll System Maintenance price includes, but is not limited to: • Corridor TCS maintenance during and after Warranty Periods • Host maintenance during and after Warranty Periods • Maintenance of the roadside communications Maintenance prices will be escalated using CPI. DO NOT show escalations in the forms.
Payment Bond	Payment Bond for the Maintenance amount of each section/Corridor is paid for by the proposer but is separated and included in the Subtotal Maintenance Costs so that the Proposer's monthly prices are indicative of the actual costs.
Performance Bond	A Performance Bond for the Maintenance amount of each section/Corridor is paid for by the proposer but is separated and included in the Subtotal Maintenance Costs so that the Proposer's monthly prices are indicative of the actual costs.
Annual Performance Audit	Include the Annual Performance Audit price to meet the requirements in Attachment A-2, Implementation Requirements NOTE: Replace the **X** with the estimated number of performance audits.
Escrow for Lane System	The price includes the annual cost for the Lane System Source Code and Source Code Documentation to be maintained in escrow after System Acceptance and updated in accordance with the Agreement.
Initial Spare Parts Budget	*The budget for the initial inventory of spare parts, which is 5% Form C-1: Implementation, Line B16 (subtotal for the Toll Collection System).*

COST PROPOSAL Form C-2
MAINTENANCE

Line Item	Monthly Maintenance Costs of:	Tolling Commencement Date	Contract End	AGREEMENT MONTHS: May-16		Apr-17		Oct-17		Jun-19	Total Payment & Performance Bond Costs
1	Host System	4/22/2016	6/30/2019	**Provide 1 month of costs**		**Provide 1 month of costs**					**Provide costs for full warranty and maintenance period**
2	I-680 Corridor TCS	4/22/2016	6/30/2019	**Provide 1 month. of costs**		**Provide 1 month of costs**					**Provide costs for full warranty and maintenance period**
3	I-880/SR-84/SR-92 TCS	3/16/2017	6/30/2019			**Provide 1 month of costs**			**Provide 1 month of costs**		**Provide costs for full warranty and maintenance period**
4	I-80 TCS	9/21/2017	6/30/2019					**Provide 1 month of costs**		**Provide 1 month of costs**	**Provide costs for full warranty and maintenance period**
5	Sum Monthly Costs of Systems			***Add monthly costs of lines above***		$		$	$	$	*Provide the sum of all bond costs for the full maintenance period.* ***Enter amount on Line Item 8.***
6	Multiply by # of months in each section			12 months		6 months		6 months	6 months	9 months	
7	Total Maintenance Costs for each section			$		$		$	$	$	

8	Total Payment & Performance Bond Costs	$
9	Annual Performance Audit for **X** years	$
10	Escrow for Lane System for **X** years	$
11	*Initial Spare Parts Budget (5% of Form C-1 Line B16)*	*$*
~~11~~*12*	Total Agreement Maintenance Costs	$

		= Monthly Maintenance Costs during Warranty
		= Monthly Maintenance Costs after Warranty

NOTE: These prices do not reflect any annual escalation. Costs *should be shown in 2014 dollars and* will be escalated on an annual basis using the Consumer Price Index (CPI) for San Francisco CMSA as published by the California Department of Finance starting July 1, ~~2016~~ *2015* and each year thereafter for the term of the Agreement. Costs shall be escalated no more than 5% annually regardless of CPI.

COST PROPOSAL Form C-2
MAINTENANCE

EXAMPLE:
(This is for representational purposes only.)

Line Item	Monthly Maintenance Costs of:	Tolling Commencement Date	Contract End	AGREEMENT MONTHS						Total Payment & Performance Bond Costs
				May-16		Apr-17		Oct-17	Jun-19	
1	Host System	4/22/2016	6/30/2019	**$1,000**		**$2,000**				**$5,000**
2	I-680 Corridor TCS	4/22/2016	6/30/2019	**$1,000**		**$2,000**				**$5,000**
3	I-880/SR-84/SR-92 TCS	3/16/2017	6/30/2019			**$1,500**		**$3,000**		**$7,500**
4	I-80 TCS	9/21/2017	6/30/2019					**$750**	**$1,500**	**$4,000**
5	Sum Monthly Costs of Systems			**$ 2,000**		**$ 5,500**		**$ 6,250**	**$ 7,750**	**$ 8,500**	**$21,500**
6	Multiply by # of months in each section			12 months		6 months		6 months	6 months	9 months	
7	Total Maintenance Costs for each section			**$ 24,000**		**$ 33,000**		**$ 37,500**	**$ 46,500**	**$ 76,500**	
8	Total Payment & Performance Bond Costs			**$ 21,500**							
9	Annual Performance Audit for **4** years			**$ 20,000**							
10	Escrow for Lane System for **2.5** years			**$ 25,000**							
11	*Initial Spare Parts Budget (5% of Form C-1 Line B16)*			***$ 30,000***							
~~11~~*12*	Total Agreement Maintenance Costs			~~**$ 284,000**~~***$314,000***							

		= Monthly Maintenance Costs during Warranty
		= Monthly Maintenance Costs after Warranty

COST PROPOSAL Form C-3
UNIT PRICES

General Instructions:

The Unit pricing for the project is summarized in Form C-3. The items required are indicated as Unit prices for specific systems. These prices shall include, but not be limited to, Hardware and equipment, Software, installation and traffic control, configuration and testing, network communications components required to support a functional/operational system, and documentation (as-builts, etc.).

The empty lines on Form C-3, Unit Prices, are to be used by the proposer to add any additional items that have not been specified but are included in the estimate.

Description of Items Requested:

The descriptions below are listed to provide guidance for completing Form C-3, Unit Prices, as intended. If the proposed system is different than the descriptions found below, proposers must add the changes to the "Description Modifications" column to reflect the Technical Proposal, including moving descriptions from one item to another, if appropriate. The descriptions are not intended to replace requirements defined in the Attachment A, Scope of Work, or any other terms of the Agreement.

Item	Description	Description Modifications
Host System Integration to a new Corridor	• Integration • Testing • Documentation • Hardware • Communications infrastructure needed to connect to the network	
Lane Controller Systems	• The equipment that provides the infrastructure and control for a Read Point not included in the other systems mentioned below • Installation of the power and communication infrastructure needed to support the Lane Controller • Beacons • All Hardware, cabinets etc. • Integration • Testing • Documentation	
Reader/Antenna System (AVI)	The equipment to provide AVI Functionality for a Read Point: • Reader • Antenna • Mounting Hardware • Installation of the power and	

Item	Description	Description Modifications
	communication infrastructure needed to connect to the Lane Controller • Integration • Testing • Documentation	
Automatic Vehicle Detection and Automatic Vehicle Classification (AVD/AVC)	The equipment to provide AVD/AVC Functionality for a Read Point: • Detection equipment • Classification equipment • Mounting or installation Hardware • Installation of the communication infrastructure needed to connect to the Lane Controller • Integration • Testing • Documentation	
Traffic Monitoring System	The equipment to provide Traffic Monitoring Functionality at the indicated locations: • Reader • Installation of the power and communication infrastructure needed to connect to the TCS • Integration • Testing • Documentation	
Vehicle Enforcement System (VES)	The equipment to provide VES at the indicated locations : • Cameras • Flash Units • Mounting Hardware • Installation of the power and communication infrastructure needed to connect to the TCS • Integration • Testing • Documentation	
CCTV System	The equipment to provide CCTV at the indicated locations : • Cameras • Installation of the power and	

Item	Description	Description Modifications
	communication infrastructure needed to connect to the Network • Integration • Testing • Documentation	
VTMS System	The equipment to provide VTMS at the indicated locations: • Sign LED panel by type • Sign controllers • Installation of the power and communication infrastructure needed to connect to the Network • Integration • Testing • Documentation	
Annual Software Licenses	• Third-party software licenses by application	
Additional Items	The Additional Item prices include, but are not limited to: • All Costs for Maintenance of Traffic (MOT) to Install Test and maintain the systems for each type of closure (i.e. shoulder, single lane, multi-lane, etc.) • Initial spare parts inventory • Electrical conductor powering tolling equipment locations • Fiber optical cable for communications for each type of bundled strands (single strands, multiple strands, quality of fiber, etc) • Toll Roadway Operations Center Workstations • Toll Roadway Operations Center Printer • Any additional items that the Proposer requires for a fully operational toll system •	

COST PROPOSAL Form C-3
UNIT PRICES

ITEM / LINE		DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL
A	**1**	**Project Costs**				
	2					
	3					
B	**4**	**Toll Collection System**				
	5	Host System Integration to a new Corridor	Each	1		
	6	Lane Controller System	Each	1		
	7	Reader/Antenna System (AVI)	Each	1		
	8	AVD/AVC System	Each	1		
	9	Traffic Monitoring System	Each	1		
	10	Vehicle Enforcement System	Each	1		
	11	CCTV System	Each	1		
	12	VTMS System	Each	1		
	13	Annual Software Licenses	Each	1		
	14					
C	**15**	**TSI Services & Development**				
	16					
	17					
	18					
D	**19**	**Additional Items**				
	20	Maintenance of Traffic	Per Closure	1		
	21	Spare Parts	Per Read Point	1		
	22	Spare Parts	Per CCTV	1		
	23	Spare Parts	Per VTMS	1		
	24	Electrical Conductor	Linear Foot	1		
	25	Single Mode Fiber Optic	Linear Foot	1		
	26	Toll Roadway Ops Center Workstations	Each	1		
	27	Toll Roadway Operations Center Printer	Each	1		

COST PROPOSAL Form C-4
HOURLY LABOR RATES

General Instructions:

Provide the hourly rates, inclusive of overhead, profit, insurance, etc., for the positions listed below. Do not include bond or escrow costs. Proposers shall identify the proposed staff and any additional positions necessary to meet the requirements in Attachment A, Scope of Work.

Rates provided shall be effective for the term of the Agreement. If the Agreement is extended, the rates from the last fiscal year of the Agreement shall be escalated annually thereafter for extension periods according to the then current California Consumer Price Index (CPI) for San Francisco CMSA as published by the California Department of Finance. The escalation shall be the percentage increase or decrease calculated by comparing the index of the last fiscal year of the term of the Agreement to the index of the fiscal year for the renewal term. BAIFA's fiscal year is from July through June. Costs shall be escalated no more than 5% annually regardless of CPI.

Description of Items Requested:

In Section A, provide the rates for the Key Personnel listed below.

In Section B, provide rates for all other proposed staff by listing the position title and the name of the staff member.

In Section C, provide any additional positions that may be necessary for the full term of the agreement. Include a brief description of tasks, type of expertise, years of expertise, and any required certifications. Providing tiered levels of technical experts, based on the years of applicable experience, is preferred. Examples are provided below.

Section C Examples: Other Hourly Labor Rates (for illustrative purposes only)

Position	Description
Project Controls/Scheduler	Provide for each position: • Description of tasks or responsibilities • Type of expertise • Years of experience • Certifications
Programmer I	
Programmer II	
Reports Developer	
Technical Documentation Specialist	
Database Administrator I	
Database Administrator II	
Systems Administrator	
Sr. Systems Administrator	
Installation Supervisor	
Network Design/Integration Manager	
System Test Manager	
System Test Coordinator	
Maintenance Tech I	

COST PROPOSAL Form C-4
HOURLY LABOR RATES

ITEM / LINE		DESCRIPTION		YEAR 1 NTP to June 2015	YEAR 2 July 2015 to June 2016	YEAR 3 July 2016 to June 2017	YEAR 4 July 2017 to June 2018	YEAR 5 July 2018 to June 2019
		Unit Prices Hourly Labor Rates – Key Personnel						
A	**1**	**Position**	**Description**					
	2	Project Principal	10+ years experience in tolling; 5+ years of senior mgmt; Managed 1+ project of $5 million or more					
	3	Project Mgr	5+ years experience in program management for similar toll services					
	4	System Design Mgr	3+ years experience designing and developing open road TCSs					
	5	Software Dev Mgr	3+ years experience in managing the development lifecycle of software and hardware for TCSs					
	6	Installation Mgr	3+ years experience providing construction and/or TCS installation management and oversight					
	7	Communications Dev Mgr	3+ years experience managing communications network design/integration for toll systems/interfaces					
	8	Maintenance Mgr	5+ years experience maintaining TCSs for clients					
	9	Project Quality Mgr	3+ years as a Quality Assurance Manager on similar size and type projects					
		Unit Prices Hourly Labor Rates – Proposed Personnel Positions		**YEAR 1 NTP to June 2015**	**YEAR 2 July 2015 to June 2016**	**YEAR 3 July 2016 to June 2017**	**YEAR 4 July 2017 to June 2018**	**YEAR 5 July 2018 to June 2019**
B	**10**	**Position**	**Name of Proposed Staff Member**					
	11							
	12							
	13							
	14							
	15							
	16							
	17							

	18							
	19							
C	**20**	**Unit Prices Hourly Labor Rates – Other Hourly Labor Rates** **Position**	**Description**	**YEAR 1 NTP to June 2015**	**YEAR 2 July 2015 to June 2016**	**YEAR 3 July 2016 to June 2017**	**YEAR 4 July 2017 to June 2018**	**YEAR 5 July 2018 to June 2019**
	21							
	22							
	23							
	24							
	25							
	26							
	27							
	28							
	29							
	30							

COST PROPOSAL Form C-5
IMPLEMENTATION MILESTONE PAYMENTS

General Instructions:
Form C-5 is used to allocate, by percentage, implementation prices provided in Form C-1 (Implementation) into Milestone Payments. The column, "Form C-1 Item/Line" has been provided for guidance on the dollar amount to include in the column, "Form C-1 Total". Multiply the percentage with the dollar amount in column, "Form C-1 Total" to derive the Milestone Payment.

The sum of Form C-5 should equal the total amount for TCS Implementation shown in Form C-1, Section E, Line 32.

COST PROPOSAL Form C-5
IMPLEMENTATION MILESTONE PAYMENTS

#	Milestone Name	Percentage	Form C-1 Item/Line	Form C-1 Amount	Milestone Payment
Milestone Series 1: Program Development					
1-1	Project Initiation	4.6%	E 32		
1-2	Requirements Refinement	2%	E 32		
1-3	Preliminary Design Approval	2%	E 32		
1-4	Critical Design Approval	2%	E 32		
1-5	Other Plans	1%	E 32		
1-6	Factory Acceptance Test (FAT)	5%	E 32		
Milestone Series 2: I-680 (First) Corridor Deployment					
2-1	I-680 Installation Readiness	5%	B 8		
2-2	Onsite First Installation Test (OFIT)	5%	B 8		
2-3	Disaster Recovery Installation	5%	B 8		
2-4	I-680 Site Commissioning Tests 1 through 5	13%	B 8		
2-5	I-680 Site Commissioning Tests 6 through 10	13%	B 8		
2-6	I-680 Site Commissioning Tests 11 through 15	13%	B 8		
2-7	I-680 Remaining Site Commissioning Tests and End-to-end Test	26%	B 8		
2-8	Training	5%	B 8		
2-9	I-680 Tolling Commencement	5%	B 8		
2-10	Operations Test	10%	B 8		
Milestone Series 3: I-880/SR-92/SR-84 Corridor Deployment					
3-1	I-880 Installation Readiness	5%	B 9		
3-2	Incremental & Regression Test	5%	B 9		
3-3	I-880 Site Commissioning Tests 1 through 5	6%	B 9		
3-4	I-880 Site Commissioning Tests 6 through 10	6%	B 9		
3-5	I-880 Site Commissioning Tests 11 through 15	6%	B 9		
3-6	I-880 Site Commissioning Tests 16 through 20	6%	B 9		
3-7	I-880 Site Commissioning Tests 21 through 25	6%	B 9		
3-8	I-880 Site Commissioning Tests 26 through 30	6%	B 9		
3-9	I-880 Site Commissioning Tests 31 through 35	6%	B 9		
3-10	I-880 Site Commissioning Tests 36 through 40	6%	B 9		
3-11	I-880 Site Commissioning Tests 41 through 45	6%	B 9		

3-12	I-880 Remaining Site Commissioning Tests and End-to-end Test	21%	B 9		
3-13	I-880 Tolling Commencement	5%	B 9		
3-14	I -880 Operations Testing	10%	B 9		
Milestone Series 4: I-80 Corridor Deployment					
4-1	I-80 Installation Readiness	5%	B 10		
4-2	Incremental & Regression Test	5%	B 10		
4-3	I-80 Site Commissioning Tests 1 through 5	15%	B 10		
4-4	I-80 Site Commissioning Tests 6 through 10	15%	B 10		
4-5	I-80 Site Commissioning Tests 11 through 15	15%	B 10		
4-6	I-80 Remaining Site Commissioning Tests and End-to-end Test	30%	B 10		
4-7	I-80 Tolling Commencement	5%	B 10		
4-8	I-80 Operations Testing	10%	B 10		
Milestone Series 5: Express Lane Network System Acceptance					
5-1	System Acceptance	Remainder of Total Project Cost			
				TOTAL TCS Implementation Cost	

COST PROPOSAL Form C-6
HYPOTHETICAL PROJECT ESTIMATE

General Instructions:

In the future, BAIFA may request the same or similar services to be provided on additional phases or projects under this Agreement. For this reason, BAIFA is providing a Cost Proposal form that is to be used to provide hypothetical project pricing for two (2) scenarios provided below.

The prices are to be based on the Unit prices provided on Forms C-2, Maintenance, and C-3, Unit Prices and any additional information needed to provide a fully functioning addition to the system. The prices shall use 2013 dollars.

Fill out one form for each scenario and label each accordingly. The price shall have the following characteristics to implement the solution:

1. Detailed description of each item; this may include hours, men, resources, etc.
2. The quantity and Unit prices from Forms C-2, Maintenance, and C-3, Unit Prices
3. Additional equipment required in support of the main items
4. Roadside communication network
5. Project Management and Coordination efforts
6. Engineering
7. Documentation and documentation updates
8. Testing
9. Maintenance of Traffic
10. Maintenance and Warranty
11. All installation

The empty lines on Form C-6 are to be used by the proposer to add any additional items that have not been specified but are included in the estimate.

Pricing Scenario 1:

A new segment is being added to I-80 at the end of the current limits. There will be:

1. Five (5) additional read points
2. Three (3) additional CCTV installations
3. Two (2) VTMS locations
4. Seven (7) mile extension of the terminus

Using Form C-6, provide pricing and quantities. Also, include a short scope and an issues and concerns document for the scenario.

Pricing Scenario 2:

One (1) Read Point and one (1) VTMS are being removed from I-880 at the terminus.

Using Form C-6, provide pricing and quantities. Also, include a short scope and an issues and concerns document for the scenario.

Description of Items Requested:

The descriptions below are listed to provide guidance for completing Form C-6 as intended. If the proposed system is different than the descriptions found below, proposers must add the changes to the "Description Modifications" column to reflect the hypothetical Technical Proposal, including moving descriptions from one item to another, if appropriate.

Item	Description	Description Modifications
Program Management	• Changes to Program Schedule • Manpower changes	
Host System Integration to a New Corridor	• Integration • Testing • Documentation • Hardware	
Lane Controller System	• The equipment that provides the infrastructure and control for a Read Point not included in the other systems mentioned below • Installation of the power and communication infrastructure needed to support the Lane Controller • Beacons • All Hardware, cabinets etc. • Integration • Testing • Documentation	
Reader/Antenna System (AVI)	The equipment to provide AVI Functionality for a Read Point: • Reader • Antenna • Mounting Hardware • Installation of the power and communication infrastructure needed to connect to the Lane Controller • Integration • Testing • Documentation	
Automatic Vehicle Detection and Automatic Vehicle Classification (AVD/AVC)	The equipment to provide AVC Functionality for a Read Point: • Detection equipment • Classification equipment • Mounting or installation Hardware	

Item	Description	Description Modifications
	• Installation of the communication infrastructure needed to connect to the Lane Controller • Integration • Testing • Documentation	
Traffic Monitoring System	The equipment to provide Traffic Monitoring Functionality at the indicated locations: • Reader • Installation of the power and communication infrastructure needed to connect to the TCS • Integration • Testing • Documentation	
Vehicle Enforcement System (VES)	The equipment to provide VES at the indicated locations : • Cameras • Flash Units • Mounting Hardware • Installation of the power and communication infrastructure needed to connect to the TCS • Integration • Testing • Documentation	
CCTV System	The equipment to provide CCTV at the indicated locations : • Cameras • Installation of the power and communication infrastructure needed to connect to the Network • Integration • Testing • Documentation	
VTMS System	The equipment to provide VTMS at the	

Item	Description	Description Modifications
	indicated locations: • Sign LED panel by typeSign controllers • Installation of the power and communication infrastructure needed to connect to the Network • Integration • Testing • Documentation	
Annual Software Licenses	• Third-party software licenses by application	
Engineering	• Services needed to: o Design communications network o Address TCS design issues (e.g. hilly terrain)	
Communication Systems Enhancements	• Any additional components needed to implement the communications system including but not limited to: o Switches o Fiber connections o Conduit and medium (fiber, wire etc.) o Leased considerations o Coordination with other agencies o Reuse or repurpose of assets o Other	
Warranty Costs	• Per major system such as Read Point, CCTV location, etc.	
Training and Documentation	• Additional training • Documentation of systems • As-builts • ICDs	
Additional Items	The Additional Item prices include, but are not limited to: • All Costs for Maintenance of Traffic (MOT) to Install Test and maintain the systems for each	

Item	Description	Description Modifications
	type of closure (i.e. shoulder, single lane, multi-lane, etc.) • Initial spare parts inventory • Any additional items that the Proposer requires for a fully operational toll system	

COST PROPOSAL Form C-6
HYPOTHETICAL PROJECT ESTIMATE

ITEM / LINE		DETAILED DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL
A	**1**	**Project Costs**				
	2	Program Management				
	3	Payment Bond	Lump Sum	1		
	4	Performance Bond	Lump Sum	1		
	5					
B	**6**	**TCS**				
	7	Host System Integration to a new Corridor	Each			
	8	Lane Controller System	Each			
	9	Reader/Antenna System (AVI)	Each			
	10	AVD/AVC System	Each			
	11	Traffic Monitoring System	Each			
	12	Vehicle Enforcement System	Each			
	13	CCTV System	Each			
	14	VTMS System	Each			
	15	Annual Software Licenses	Each			
C	**16**	**TSI Services & Development**				
	17	Engineering	Lump Sum	1		
	18	Communication System Enhancements	Lump Sum	1		
	19	Training and Documentation	Lump Sum	1		
	20					
	21					
D	**22**	**Additional Items**				
	23	Maintenance of Traffic	Per Site			
	24	Spare Parts	Lump Sum	1		
	25					
F	**26**	**TCS Maintenance during/after Warranty**				
	27	Maintenance during Warranty	Point/Month			
	28	Maintenance after Warranty	Point/Month			
	29					
G	**30**	**Other Maintenance Activities**				
	31	Changes to the Annual Performance Audit				
	32					
	33					
H	**34**	**TOTAL Hypothetical Project Estimate**				

Addendum No. 5, Appendix 3

RFP, Appendix 1, Attachment A-2, Implementation Requirements, Section 8.3 Lane Closures

8.3. Lane Closures

8.3.1. The TSI shall be subject to Caltrans rules for all lane closures. The following requirements reflect Caltrans' current rules regarding lane closures. These rules are subject to change in the future and the TSI shall follow the Caltrans rules in effect at the time of any work in the lanes.

8.3.2. Lane closures, which include ramp and shoulder closures, shall be prohibited as listed *in the tables* below. Changes in these hourly requirements require written approval by Caltrans and BAIFA.

8.3.2.1. I-680 Lane Closures

Table 1: Freeway/Expressway Lane Requirements for I-680

FROM HOUR TO HOUR	*24*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
Mondays through Thursdays	*2*	*2*	*2*	*2*	*1*																*1*	*2*	*2*	*2*
Fridays	*2*	*2*	*2*	*2*	*1*																*1*	*2*	*2*	*2*
Saturdays	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*1*													*1*	*1*	*2*	*2*
Sundays	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*1*											*1*	*2*	*2*	*2*
Legend/Notes:																									
1 - One through freeway lane may be closed in direction of travel.																									
2 - Two through freeway lanes may be closed in direction of travel.																									
Blank - Work permitted within the highway project right of way where shoulder or lane closure is not required																									
The freeway/expressway lane requirements above apply to through freeway lanes only. Auxiliary lane(s) shall remain open at all times, unless otherwise noted.																									

Table 2: Complete Ramp Closure Hours/Ramp Lane Requirements for I-680

FROM HOUR TO HOUR	*24*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
Mondays through Thursdays	*C*	*C*	*C*	*C*	*C*																		*C*	*C*
Fridays	*C*	*C*	*C*	*C*	*C*																			*C*
Saturdays	*C*	*C*	*C*	*C*	*C*	*C*	*C*																	*C*
Sundays	*C*	*C*	*C*	*C*	*C*	*C*	*C*	*C*	*C*														*C*	*C*

Legend/Notes:
C - Ramp may be closed completely
Blank - Work permitted within the highway project right of way where shoulder or lane closure is not required
Consecutive ramp closures along the corridor are prohibited. Does not apply to freeway to freeway connectors.

8.3.2.2. I-880, SR 92, and SR 84 Lane Closures

Table 3: Freeway/Expressway Lane Requirements for I-880, SR 92, and SR 84

FROM HOUR TO HOUR	*24*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
Mondays through Thursdays	2	2	2	2	1																			1	2
Fridays	2	2	2	2	1																				1
Saturdays	2	2	2	2	2	2	1																		1
Sundays	2	2	2	2	2	2	2	1																	1

Legend/Notes:
1 - One through freeway lane may be closed in direction of travel.
2 - Two through freeway lanes may be closed in direction of travel.
Blank - Work permitted within the highway project right of way where shoulder or lane closure is not required
The freeway/expressway lane requirements above apply to through freeway lanes only. Auxiliary lane(s) shall remain open at all times, unless otherwise noted.
On the evening of Special Day(see requirement 8.3.5), full width of traveled way shall be open for use by public traffic until 12:01 A.M. following day. If Special Day is due to Oakland Raiders Sunday afternoon game, the full width of traveled way shall be open for public traffic by 8:00 A.M.

Table 4: Complete Ramp Closure Hours/Ramp Lane Requirements for I-880, SR 92, and SR 84

FROM HOUR TO HOUR	*24*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
Mondays through Thursdays	*C*	*C*	*C*	*C*	*C*																			*C*	*C*
Fridays	*C*	*C*	*C*	*C*	*C*																				*C*
Saturdays	*C*	*C*	*C*	*C*	*C*	*C*	*C*																		
Sundays	*C*	*C*	*C*	*C*	*C*	*C*	*C*																	*C*	*C*

Legend/Notes:
C - Ramp may be closed completely
Blank - Work permitted within the highway project right of way where shoulder or lane closure is not required
Consecutive ramp closures along the corridor are prohibited. Does not apply to freeway to freeway connectors.

8.3.2.3. I-80 Lane Closures

Table 5: Freeway/Expressway Lane Requirements for I-80

FROM HOUR TO HOUR	*24*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
Mondays through Thursdays	*2*	*2*	*2*	*2*	*1*																			*1*	*2*
Fridays	*2*	*2*	*2*	*2*	*1*																				*1*
Saturdays	*2*	*2*	*2*	*2*	*2*	*2*	*1*																		*1*
Sundays	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*1*																	*1*
Legend/Notes:																									
1 - One through freeway lane may be closed in direction of travel.																									
2 - Two through freeway lanes may be closed in direction of travel.																									
Blank - Work permitted within the highway project right of way where shoulder or lane closure is not required																									
The freeway/expressway lane requirements above apply to through freeway lanes only. Auxiliary lane(s) shall remain open at all times, unless otherwise noted.																									

Table 6: Complete Ramp Closure Hours/Ramp Lane Requirements for I-80

FROM HOUR TO HOUR	*24*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
Mondays through Thursdays	*C*	*C*	*C*	*C*																				*C*	*C*
Fridays	*C*	*C*	*C*	*C*																				*C*	*C*
Saturdays	*C*	*C*	*C*	*C*	*C*	*C*																		*C*	*C*
Sundays	*C*	*C*	*C*	*C*	*C*	*C*	*C*	*C*																*C*	*C*
Legend/Notes:																									
C - Ramp may be closed completely, except at Air Base Parkway see note below																									
Blank - Work permitted within the highway project right of way where shoulder or lane closure is not required																									
On-ramp at Air Base Parkway cannot be completely closed, provide at least one ramp lane, not less than 11 feet in width, open in direction of travel																									
Consecutive ramp closures along the corridor are prohibited. Does not apply to freeway to freeway connectors.																									

8.3.3. For local street closures, the TSI shall be subjected to restrictions of the locality.

8.3.4. As part of the Corridor Specific Installation and Cutover plans, the TSI shall submit lane closure charts for review and approval by Caltrans and BAIFA for each specific Corridor. The full width of the travel way shall be open for use by the public as indicated in the lane closure charts developed by the TSI.

8.3.5. The full width of traveled way shall be open for use by public traffic as shown in the ~~t~~*T*able *7*: Lane Closure Restriction for Designated Legal Holidays and Special Days ~~included in this section~~. Designated legal holidays are: January 1st, the third Monday in February, the last Monday in May, July 4th, the first Monday in

September, November 11th, Thanksgiving Day, and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday. ~~Lane closures will not be allowed as shown on the table below:~~ *Special Day is: the third Monday in January.*

8.3.5.1. In addition for I-880 only, Special Days are: any day on which a major event is scheduled at the ORACLE Arena or Oakland-Alameda County Coliseum where closure of ramps or a freeway lane will cause major impact to public traffic. Major events are defined as concerts, Oakland A's games, Oakland Raiders games, Golden State Warriors games, and any other scheduled event. The determination of Special Day will be made by the Caltrans and the TSI will be informed of a Special Day at least 1 week prior to the designated Special Day.

8.3.5.2. In addition for I-80 only, Special Day also includes March 31st.

8.3.5.3. Ramp and freeway lane closures will not be allowed as shown on the table below:

Table 7: Lane Closure Restriction for Designated Legal Holidays and Special Days

Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
x	H xx	xx	xx							
	SD xx									
x	xx	H xx	xx							
		SD xx								
	x	xx	H xx	xx						
			SD xx							
	x	xx	xx	H xx	xxx					
	x	xx	xx	SD xx	xxx					
				x	H xx					
				x	SD xx					
					x	H xx				

						SD xx				
						x	H xx	xx	xx	xx
							SD xx			

Legends:	
Blank	Refer to lane closure (requirement 8.3.2)
x	The full width of the traveled way shall be open for use by public traffic after 5 AM.
xx	The full width of the traveled way shall be open for use by public traffic.
xxx	The full width of the traveled way shall be open for use by public traffic until 10 PM.
H	Designated Legal Holiday
SD	Special Day

8.3.6. The TSI shall address all lane-closing procedures in the TCP. TSI shall follow BAIFA and Caltrans procedures for lane access, lane closure notification requirements, lane closure procedures, traffic protection rules and procedures, and all other appropriate safety requirements.

8.3.7. In the event of an emergency as defined by BAIFA, the TSI shall immediately respond to direction from BAIFA, Caltrans, or the CHP.

Addendum No. 5, Appendix 4

RFP, Appendix 1, Attachment C, Performance Requirements and Penalties, Table 3: Host Accuracy and Performance Transaction Processing

Table 3: Host Accuracy and Performance Transaction Processing

No.	Area	Requirement	Minimum Performance Measure	Measurement	Measurement Period/Increment	Penalties
2.9	Toll Host	No Loss of Trip Transactions: The TCS shall ensure that no Trip Transactions will be lost even when associated with periods when communications with the RCSC is not available.	Zero Loss	Daily Process Monthly Summary Report (Submit with the progress report) TCS integrity reports shall be reconciled daily to assure that no Trip Transactions are lost. (TSI to provide report mechanism)	Per Trip Transaction over a 30 day period	$5 per lost Trip Transaction - up to $10,000 per day
2.10	Toll Host	Storage: The TCS shall retain all data on-line per the System Requirements	See System Requirements	Monthly Process Monthly Summary Report (Submit with the progress report) TCS reports shall be run on a monthly basis to confirm all data is being retained for the durations per the System Requirements. TCS reporting to commence with start of live operations.	Per month	$1,000 per Month for each month that the storage is insufficient to maintain per the System Requirements
2.11	Trip Transaction	Trip Transaction accuracy: The Host shall correctly correlate all Lane Transactions related to each vehicle, barring Lane Transactions containing vehicles with no license plates and no transponder, into a single Trip Transaction and assign the correct toll rate to the Trip Transaction for that vehicle.	99.9%	Daily Process Monthly Summary Report (Submit with the progress report) Mismatched Trip Transaction reports shall be reconciled daily to assure that each vehicle shall generate only a single Trip Transaction per vehicle. (TSI to provide reporting mechanism) BAIFA will also use any RCSC Trip Transaction filter reports that identify trip building errors.	Per instance	~~$5~~$500 per misreported Trip Transaction - up to ~~$10,000~~$100,000 per day
2.12	Trip Building	Trip Processing Time: The time from the last Lane Transaction to building the final Trip Transaction shall be no more than ~~six~~ seventy-two (72) hours. ~~Rebuilt Trip Transactions shall be formed within six hours from receiving new license plate information from the RCSC~~	~~6~~ 72 Hours	Daily Process Monthly Summary Report (Submit with the progress report) The TSI shall provide the mechanism to easily audit the trip processing time of all Trip Transactions.	Per Trip Transaction	$5 per Trip Transaction over ~~three~~ 72 hours up - to $10,000 per day
2.13	Trip Building	Trip Building Automation: Trip Building shall automatically form no less than 98% of Lane Transactions into Trip Transactions prior to sending to RCSC, barring Lane Transactions containing vehicles with no license plates and no transponder.	98%	Daily Process Monthly Summary Report (Submit with the progress report) The TSI shall provide the mechanism to easily audit the Trip Building automation.	Per Lane Transaction	$5 per Lane Transaction – up to $10,000 per day
2.14	Automatic License Plate Reader (ALPR)	The TCS shall automatically correctly capture license plate information for ~~At~~ at least 80% of the total human readable images ~~shall be identified. by the TCS as having a correct ALPR rate of at least 98%.~~	~~98~~80%	Ad-hoc: TSI shall supply Lane Transaction data for ad-hoc selected periods via the Host. Use Host reporting tools to check image review and code-off results.	Per day	$1,000 per day - up to $10,000 per month
2.15	Automatic License Plate Reader (ALPR)	Imaged Based Trip Transactions with confidence levels at or above the threshold confidence level shall contain correct license plate information 98% of the time. (See System Requirement 3.9.9.23)	98%	Ad-hoc: TSI shall supply Imaged Based Trip Transaction data for ad-hoc selected periods via the Host. Use Host reporting tools to check image review and code-off results.	Per day	$1,000 per day - up to $10,000 per month

Addendum No. 5, Appendix 5

RFP, Appendix 1, Reference 3, Communications Network Conceptual Pre-Design, Figures 1-6

Communications Network Conceptual Pre-Design
Figures 1-5

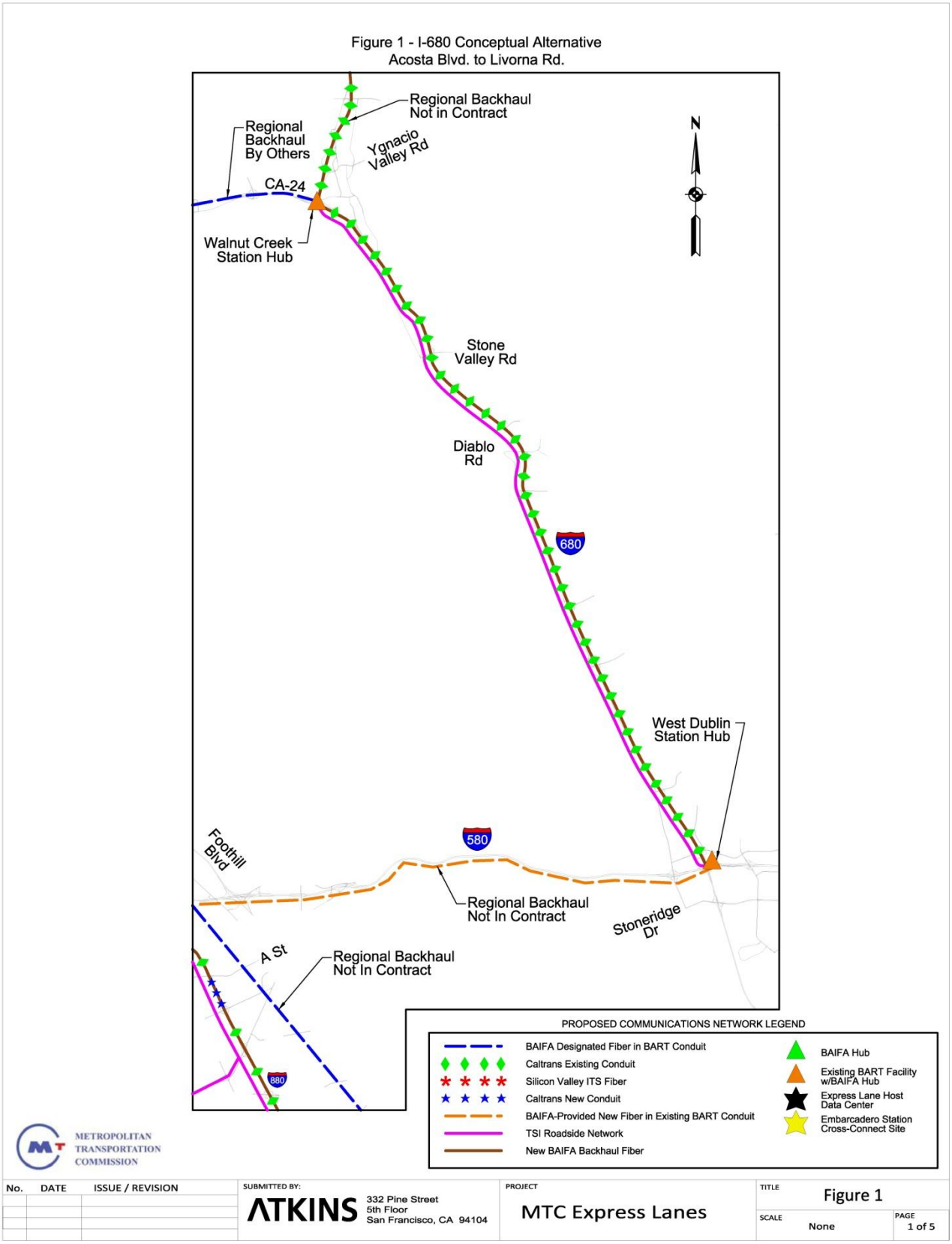
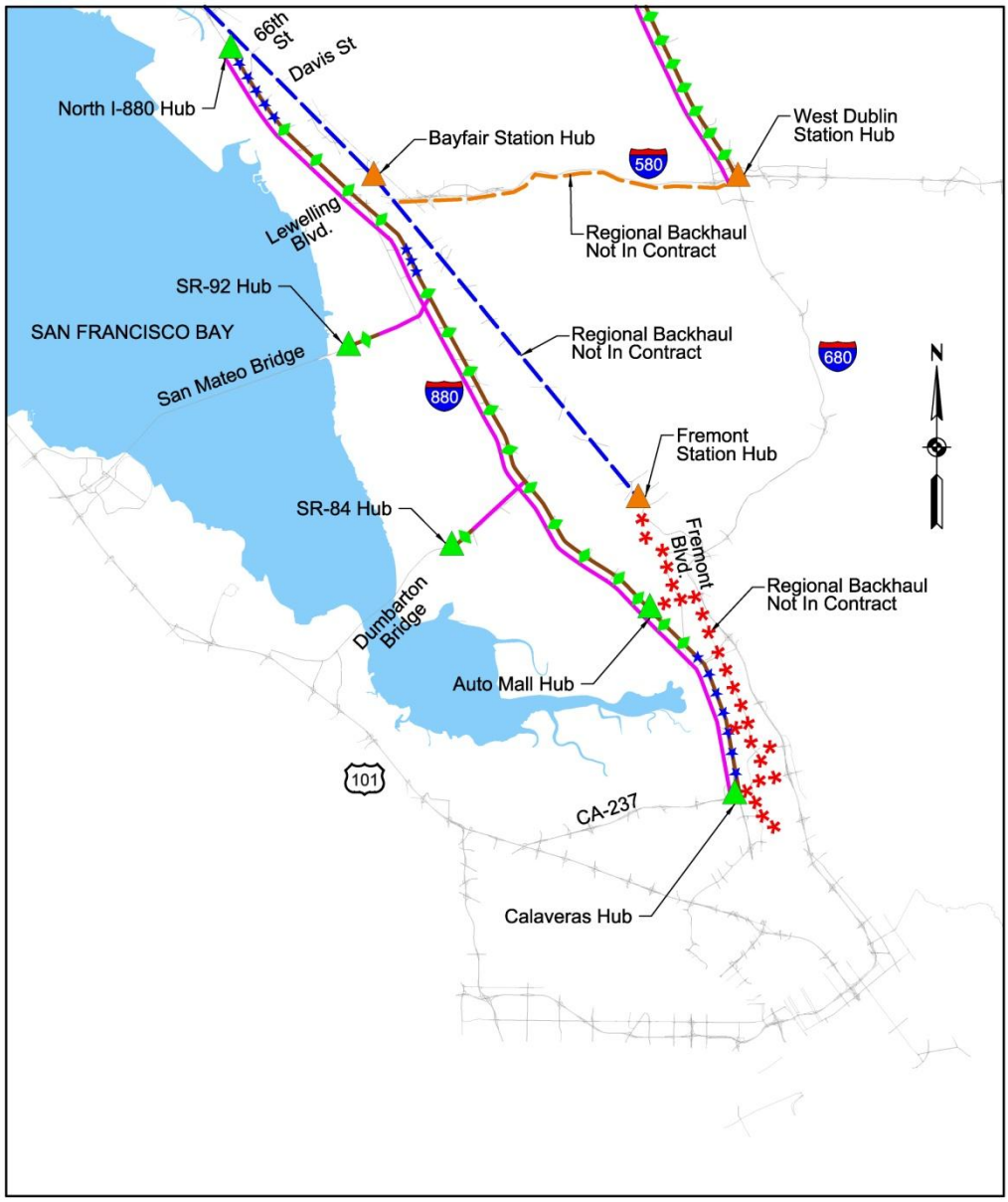


Figure 2 - I-880 Conceptual Alternative
NB & SB Marina to SR 237



PROPOSED COMMUNICATIONS NETWORK LEGEND

- BAIFA Designated Fiber in BART Conduit
- Caltrans Existing Conduit
- Silicon Valley ITS Fiber
- Caltrans New Conduit
- BAIFA-Provided New Fiber in Existing BART Conduit
- TSI Roadside Network
- New BAIFA Backhaul Fiber
- BAIFA Hub
- Existing BART Facility w/BAIFA Hub
- Express Lane Host Data Center
- Embarcadero Station Cross-Connect Site

METROPOLITAN TRANSPORTATION COMMISSION

No.	DATE	ISSUE / REVISION

SUBMITTED BY: ATKINS 332 Pine Street 5th Floor San Francisco, CA 94104

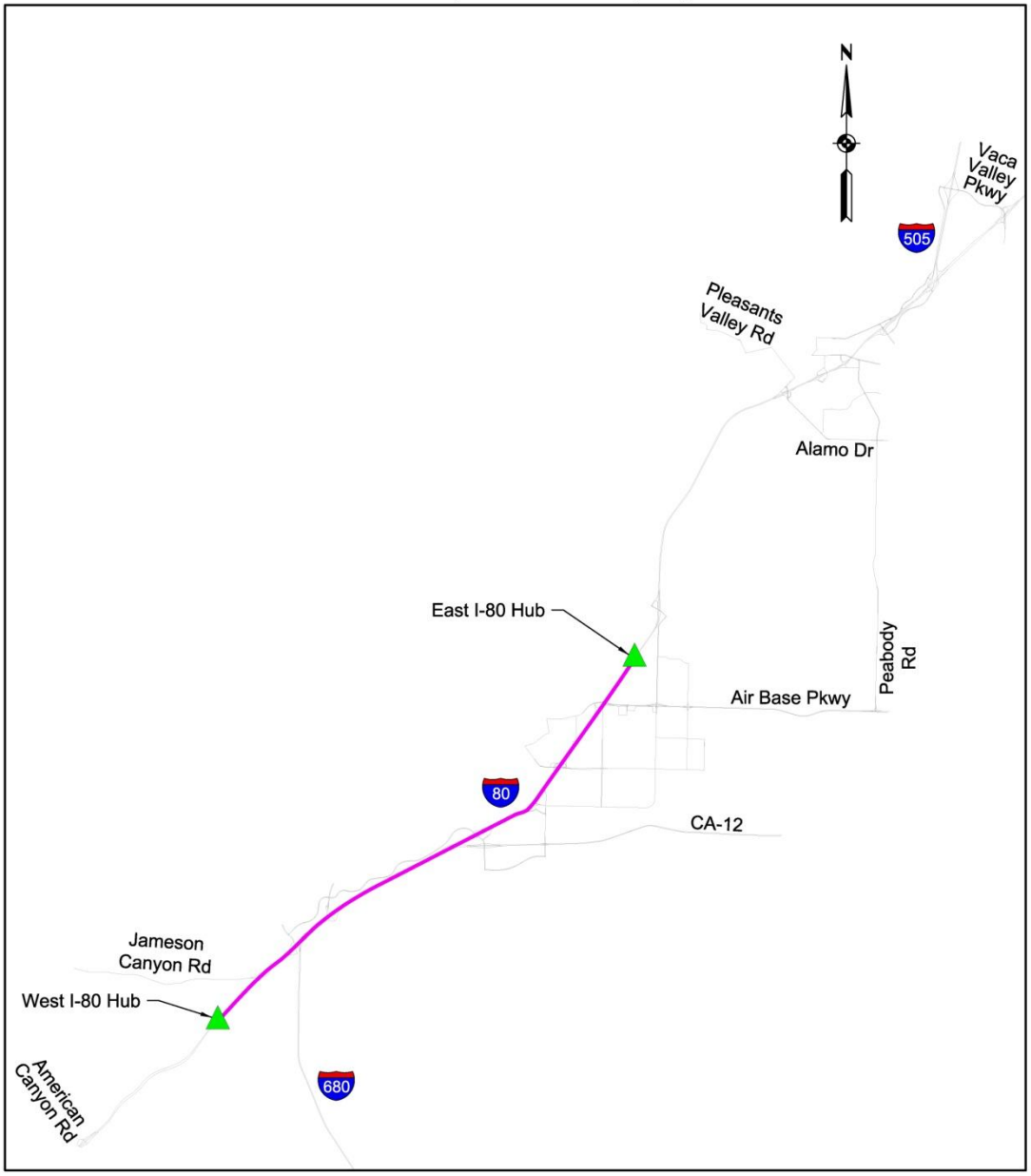
PROJECT: MTC Express Lanes

TITLE: Figure 2

SCALE: None

PAGE: 2 of 5

Figure 3 - I-80 Conceptual Alternative
American Canyon Rd. to Vaca Valley Pkwy.



PROPOSED COMMUNICATIONS NETWORK LEGEND

- BAIFA Designated Fiber in BART Conduit
- Caltrans Existing Conduit
- Silicon Valley ITS Fiber
- Caltrans New Conduit
- BAIFA-Provided New Fiber in Existing BART Conduit
- TSI Roadside Network
- New BAIFA Backhaul Fiber
- BAIFA Hub
- Existing BART Facility w/BAIFA Hub
- Express Lane Host Data Center
- Embarcadero Station Cross-Connect Site

METROPOLITAN TRANSPORTATION COMMISSION

No.	DATE	ISSUE / REVISION

SUBMITTED BY: ATKINS 332 Pine Street 5th Floor San Francisco, CA 94104

PROJECT: MTC Express Lanes

TITLE: Figure 3

SCALE: None

PAGE: 3 of 5

Figure 4 - San Francisco-Oakland Bay Bridge
& MTC 375 Beale Conceptual Alternative

PROPOSED COMMUNICATIONS NETWORK LEGEND

- BAIFA Designated Fiber in BART Conduit
- Caltrans Existing Conduit
- Silicon Valley ITS Fiber
- Caltrans New Conduit
- BAIFA-Provided New Fiber in Existing BART Conduit
- TSI Roadside Network
- New BAIFA Backhaul Fiber
- BAIFA Hub
- Existing BART Facility w/BAIFA Hub
- Express Lane Host Data Center
- Embarcadero Station Cross-Connect Site

METROPOLITAN TRANSPORTATION COMMISSION

No.	DATE	ISSUE / REVISION

SUBMITTED BY: ATKINS 332 Pine Street 5th Floor San Francisco, CA 94104

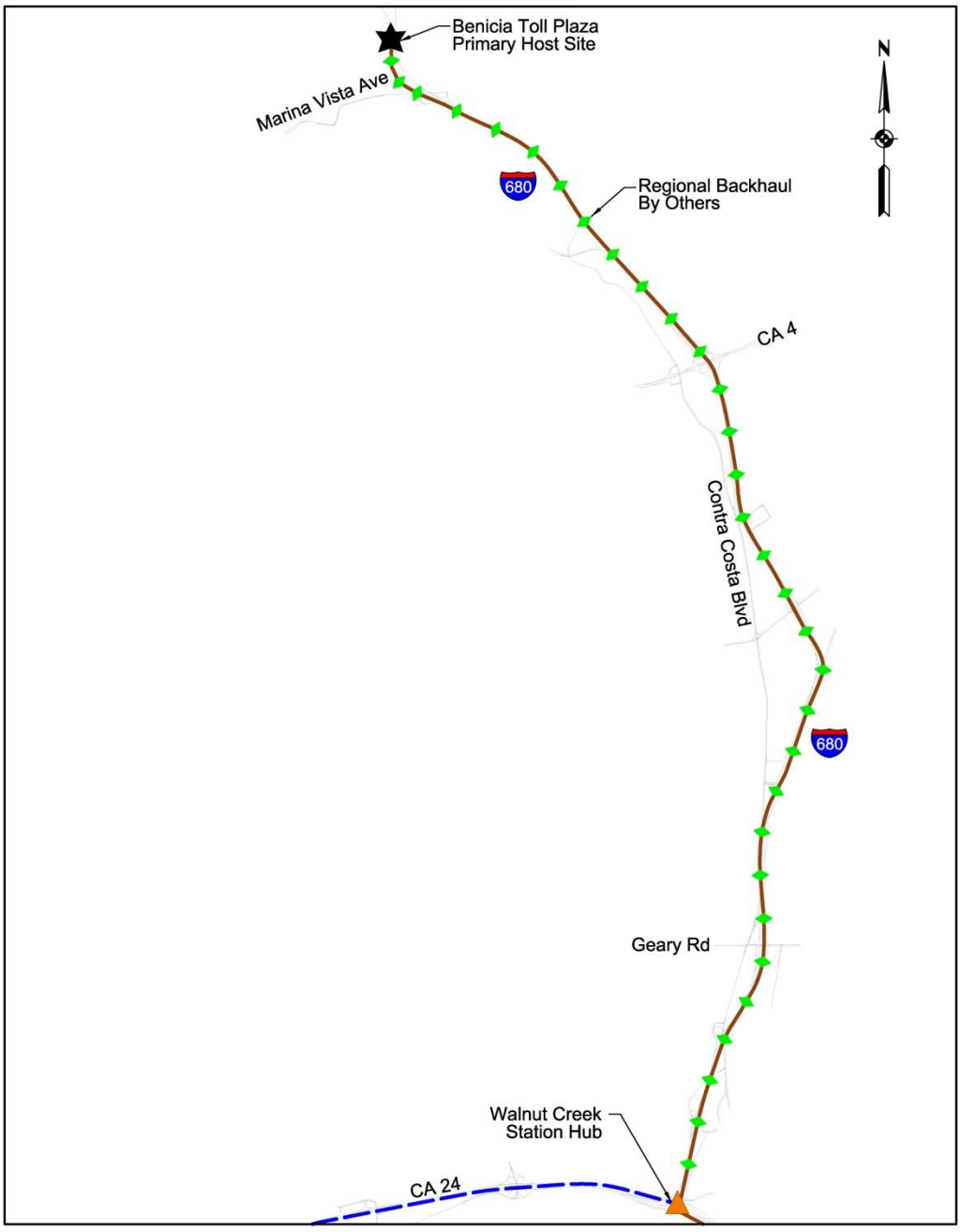
PROJECT: MTC Express Lanes

TITLE: Figure 4

SCALE: None

PAGE: 4 of 5

Figure 5 - Benicia Bridge
Conceptual Alternative



PROPOSED COMMUNICATIONS NETWORK LEGEND

- BAIFA Designated Fiber in BART Conduit
- Caltrans Existing Conduit
- Silicon Valley ITS Fiber
- Caltrans New Conduit
- BAIFA-Provided New Fiber in Existing BART Conduit
- TSI Roadside Network
- New BAIFA Backhaul Fiber
- BAIFA Hub
- Existing BART Facility w/BAIFA Hub
- Express Lane Host Data Center
- Embarcadero Station Cross-Connect Site

METROPOLITAN TRANSPORTATION COMMISSION

No.	DATE	ISSUE / REVISION

SUBMITTED BY:
ATKINS 332 Pine Street 5th Floor San Francisco, CA 94104

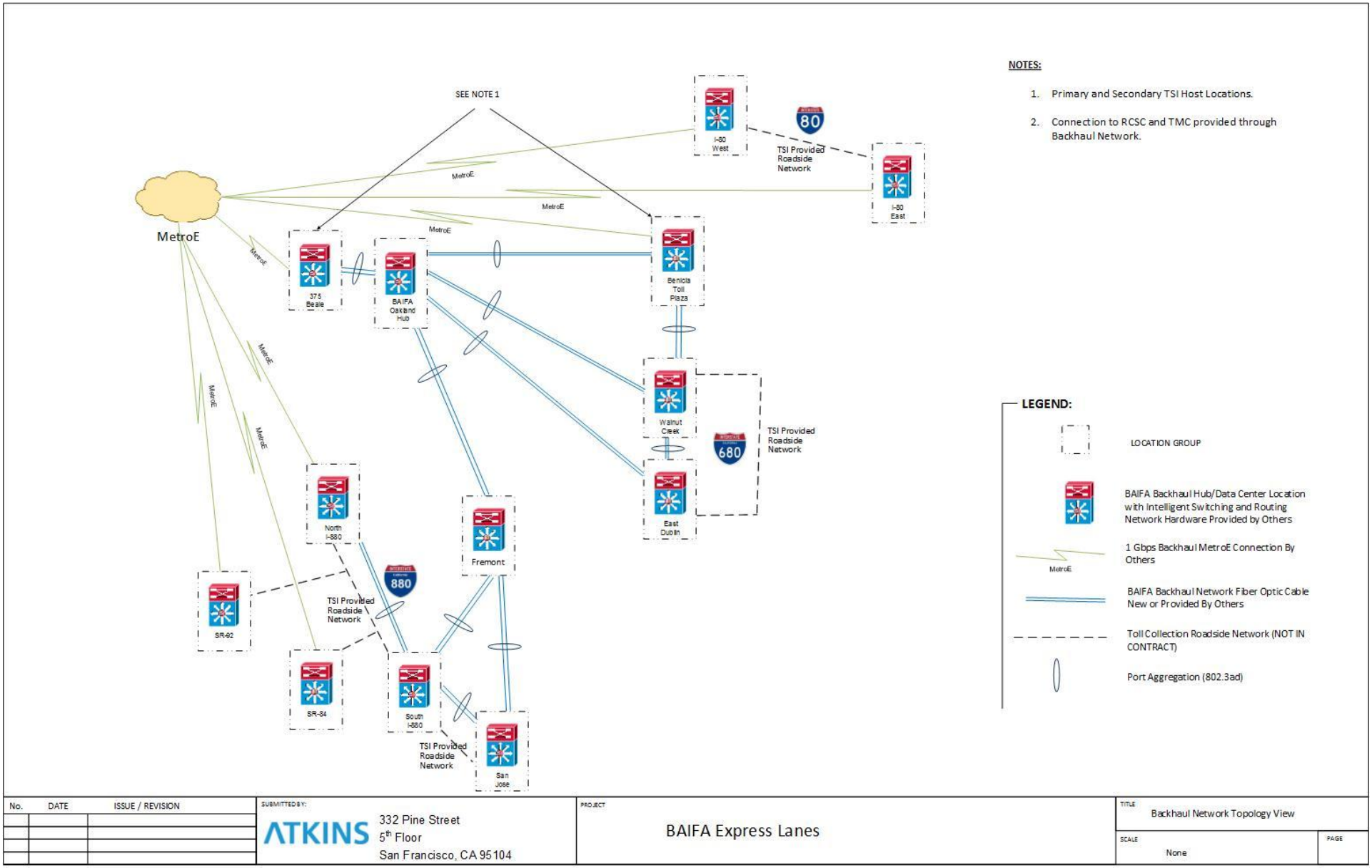
PROJECT: MTC Express Lanes

TITLE: Figure 5

SCALE: None

PAGE: 5 of 5

Appendix 2 Figure 6



Addendum No. 5, Appendix 6

RFP Appendix 1, Reference 8E: Caltrans ATMS Traffic Management Center Network Architecture

BAIFA Express Lane Network Toll Collection System

Appendix 1, Reference 8

System Interface Documentation

E: Caltrans ATMS Traffic Management Center Network Architecture

NOTE: This information is provided for informational purposes and is subject to change.

11 Proposed D4 ATMS Network Diagram

Figure 11-1 on the following page is the proposed D4 ATMS Network architecture which includes a high-level view of the connections between the TMC, field communication network and field devices. Key components of this architecture include:

1. **Application Servers** – These will host the application software. There will be primary and backup servers for redundancy purposes.
2. **Database Servers** – These will host the configuration and historical databases. As with the application servers, there will be primary and backup servers for redundancy purposes.
3. **Disk Array** – The Disk Array will provide the long-term storage for the historical database.
4. **TMC Workstations** – D4 ATMS will run on existing PC workstations. Each should have dual NICs for access to the ATMS LAN and BAVU networks.
5. **BAVU** – D4 ATMS will receive digital video from the Broadware media server for display on the operator workstations or pull multicast video directly from the network, depending on the required video access method. Selection and control commands will be issued to the Cameleon server via the system's API to select camera videos, arbitrate ISDN connections and issue camera pan, tilt, zoom, focus and iris control commands.
6. **Video Wall** – The operator workstation displays will be shown on the video wall via the video wall controller interface. CCTV camera video can also be viewed through the operator workstation display on the wall, or by directly routing video to the wall displays themselves, via the wall controller.
7. **PCDC** – These servers act as the data concentrators for VDS, RMS and MLMS controllers.
8. **MITTENS** – This server will provide data for travel time messages.
9. **CHP CAD** – D4 ATMS will interface with the CHP CAD server to receive the CHP events.
10. **HIS HAR Server** – D4 ATMS will interface with the HIS Platinum HAR server for all commands related to HAR transmitter control.
11. **EMS** – D4 ATMS will interface via the PCDC to the EMS device.
12. **Caltrans Web Portal Server** – A separate server will be used for feeding data to CWWP.
13. **Remote Access** – Delcan will have remote access to the D4 ATMS network via internet VPN. This is for the purposes of system installations, software builds, testing and troubleshooting.
14. **FSP AVL Server** – D4 ATMS will interface with the FSP AVL Server located at CHP to collect location data of FSP vehicles.
15. **PeMS Server** – The PeMS Server collects VDS data from PCDC.
16. **Firewall** – D4 ATMS will interface to several systems via firewalls. The firewall provides secure known and configured transmission routes between systems.

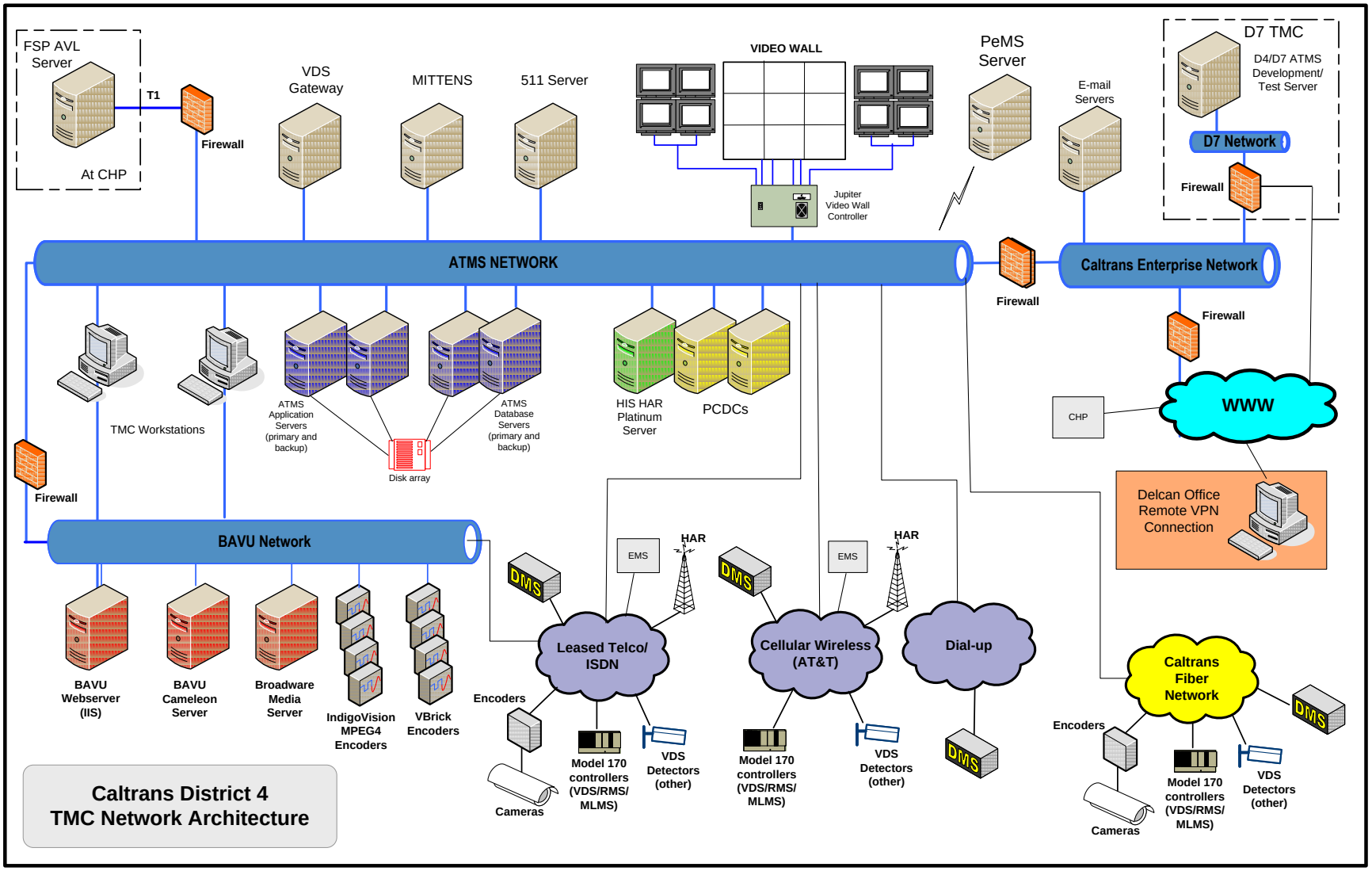


Figure 11-1: Proposed D4 ATMS Network Diagram