Appendix 2—Project Description

Table of Contents

1. INTRODUCTION 1

1.1. DOCUMENT OVERVIEW 1
1.2. ABBREVIATIONS AND DEFINITIONS 1

2. PURPOSE AND BACKGROUND 1

3. CONCEPT OF OPERATIONS 2

4. EXISTING CONDITIONS 3

5. CONCURRENT PROJECTS 4

6. TOLL COLLECTION SYSTEM TECHNOLOGY 5

7. TCS OVERVIEW 5

7.1. ROADSIDE TOLL COLLECTION SYSTEM 5
7.2. FACILITY MANAGEMENT AND ADMINISTRATION SYSTEM 6
7.3. TOLL COLLECTION SYSTEM MAJOR FUNCTIONS 7

8. SCOPE OF WORK 8

8.1. THE PRICING FOR EACH OF THE ADDITIONAL SYSTEMS SHALL BE AS PROVIDED IN THE PRICE PROPOSAL. SUPPLY AND INSTALLATION 8
8.2. WARRANTY AND MAINTENANCE 8

9. SEQUENCE OF EVENTS AND PAYMENT MILESTONES 9

10. WSDOT FURNISHED INFRASTRUCTURE, EQUIPMENT, AND SERVICES 10

10.1. FURNISHED INFRASTRUCTURE 10
10.2. FURNISHED EQUIPMENT 13
10.3. FURNISHED SERVICES 14

11. SUMMARY OF MAJOR DELIVERABLES REQUIRED 14

List of Figures

Figure 1 – Project Area Map 1
Figure 2 – SR 520 TCS Roadside Toll Collection System Configuration..... 6
Figure 3– Conceptual Network Architecture..... 7

List of Tables

Table 1 –Toll Collection System Payment Milestones..... 9
Table 2– Summary of Major Deliverables 15

1. INTRODUCTION

1.1. Document Overview

This document describes the **Toll Collection System (TCS)** that **WSDOT** desires to procure for the **SR 520 Bridge**, outlines the concept of operations and scope of work required of the **Vendor**, establishes the sequence of events and payment **Milestones**, and identifies WSDOT-furnished infrastructure, equipment, and services.

1.2. Abbreviations and Definitions

All capitalized terms and abbreviations used in this Appendix 2, but not expressly defined herein, have the respective meanings set forth in **Appendix 1 -- Definitions**, attached hereto.

2. PURPOSE AND BACKGROUND

WSDOT is implementing a two-way, single-point, variable priced, open road TCS on the SR 520 Bridge located in King County, Washington for vehicles crossing Lake Washington. **Figure 1** shows the location of this TCS.

Figure 1 – Project Area Map

The purpose of the TCS on the SR 520 Bridge is to reduce congestion on the **SR 520 Corridor** by implementing congestion based tolling (i.e., variable tolling) and raise revenue for transportation improvements on SR 520. For more information on the purpose and other aspects of the SR 520 Corridor projects, refer to the following documents:

a. SR 520 Variable Tolling Project Environmental Assessment, April 2009 available at:

http://www.wsdot.wa.gov/Projects/LkWaMgt/library.htm

b. 520 Tolling Implementation Committee Tolling Report Prepared for the Washington State Legislature, January 28, 2009 available at:

http://www.wsdot.wa.gov/Partners/Build520/

c. The WSDOT project website at:

http://www.wsdot.wa.gov/Projects/LkWaMgt

Development of the TCS is funded by several grants under the **FHWA** Urban Partnership program as part of a comprehensive solution to reduce congestion through a combination of tolling, transit, technology, and telecommuting (also known as the "4 Ts). The elements of transit, technology, and telecommuting are being implemented by WSDOT and its Urban Partners (King County and the Puget Sound Regional Council) under separate concurrent efforts and are beyond the scope of this **RFP**.

The supply, installation, and maintenance of the SR 520 Bridge TCS (i.e. Project) is part of a larger WSDOT program to construct extensive improvements to the SR 520 Corridor. The SR 520 Bridge Replacement and HOV Project will replace the existing SR 520 Bridge and construct additional traffic lanes from I-5 to I-405 (http://www.wsdot.wa.gov/projects/SR520Bridge/). The new floating bridge portion of the SR 520 Bridge Replacement and HOV Project is scheduled to be open in 2016. At that time, traffic on the existing floating bridge will be routed to the new floating bridge, and the TCS installed under this procurement will be decommissioned. In the event that this tentative timeline changes, the TCS installed under this procurement may continue to operate beyond 2016.

3. CONCEPT OF OPERATIONS

When open to tolling, motorists will be charged a toll to cross the SR 520 Bridge in both directions. The toll rates, including any discounts for **High Occupancy Vehicle (HOV)** use, will be determined later in 2009 or in 2010 by the Washington State Transportation Commission but will depend upon the time of day (i.e., variable tolling), the type of vehicle (i.e., vehicle classification), and possibly the occupancy of the vehicle (e.g., **SOV**, HOV 2+, and HOV 3+). WSDOT will communicate the toll rates to the public via Internet, static and dynamic message signs, and various public education and outreach efforts.

The TCS will automatically identify and classify each vehicle traveling in both directions at a single location on the highway, capture the **Transponder** identification number (if any) and license plate image and number of each vehicle, build a **Toll Transaction**, and send this information to WSDOT's **Customer Service Center** (**CSC**) back office for processing and collection. No toll booths will be provided; therefore, motorists will not

be required to stop to pay. Motorists can pay by either 1) establishing a pre-paid, Transponder-based ***Good To Go!™*** customer account with WSDOT from which tolls can be debited, or 2) paying (pre-pay or post-pay) for each Toll Transaction through a number of methods, including by mail, on the web, over the phone, or in person at one of three customer service storefronts. Doing so will allow vehicles to travel through the corridor at highway speeds without stopping to pay a toll.

WSDOT expects that, in time, most users of the SR 520 Bridge will pay using a *Good To Go!*™ customer account; however, a significant amount of users will not have *Good To Go!*™ accounts or Transponders and therefore must be identified by the TCS via their license plates. This information will be used by the WSDOT CSC back office to match Toll Transactions with customer pre-payments or bill customers for post-payment. WSDOT, through its CSC provider, will handle Toll Transactions received from all **State** toll facilities, including the Tacoma Narrows Bridge, the SR 167 **HOT** Lanes, and the new SR 520 toll lanes (i.e., the TCS).

It is anticipated that the toll rate structure of the SR 520 toll lanes will encourage motorists to either shift their travel times from the peak periods into less congested periods or to shift their travel mode from single occupant vehicles to either HOV or transit. Some motorists may also elect to cancel or consolidate some or all of their trips or to take an alternate route altogether. Over time, travel patterns may change significantly from opening day scenarios due to various factors, including tolling, and the TCS is expected to be able to accommodate these changing conditions. Although toll rates have not yet been established, they would likely vary based on historical traffic demand, with higher toll rates during peak travel periods and lower toll rates during off-peak travel periods. The toll rates may be adjusted several times a year to accommodate seasonal demand and from year to year as travel patterns change.

Operation of the TCS will be fully automated and not require regular intervention or monitoring by WSDOT. Warranty and maintenance of the TCS (described in Appendix 5) to achieve the **Performance Measures** (described in Appendix 6) will be provided by the Vendor for the first year. After the first year, WSDOT may decide, at any time during the term of the **Contract**, to take over first-response maintenance responsibilities from the Vendor. In this case (i.e., **Shared Maintenance**), the Vendor would still provide the other maintenance functions described in Appendix 5.

4. EXISTING CONDITIONS

SR 520 currently consists of two lanes eastbound and two lanes westbound, with the exception of a third HOV lane that starts west of I-405 and ends just before the eastern terminus of the SR 520 Bridge, also known as the Evergreen Point Floating Bridge.

The three major access points to the SR 520 Corridor are the I-5, I-405, and SR 908/Bellevue Way NE interchanges. There are also several minor access points to the corridor, which include Montlake Boulevard, Lake Washington Boulevard, Hunts Point/84th Avenue NE, 92 Avenue NE, and 108th Avenue NE.

The SR 520 Bridge opened to traffic in 1963 and was initially designed for a capacity of 65,000 vehicles per day, although it currently carries approximately 110,000 vehicles per day. Moreover, about seven times the number of vehicles cross the SR 520 Bridge than when it opened in 1963, and the traffic demand in both directions often exceeds the capacity during rush hours. Traffic on SR 520 grew steadily between the years 1975 and 2000, but has leveled off since then.

SR 520 traffic volumes have been relatively balanced in both directions since the late 1980s. Since 1993, however, peak morning traffic volumes have been slightly higher eastbound, and peak afternoon traffic volumes have been slightly higher westbound. In fact, current peak period traffic demand in both directions is approximately 7,570 vehicles per hour, but the actual peak hour vehicle throughput is approximately 7,390 vehicles. This demand is expected to increase to approximately 8,490 vehicles per hour in 2030.

Travel times are not reliable on SR 520 due to traffic volume, incidents, weather, and special events, all which negatively affect congestion. Furthermore, congestion on this east-west corridor negatively affects the two major north-south corridors in the region (I-5 and I-405), as well as local arterials. As with most corridors, however, demand is not consistent throughout the day, which results in periods when the bridge is not being used to its capacity.

5. CONCURRENT PROJECTS

The Vendor should be aware that other contractors may be performing work in the vicinity of the SR 520 **Toll Zone** at any time for the duration of this Contract. The Vendor will cooperate with WSDOT and other contractors in the performance of any concurrent activities occurring at or near the SR 520 Toll Zone.

Concurrent projects in the vicinity of the SR 520 TCS Project include:

a. Active Traffic Management System Design Build project;

b. I-90 and SR 520 Lake Washington Congestion Management Sign Bridges Project;

c. I-90 and SR 520 Lake Washington Floating Bridges Anchor Cable Replacement;

d. I-405/NE 8th Street. to SR520 Braided Ramps – Interchange Improvements; and

e. SR 520 Eastside Transit and HOV Project.

6. TOLL COLLECTION SYSTEM TECHNOLOGY

WSDOT has adopted the following 915 MHz radio-frequency based **Automatic Vehicle Identification** (**Toll Collection System**) technologies for all toll facilities in the State:

a. **Super eGo®** (SeGo) protocol (TransCore proprietary)

b. **ASTM** Draft v6 protocol (open standard)

These technologies are currently installed and operating at the Tacoma Narrows Bridge and SR 167 HOT Lanes toll facilities. Under the *Good To Go!*™ program, WSDOT has issued over 250,000 TransCore **eGo® Plus** windshield sticker Transponders, including a small amount of license plate Transponders. WSDOT's **Commercial Vehicle Information Systems and Networks** (**CVISN**) program has also issued approximately 30,000 ASTM Draft v6 Transponders from various manufacturers for use at its weigh stations, which may also be registered in the *Good To Go!*™ program and accepted at all State toll facilities.

WSDOT is also interested in migrating to the emerging 5.9 GHz Toll Collection System technology when the national standards associated with it have been finalized and ratified, products become commercially available and affordable, and a certification program is established to ensure interoperability among products and manufacturers.

7. TCS OVERVIEW

The TCS will be comprised of two major parts: 1) the Roadside Toll Collection System **(RTCS)**, and 2) the **Facility Management and Administration System (FMAS).**

7.1. Roadside Toll Collection System

The RTCS consists of the toll collection lane **Hardware** necessary to create Toll Transactions as well as a Digital Video Audit System (**DVAS**). Some of the Hardware will be located at the SR 520 Toll Zone (within the limits of the east high rise truss structure) while some of the Hardware will be located east of the SR 520 Bridge approach on the eastbound roadside shoulder. **Figure 2** shows the SR 520 TCS Roadside Toll Collection System configuration.

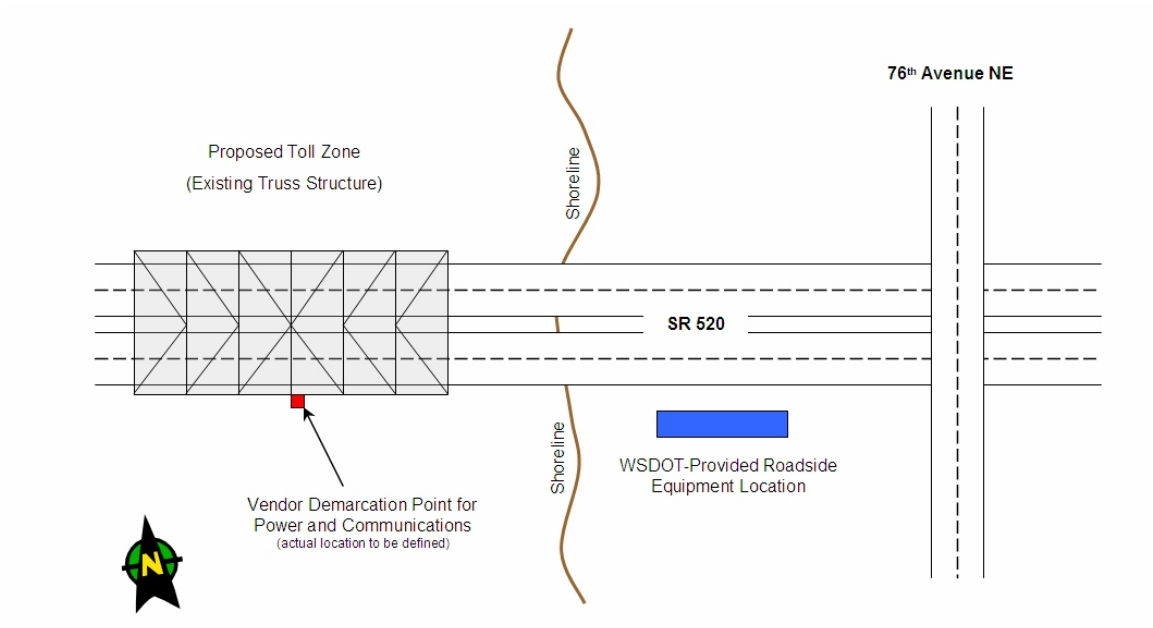

Figure 2 – SR 520 TCS Roadside Toll Collection System Configuration

7.2. Facility Management and Administration System

The FMAS consists of the central control systems and applications that facilitate operations, administration, reporting, and maintenance of the TCS. The FMAS will be located at WSDOT's **Traffic Management Center** located at 15700 Dayton Avenue North in Seattle, WA. The FMAS will connect to the RTCS via a WSDOT-provided 100Mbs network. The FMAS will connect to the CSC via a WSDOT-provided leased line connection to the Internet. **Figure 3** shows the conceptual network architecture in detail.

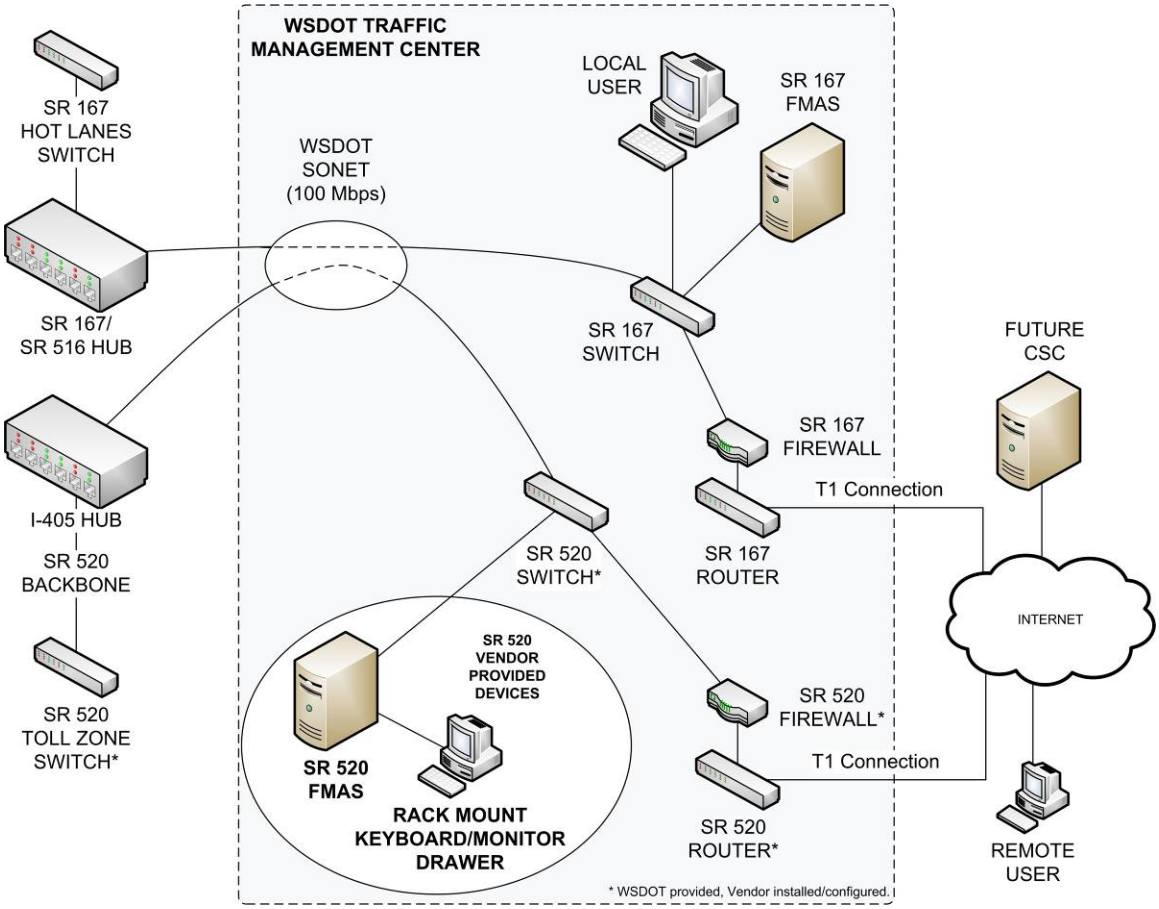

Figure 3– Conceptual Network Architecture

7.3. Toll Collection System Major Functions

As a **System**, the TCS will perform the following major functions.

a. Capture Transponder-based Toll Transactions and transmit to the CSC.

b. Capture image-based Toll Transactions, process using **Optical Character Recognition (OCR)**, and transmit the associated data to the CSC.

c. Produce **Transaction** and related toll system reports.

d. Monitor and report on the condition and maintenance of the TCS through an integrated **Maintenance Online Management System (MOMS)**.

e. Capture, and store for later retrieval, DVAS data.

The functional requirements of the TCS are described in Appendix 4.

8. SCOPE OF WORK

The scope of work for the TCS is comprised of two **Work** segments: 1) supply and installation, and 2) warranty and maintenance. The Vendor will perform both segments under a single Contract. The Contract is in Appendix 19.

The Contract terms allow WSDOT, at its sole discretion, to subsequently amend the Contract to increase the scope of work to include the supply, installation, and maintenance of additional Systems on a newly constructed SR 520 bridge; Provided, that the Washington State Legislature authorizes additional tolling locations along the SR 520 Corridor. The Specifications for such additional Systems shall be identical to those installed on the SR 520 Bridge as set forth in the Contract on the Effective Date.

Each of the additional two (2) Systems would be for the purpose of toll collection on a new SR 520 bridge at one tolling location and would be procured separately pursuant to two (2) separate Contract Amendments. The Amendments would coincide with the following stages of work that WSDOT presently anticipates for the construction of the new SR 520 bridge: Stage 1 will include two (2) lanes eastbound and two (2) lanes westbound and is currently anticipated to be completed by 2016; and stage 2 will be constructed immediately following completion of stage 1 and will include an additional lane in each direction. For each construction stage WSDOT will provide the same infrastructure, equipment, and services as those described in the **RFP**.

8.1. The pricing for each of the additional Systems shall be as provided in the Price Proposal. Supply and Installation

The Vendor shall furnish all Hardware, cables and connections, **Software**, interfaces, installation, integration, testing, labor, personnel, transportation, materials, storage, tools, supplies, **Permits**, **Licenses**, equipment, and any other **Services**, equipment, or materials necessary to supply a fully functional variable time of day pricing TCS in accordance with the requirements of this RFP. The Vendor shall also provide WSDOT with detailed specifications of the TCS design that are required for WSDOT to construct the civil portions of the Project.

8.2. Warranty and Maintenance

Upon **System Acceptance**, the Vendor shall provide warranty and maintenance Services for all Hardware and Software delivered under this procurement for up to ten (10) years in accordance with the requirements of this RFP. The **Warranty and Maintenance Period** of the Contract, Segment of Work #2, is divided into two phases: **Vendor Provided Maintenance** and Shared Maintenance. During Vendor Provided Maintenance, which shall last for at least one (1) year and no more than ten (10) years, the Vendor will be responsible for maintaining the entire Toll Collection System. If WSDOT elects to switch to a Shared Maintenance arrangement, the Vendor shall facilitate the transition process through the development of a transition plan, training of WSDOT maintenance personnel and the creation of an **Amendment** to the Contract.

9. SEQUENCE OF EVENTS AND PAYMENT MILESTONES

WSDOT intends to commence tolling on the SR 520 Bridge TCS on October 1, 2010. **Table 1 – Toll Collection System Milestones** shows the overall sequence of events expected during the first Segment of Work and the corresponding payment Milestones. The locations in this RFP of individual **Deliverables** (the **Qualifying Events**) are identified in **Section 11 – Summary of Major Deliverables Required.**

Table 1 –Toll Collection System Payment Milestones

Milestone	Qualifying Event	Guaranteed Date	Payment Amount
Project Initiation	WSDOT approval of the following: ▪ Project Management Plan ▪ Quality Management Plan ▪ Software Development Plan ▪ Project Schedule ▪ Executed Contract Bond ▪ Insurance Certificates	To be completed by Vendor (shall be no later than thirty (30) Calendar Days after Notice to Proceed)	No greater than 10 percent (10%) of the total installation price identified in selected Vendor's Price Proposal*
Design Approval	WSDOT approval of the following: ▪ Preliminary Design Document ▪ System Design Document (SDD) ▪ Master Test Plan ▪ RTCS Infrastructure Requirements Document	To be completed by Vendor	A single amount to be completed by Vendor*
Factory Acceptance Test	WSDOT approval of the following: ▪ Test Procedures ▪ Factory Acceptance Test Report	To be completed by Vendor	A single amount to be completed by Vendor*
Installation Readiness	WSDOT approval of the following: ▪ Installation Plan ▪ Installation Drawings ▪ Shop Drawings ▪ Traffic Management Plan (TMP) ▪ Traffic Incident Management Plan (TIMP) ▪ MOT Plans ▪ Environmental Compliance Plan ▪ SPCC Plan ▪ Any Applicable Permits ▪ Noise Variance	To be completed by Vendor	A single amount to be completed by Vendor**
Operational Readiness	WSDOT approval of the following: ▪ Commissioning Test Report ▪ Interface Control Test Report	To be completed by Vendor	A single amount to be completed by Vendor**
Tolling Commencement	WSDOT approval of the following: ▪ Operational Test Completion Letter	To be completed by Vendor (shall be no later than	A single amount to be completed by Vendor**

Table 1 –Toll Collection System Payment Milestones

Milestone	Qualifying Event	Guaranteed Date	Payment Amount
		October 1, 2010)	
System Acceptance	WSDOT approval of the following: ▪ Operational Test Report ▪ As-built Installation Drawing ▪ As-Built SDD ▪ Maintenance Plan ▪ Documentation described in RFP Appendix 3, Section 2.3 ▪ Certification from Washington State Department of Revenue that all taxes have been paid	To be completed by Vendor (shall be no later than thirty (30) Calendar Days following commencement of tolling on SR 520)	No less than 20 percent (20%) of the total installation price identified in selected Vendor's Price Proposal

* *The sum of Project Initiation, Design Approval, and Factory Acceptance Test Milestones shall be no more than 40 percent (40%) of the total installation price identified in selected Vendor's Price Proposal.*

** *The sum of Installation Readiness, Operational Readiness, and Tolling Commencement Milestones shall be no more than 40 percent (40%) of the total installation price identified in selected Vendor's Price Proposal.*

10. WSDOT FURNISHED INFRASTRUCTURE, EQUIPMENT, AND SERVICES

WSDOT will furnish the infrastructure, equipment, and services described in this section to enable implementation of the Project. The Vendor shall be responsible for providing all other equipment and Services necessary to provide a functioning System. Refer to **Appendix 14 – Tolling Zone Type, Size, and Location**, and **Appendix 15 - SR 520 Transition Span As-Builts** for additional information.

10.1. Furnished Infrastructure

WSDOT will furnish and install the civil infrastructure required for the TCS up to the **Demarcation Point** on the truss structure (See Figure 2). The civil infrastructure includes:

a. East High Rise Truss Structure (for overhead mounting)

b. **Roadside System** Cabinet and Equipment Pad(s)

c. Conduits

d. Guard Rail

e. Electrical Service

f. Communications Network (from **Lane Controller** cabinet to Dayton)

g. Communications Network (from Dayton to Internet via a dedicated T1 line)

h. Emergency Generator and Transfer Switch

i. Electrical and Data Conductors

j. Roadside Maintenance Pullout

k. Server Room

Vendor shall provide the technical details, subject to WSDOT approval, and cooperate with WSDOT to complete the design and construction of the civil infrastructure; however, all construction must conform to **Mandatory Standards**. Where a conflict exists between Vendor specifications and Mandatory Standards with respect to civil infrastructure, Mandatory Standards shall prevail. WSDOT will provide all traffic control for the construction of the infrastructure.

The following subsections describe the WSDOT provided equipment, infrastructure .

10.1.1. East High Rise Truss Structure

The east high-rise truss structure has five (5) cross members located approximately thirty (30) feet (Vendor to verify) apart and approximately twenty-five (25) to twenty-eight (28) feet (Vendor to verify) above the pavement available for mounting the lane equipment. The vertical and diagonal members and the walkway below the western expansion joint may also be used for various mounting and support Hardware, subject to WSDOT approval. The center of the truss structure is approximately 650 feet (Vendor to verify) from the east end of the SR 520 Bridge and approximately 800 to 1,000 feet (Vendor to verify) from the proposed Roadside System location. The truss structure is coated with lead-based paint. Requirements for working in this type of environment are described in Appendix 3, Section 4.6 – Environmental Considerations.

The east high-rise structure has metal railing and guard rail outside the lanes that may be used to mount conduit up to the junction box that will be provided by others in that vicinity. The SR 520 Bridge east of the high-rise structure continuing to the east approach will have required conduit mounted to it by WSDOT, specified by the Vendor, and will contain all power and communications conductors within it in order to connect to the Roadside System.

10.1.2. Roadside System Cabinet and Equipment Pad(s)

WSDOT will furnish and install one or more **NEMA** rated, roadside cabinets, with front and back access doors, on a concrete pad east of the high rise truss structure for use by Vendor to enclose and protect the Roadside System (e.g., Lane Controller, device interfaces, communication equipment, etc). The roadside cabinet will maintain the interior temperature between +60°F and +125°F under normal circumstances with a heater and fan; however, cabinets will not be equipped with air conditioning, and equipment installed within should be able to withstand greater extremes.

10.1.3. Conduits

WSDOT will furnish and install conduits to accommodate the Vendor's electrical and communications needs for the RTCS.

10.1.4. Guard Rail

WSDOT will furnish and install guard rail to protect the Roadside System cabinet.

10.1.5. Electrical Service

WSDOT will furnish and install electrical service to the Roadside System cabinet and to the Demarcation Point for use in operating Roadside System cabinet equipment and Toll Zone equipment, respectively. Electrical service will be terminated to a 6-recepticle power strip inside the Roadside System cabinet and to a power block within an electrical enclosure at the Demarcation Point. WSDOT will pay the ongoing cost of providing electrical service.

10.1.6. Communications Network

WSDOT will provide a 100 Mbps communications network to connect the RTCS at the SR 520 Bridge with the FMAS at WSDOT's Traffic Management Center. The communications network will be terminated to an Ethernet switch at both ends.

WSDOT will provide a T1 Internet connection at WSDOT's Traffic Management Center for 1) the TCS to exchange data and images with the WSDOT CSC, and 2) for the Vendor to access the TCA for warranty and maintenance Service.

10.1.7. Emergency Generator and Transfer Switch

WSDOT will furnish and install an emergency generator and transfer switch to meet the Vendor's emergency electrical needs.

10.1.8. Electrical and Data Conductors

WSDOT will furnish and install electrical and data conductors within the conduits furnished and installed by WSDOT to accommodate the Vendor's electrical and communications needs for the RTCS.

10.1.9. Roadside Maintenance Pullout

WSDOT will furnish and install a roadside maintenance pullout to allow Vendor vehicle access to the Roadside System cabinet.

10.1.10. Server Room

WSDOT will furnish up to twenty-three (23) Rack Mount Units (**RMU**, 40.25 inches total) of 19-inch rack space inside the server room of WSDOT's Traffic Management Center, located at 15700 Dayton Avenue North, Seattle, Washington, for housing the FMAS server and associated equipment.

10.2. Furnished Equipment

WSDOT will furnish the following Toll Collection System equipment:

a. Toll Collection System Readers
b. Toll Collection System Antennas
c. Transponders
d. Network Equipment

The following subsections describe the WSDOT furnished equipment in more detail.

10.2.1. Toll Collection System Readers

Toll Collection System readers will be procured by WSDOT separately. Once procured, WSDOT will furnish Toll Collection System readers with enclosures for installation by the Vendor in the Toll Zone. WSDOT will drop-ship the Toll Collection System readers to a receiving facility within the United States specified by the Vendor, and the Vendor shall be responsible for delivery of the equipment to its final destination on SR 520. Vendor shall be responsible for configuring the reader and connecting it to the antenna and to the TCS to create a functioning Toll Collection System system. WSDOT will also furnish one Toll Collection System reader of each type to the Vendor for use in developing and maintaining the System.

10.2.2. Toll Collection System Antennas

Toll Collection System antennas will be procured by WSDOT separately. Once procured, WSDOT will furnish Toll Collection System antennas for installation by the Vendor in the Toll Zone. WSDOT will drop-ship the antennas to a receiving facility within the United States specified by the Vendor, and the Vendor shall be responsible for delivery of the equipment to its final destination on SR 520. The Vendor shall be responsible for designing and fabricating antenna mounting brackets for each location, installing the antennas, aligning and tuning the antennas, and connecting them to the readers and to the TCS to create a functioning Toll Collection System system. WSDOT will also furnish one Toll Collection System antenna of each type to the Vendor for use in developing and maintaining the System.

10.2.3. Transponders

Transponders will be procured by WSDOT separately. Once procured, WSDOT will furnish Transponders directly to toll customers via the CSC.

10.2.4. Network Equipment

WSDOT will furnish the following network equipment for use by the Vendor in completing the network connections at the Traffic Management Center. Refer to **Figure 3.**

a. Cisco ASA 5520 Firewall (or equivalent)
b. Cisco 1841-T1 Router (or equivalent)
c. Cisco Catalyst 2960 Switch (or equivalent)

WSDOT will install this equipment. The Vendor shall cooperate with WSDOT to accomplish installation and shall be responsible for configuring this equipment.

10.3. Furnished Services

WSDOT will furnish the following services:

a. Customer Service Center
b. Operations Monitoring

The following subsections describe the WSDOT furnished services in more detail.

10.3.1. Customer Service Center

WSDOT will furnish Customer Service Center software and services, which will support WSDOT's existing toll facilities as well as the TCS on the SR 520 Bridge.

10.3.2. Operations Monitoring

WSDOT may furnish limited TCS monitoring services at WSDOT's Traffic Management Center. Services would be limited to periodic monitoring of the information presented by the TCS. Monitoring by WSDOT may also include observing device status and/or System alarms as well as roadway conditions that may affect the toll operations, such as incidents or weather.

11. SUMMARY OF MAJOR DELIVERABLES REQUIRED

Table 2 – Summary of Major Deliverables provides a summary of the major Deliverables that shall be required of the Vendor during the period of performance. This summary is provided for convenience only and does not necessarily represent a complete or definitive listing of all Deliverables. In general, all document Deliverables require outline, draft, and final submissions with sufficient time (minimum ten (10) **Business Days**) allocated for WSDOT review of each. Refer to the referenced Appendices for details on the Deliverables. The schedule for Deliverable submission shall be determined by the Vendor's overall schedule with WSDOT's concurrence and subject to the submission requirements of each Deliverable, but shall follow the sequence of events outlined in **Section 9 – Sequence of Events and Payment Milestones** herein. The

Vendor shall independently determine all Deliverables required during the Project's period of performance.

Table 2– Summary of Major Deliverables

Deliverable	Type of Deliverable	RFP Ref	Section No.
Segment of Work #1			
Project Management Plan	Document(s)	Appendix 3	2.1.1
Quality Management Plan	Document(s)	Appendix 3	2.1.2
Software Development Plan	Document(s)	Appendix 3	2.1.3
Project Schedule (& Updates)	Document(s)	Appendix 3	2.1.4
Weekly Status Meeting Agenda/Minutes	Document(s)	Appendix 3	2.1.5.1
Monthly Progress Reports	Document(s)	Appendix 3	2.1.5.2
Milestone Invoices	Contract Obligations	Appendix 3	2.1.6
Kickoff Meeting	Meeting	Appendix 3	3.1
Design Workshops and Materials	Meeting(s)	Appendix 3	3.2
Preliminary Design Document (PDD)	Document(s)	Appendix 3	3.3.1
Preliminary Design Review	Meeting(s)	Appendix 3	3.3.1
System Design Document	Document(s)	Appendix 3	3.3.2
As-Built System Design Document	Document(s)	Appendix 3	3.3.2
Installation Drawings	Document(s)	Appendix 3	3.4.3
As-Built Installation Drawings	Document(s)	Appendix 3	3.4.3
Shop Drawings	Document(s)	Appendix 3	3.4.4
RTCS Infrastructure Requirements Document	Document(s)	Appendix 3	3.5
Installation Plan	Document(s)	Appendix 3	4.1
Traffic Management Plan (TMP)	Document(s)	Appendix 3	4.2.2
Traffic Incident Management Plan (TIMP)	Document(s)	Appendix 3	4.2.3
MOT Plans	Document(s)	Appendix 3	4.2.4
Traffic Control Diary	Document(s)	Appendix 3	4.2.6.1.1 (c)
Environmental Compliance Plan (ECP)	Document(s)	Appendix 3	4.6.1
Spill Prevention, Control, and Countermeasures (SPCC) Plan	Document(s)	Appendix 3	4.6.1.3
Noise Variance – City of Medina	Contract Obligation	Appendix 3	4.6.3 (b)
Master Test Plan	Document(s)	Appendix 3	5.1
Factory Acceptance Test Report	Document(s)	Appendix 3	5.1.1
Commissioning Test Report	Document(s)	Appendix 3	5.1.2
Interface Control Test Report	Document(s)	Appendix 3	5.1.3
Operational Test Completion Letter	Document(s)	Appendix 3	5.1.4
Operational Test Report	Document(s)	Appendix 3	5.1.4.1
Test Procedures	Document(s)	Appendix 3	5.2

Table 2– Summary of Major Deliverables

Deliverable	Type of Deliverable	RFP Ref	Section No.
Roadside System	Hardware & Software	Appendix 4	3.2
Facility Management and Administration System	Hardware & Software	Appendix 4	3.3
Digital Video Audit System (DVAS)	Hardware & Software	Appendix 4	3.4
User Interfaces	Software	Appendix 4	3.6
System Interfaces	Software	Appendix 4	3.7
Insurance Certificates	Contract Obligations	Appendix 19	15.2
Contract Bond	Contract Obligation	Appendix 19	Article VIII
Segment of Work #2			
Maintenance Plan	Document(s)	Appendix 3	2.2.1
Monthly Maintenance Reports	Document(s)	Appendix 3	2.2.2
Monthly Maintenance Invoices	Document(s)	Appendix 3	2.2.3
Annual Performance Audit Report	Document(s)	Appendix 3	2.2.4
Preventive Maintenance Schedule	Document(s)	Appendix 5	3.2
Performance Audit Procedures	Document(s)	Appendix 5	3.12
Annual Performance Audit Report	Document(s)	Appendix 5	3.12.1
Transition Plan	Document(s)	Appendix 5	4.1.2
Training Materials	Document(s)	Appendix 5	4.1.3
Operations & Maintenance Manual	Document(s)	Appendix 5	4.1.4

* * * End of Appendix * * *