

1 **APPENDIX 2.0 PROJECT DESCRIPTION**

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Table of Contents

2	APPENDIX 2.0 PROJECT DESCRIPTION	2-I
3	2.1 INTRODUCTION	2-1
4	2.2 PURPOSE AND BACKGROUND	2-2
5	2.3 ROADWAY TOLL SYSTEM OVERVIEW	2-13
6	2.4 WSDOT FURNISHED INFRASTRUCTURE, EQUIPMENT, AND SERVICES	2-16
7	2.5 SEQUENCE OF EVENTS AND PAYMENT MILESTONES	2-17
8	2.6 SUMMARY OF MAJOR DELIVERABLES REQUIRED	2-31

9

10

11 List of Tables

12	TABLE 2-1 – I-405 SYSTEM PAYMENT MILESTONES	2-17
13	TABLE 2-2 – SR 99 SYSTEM PAYMENT MILESTONES	2-19
14	TABLE 2-3 – SR 520 SYSTEM PAYMENT MILESTONES	2-21
15	TABLE 2-4 – TNB SYSTEM PAYMENT MILESTONES	2-23
16	TABLE 2-5 – SYSTEM E/F(I) PAYMENT MILESTONES	2-25
17	TABLE 2-6 – SYSTEM E/F(II) PAYMENT MILESTONES	2-27
18	TABLE 2-7 – SYSTEM E/F(III) PAYMENT MILESTONES	2-29
19	TABLE 2-8 – SUMMARY OF MAJOR DELIVERABLES	2-31

20

21

22 List of Figures

23	FIGURE 2-1 – PROJECT AREA MAP	2-2
24	FIGURE 2-2 – I-405 TOLL ZONES	2-6
25	FIGURE 2-3 – POTENTIAL EXPRESS TOLL LANES ACCESS TYPES	2-7
26	FIGURE 2-4 – I-405 FORECASTED TRAFFIC VOLUMES – THREE HOUR PEAK	2-8
27	FIGURE 2-5 – SR 99 PROPOSED TOLL ZONES	2-9
28	FIGURE 2-6 – SR 99 FORECASTED TRAFFIC VOLUMES, YEAR 2030	2-10
29	FIGURE 2-7 – CONCEPTUAL NETWORK ARCHITECTURE	2-15

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1 **2.1 INTRODUCTION**

2 **2.1.1 DOCUMENT OVERVIEW**

3 This document describes the Washington State Roadway Toll Systems (RTS) Project that
4 WSDOT desires to procure, describes the Systems included in the Project, outlines the
5 scope of work required of the Vendor, establishes the sequence of events and payment
6 Milestones, and identifies WSDOT-furnished infrastructure, equipment, and services.

7 **2.1.2 ABBREVIATIONS AND DEFINITIONS**

8 All capitalized terms and abbreviations used in this Appendix 2, but not expressly defined
9 herein, have the respective meanings set forth in Appendix 1 – Definitions.

2.2 PURPOSE AND BACKGROUND

WSDOT is implementing multiple Roadway Toll Systems located in Western Washington. Information about WSDOT’s current toll projects and future toll options is available online:

<http://www.wsdot.wa.gov/tolling.htm>

The purpose of the RTS Project is to reduce congestion and/or raise revenue for transportation improvements on the System corridors by implementing congestion based tolling (e.g., variable tolling).

The Project comprises the design, installation, integration, testing, operation, and maintenance of two Systems. The first is a two-way, variable priced, Express Toll Lane system on I-405 between Bellevue and Lynnwood. The second is a two-way, variable priced, single-point open road RTS on SR 99 near the proposed SR 99 Bored Tunnel portals in Seattle. Figure 2-1 illustrates the general Project area for the first two Systems.

At its sole discretion, after executing a contract, WSDOT may later add the design, installation, integration, testing, operation, and maintenance of up to four Additional Roadway Toll Systems to the Project. The first Additional System would be a two-way, variable priced, single-point, open-road RTS on SR 520, near the east landing of the replacement Evergreen Point Floating Bridge in Medina. The second Additional System would be a one-way, single-point, open road RTS on SR 16, just west of the new Tacoma Narrows Bridge (TNB) in Gig Harbor. The third and fourth Additional Systems would be on State highways in western Washington.



Figure 2-1 – Project Area Map

1 The goal of the Project is to identify and classify passing vehicles to support revenue
2 collection on the Systems. The plan for the Project consists of the following components:

- 3 • Design, supply, install, field test, commission, operate, and maintain RTS
- 4 • Integration, via an Interface Control Document (ICD), with the WSDOT
5 Customer Service Center to allow data transfer, transaction flow and
6 reconciliation
- 7 • Integration, via an ICD, with the WSDOT maintenance software to allow lane
8 health status and work order data transfer
- 9 • Integration, via a Vendor-developed Traffic Data ICD, with the WSDOT Traffic
10 Management Center for rates and other messages to post on toll rate signs

11 Systems will be used in full-width roadway tolling on the SR 99 Tunnel and in specific
12 HOT Lanes on the I-405 Express Toll Lanes System and as specified for any additional
13 Systems. Each System will include electronic equipment for Transponder and Photo
14 Tolling. The RTS will also include Digital Video Audit System (DVAS) to provide
15 camera monitoring of the toll zones.

16 Work will also include coordination with separate teams under contract with WSDOT to
17 build the civil infrastructure portion of projects that include Toll Infrastructure such as
18 signs, striping, Toll Gantries, Roadside Toll Cabinets, and electrical and communications
19 connections.

20 There are six primary office locations where WSDOT staff and WSDOT contractors will
21 support the Project and which the Vendor shall coordinate with. These locations include:

WSDOT Toll Division Goldsmith 401 2 nd Ave S, #300 Seattle, WA 98104	GoodToGo Seattle Location Customer Service Center 4554 9 th Ave NE Seattle, WA 98105
WSDOT I-405 Office 600 108 th Ave SE, Suite 405 Bellevue, WA 98004	WSDOT Northwest Region 15700 Dayton Ave N. Shoreline, WA 98133
WSDOT Alaskan Way Viaduct Office 999 3 rd Ave, Suite 2200 Seattle, WA 98104	WSDOT Information Technology 7345 Linderson Way SW Tumwater, WA 98501

22
23 The I-405 Design-Builder for the I-405 Project will choose a separate office location, near
24 the I-405 Project vicinity, once under contract.

25 During the Project, there may be additional office locations where WSDOT staff and
26 WSDOT contractors will support the Project. WSDOT will share these locations with the
27 Vendor.

28 The Vendor is also advised that other entities have critical roles regarding tolling in
29 Washington State. The State Legislature has responsibility to identify toll-eligible
30 facilities within the state. The Washington State Transportation Commission has authority
31 to set toll rates and designate exemptions or discounts.

1 **2.2.1 SCOPE OF WORK**

2 The scope of work for the Project comprises two Systems—I-405 and SR 99—and
3 multiple phases of work including Design, Installation and Testing, and Maintenance and
4 Operations. The Vendor shall perform each of the phases under a single Contract. The
5 Contract will be amended if additional Systems are added to the Project. The Contract is in
6 Appendix 19.

7 Work will also include coordination with separate teams under contract with WSDOT to
8 build the civil infrastructure corresponding to the Toll Systems. These separate WSDOT
9 contractors will provide civil infrastructure up to designated demarcation points including
10 signs (including dynamic toll rate signs and other static signing), striping, Toll Gantries,
11 Roadside Toll Cabinets, and electrical and communications connections.

12 WSDOT will provide the toll rate calculations (if necessary) and other messages to post on
13 toll rate signs (as necessary). The Vendor shall post the toll rates and other messages to toll
14 rate signs and correctly match posted rates and messages to Trips. WSDOT will provide a
15 Customer Service Center for back-office functions.

16 Washington State Patrol (WSP) shall be responsible for confirmation of vehicle passenger
17 occupancy, if necessary, for Toll Systems during operations.

18 For installation and testing activities, WSDOT will provide maintenance of traffic (MOT)
19 through other WSDOT contractors. The Toll Vendor shall provide MOT during
20 maintenance and operations activities.

21 **2.2.1.1 DESIGN, INSTALLATION AND TESTING**

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

29 **2.2.1.2 OPERATIONS AND MAINTENANCE**

30 Upon Toll Commencement, the Vendor shall provide Operations and Maintenance
31 Services for all Hardware and Software delivered under this procurement for up to ten
32 years in accordance with the requirements of this RFP. The Operations and Maintenance
33 Phase of the Work, is divided into two phases: Vendor Provided Maintenance and Shared
34 Maintenance. During Vendor Provided Maintenance, which shall last for at least one year
35 and no more than ten years, the Vendor shall be responsible for maintaining the entire
36 Roadway Toll System. If WSDOT elects to switch to a Shared Maintenance arrangement,
37 the Vendor shall facilitate the transition process through the development of a transition
38 plan, training of WSDOT maintenance personnel and the creation of an Amendment to the
39 Contract. Warranty related requirements for any hardware or software transferred to
40 WSDOT would begin after the Shared Maintenance transition.

41 **2.2.2 I-405 EXPRESS TOLL LANES SYSTEM (SYSTEM A)**

42 The I-405 System will be an Express Toll Lane system with variable pricing on I-405. In
43 the future, the System is proposed to be combined with the existing SR 167 HOT Lanes
44 system to create a single Express Toll Lane system throughout the I-405/SR 167 Corridor.

1 The toll work has been designed to complement a road construction project: the WSDOT I-
2 405 Project (I-405 NE 6th Street to I-5 Widening and Express Toll Lanes Project) website
3 describes the project overview, benefits, timeline, and financial information:

4 <http://www.wsdot.wa.gov/Projects/I405/NE6thtoI5/>

5 WSDOT has prepared an Environmental Assessment for the I-405 Project. The Finding of
6 No Significant Impact was released in July 2011, and is available online:

7 <http://www.wsdot.wa.gov/Projects/I405/corridor/beltolynnEA.htm>

8 This project will be the first phase of Express Toll Lanes on I-405. This phase will be built
9 both northbound and southbound between Bellevue and Lynnwood. Installation shall be
10 performed under live-traffic conditions. Coordination with at least one civil contractor
11 performing work in the same area shall be required.

12 WSDOT is in the process of procuring a civil contractor for the I-405 Project. I-405
13 conceptual plans are included in Appendix 14. The complete I-405 Project RFP and
14 Addenda are available online:

15 [http://www.wsdot.wa.gov/biz/contaa/DESIGNBUILDCONTRACTS/NE%206TH
16 %20ST%20TO%20I-5/Default.htm](http://www.wsdot.wa.gov/biz/contaa/DESIGNBUILDCONTRACTS/NE%206TH%20ST%20TO%20I-5/Default.htm)

17 The Work by the Vendor for I-405 System will be divided into two separate efforts to meet
18 restrictions of Engrossed House Bill 1382.

19 *Construction of the capacity improvements described in this subsection, including*
20 *items that enable implementation of Express Toll Lanes such as conduit and other*
21 *underground features, shall begin as soon as practicable. However, any contract*
22 *term regarding tolling equipment, such as gantries, barriers, or cameras, for*
23 *Interstate 405 may not take effect unless specific appropriation authority is*
24 *provided in 2012 stating that funding is provided solely for tolling equipment on*
25 *Interstate 405.*

26 The Vendor shall not complete any Work beyond completing Milestone A5 Factory
27 Acceptance Test – I-405 System, without specific written authorization from WSDOT.
28 Any Work completed by the Vendor beyond this Milestone without advanced written
29 authorization from WSDOT will not be compensated. The Vendor shall not purchase any
30 Toll Equipment without advanced written authorization from WSDOT. WSDOT expects
31 written authorization for the remaining work (NTP 2) to be issued in the fall of 2012. If
32 NTP 2 is delayed beyond first quarter 2013, the price for this Work shall be determined
33 with the price escalation calculation (see Appendix 11).

34 The Toll Commencement Date for the I-405 System shall be identified by the selected
35 I-405 Design-Builder. WSDOT expects to have this date identified for the Vendor in
36 February 2012. The Toll Commencement Date is expected to be in the first quarter of
37 2014.

38 The Vendor shall provide Toll Equipment and multi-point trip assembly in two directions
39 for a maximum of 21 toll zones. The proposed Toll Zones are illustrated in Figure 2-2.

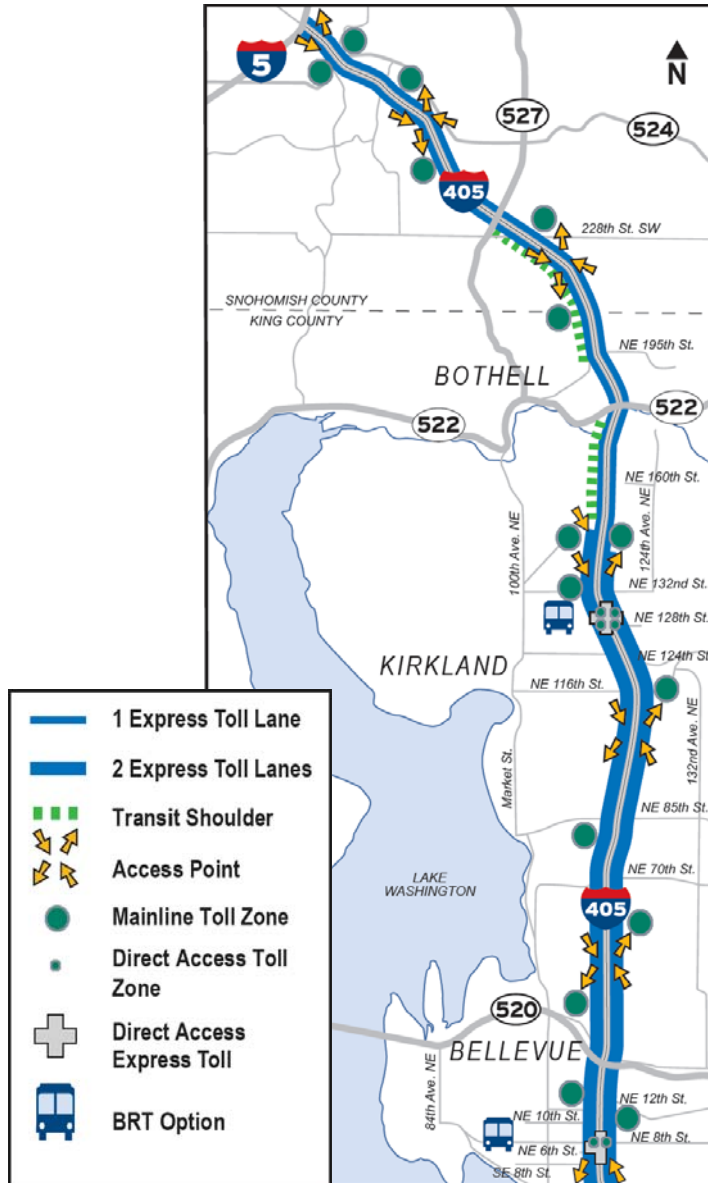
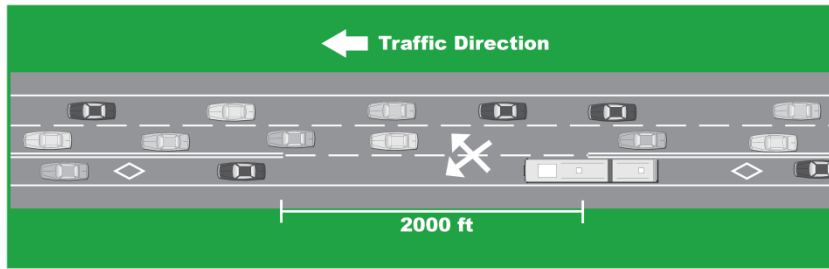


Figure 2-2 – I-405 Toll Zones

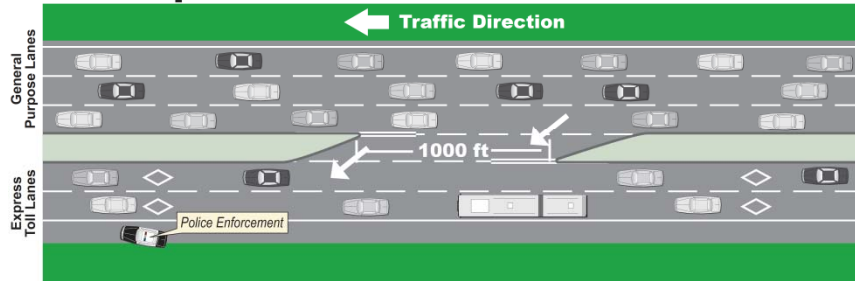
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3 The I-405 System is planned to consist of dual Express Toll Lanes from NE 6th Street to
 4 SR 522, and single Express Toll Lanes from SR 522 to I-5. Figure 2-3 illustrates an
 5 example of how the access to the Express Toll Lanes could be laid out. There may or may
 6 not be a buffer between the Express Toll Lanes and adjacent general purpose lanes. There
 7 will not be any fixed barriers (such as guardrails or concrete barriers) between the Express
 8 Toll Lanes and general purpose lanes.

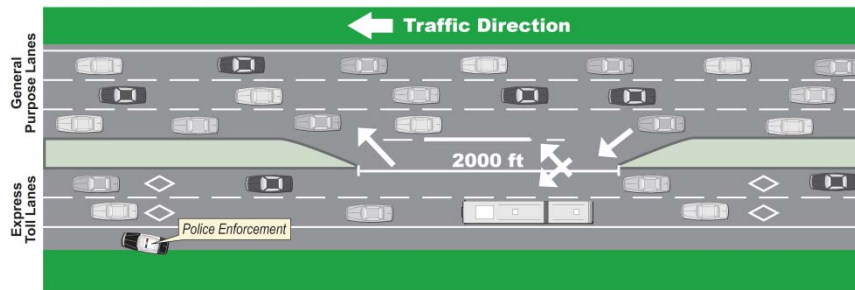
Skip Stripe



Two Express Toll Lanes–Entrance



Weave Lane



1

2

Figure 2-3 – Potential Express Toll Lanes Access Types

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The I-405 corridor is an important regional facility which carries high volumes of commuter and general purpose traffic. Figure 2-4 illustrates the forecasted three-hour peak volumes along the corridor. WSDOT logs of recently collected volumes are available online in the NW Region Annual Ramp and Roadway Report:

7

<http://www.wsdot.wa.gov/Northwest/TrafficVolume/>

8

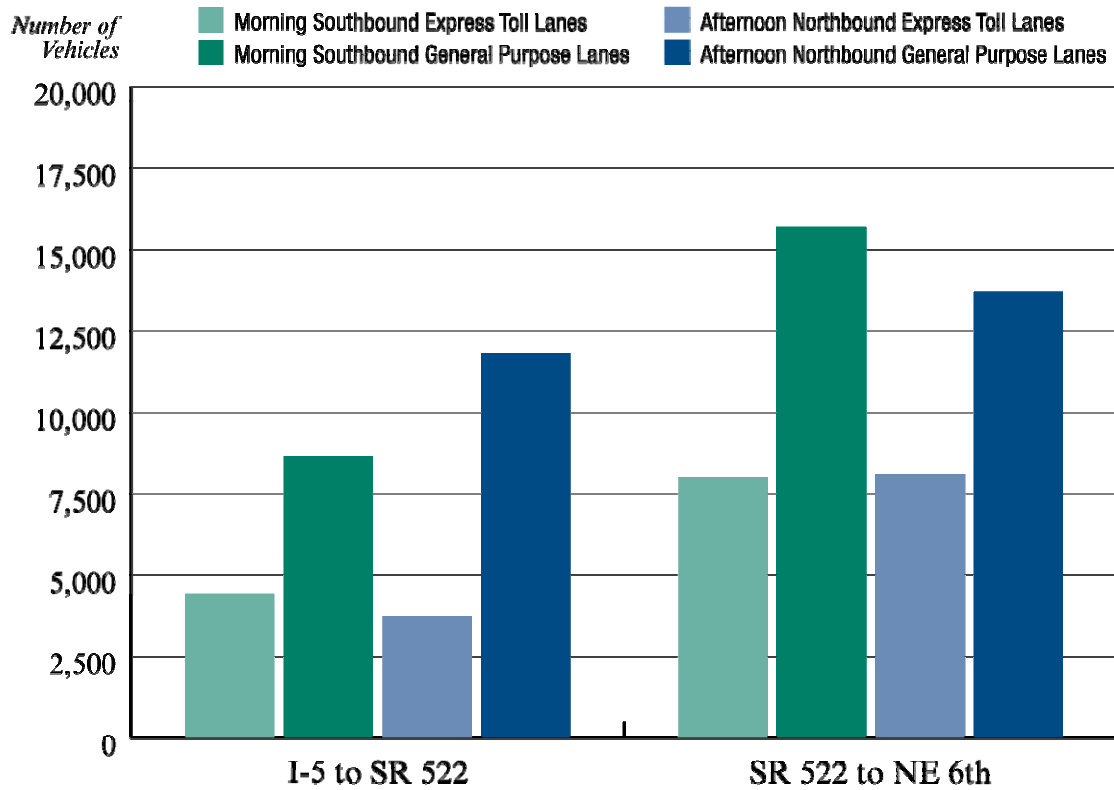
The *I-405 Corridor Program – Bellevue to Lynnwood Improvement Project Environmental Assessment* is also available online, including Traffic and Transportation analysis:

9

<http://wsdot.wa.gov/Projects/I405/corridor/beltolynnEA.htm>

10

I-405: 2015 Express Toll Lanes vs General Purpose Lanes Volumes



2
3

Figure 2-4 – I-405 Forecasted Traffic Volumes – Three Hour Peak

2.2.3 SR 99 TUNNEL TOLL SYSTEM (SYSTEM B)

During the 2009 legislative session, the Washington State Legislature passed legislation now codified as RCW 47.01.402 to replace the vulnerable SR 99 Alaskan Way Viaduct with a proposed bored tunnel, including four general purpose lanes in a stacked formation transitioning to side-by-side lanes at each portal location. The WSDOT SR 99 – Alaskan Way Viaduct and Seawall Replacement website describes the project overview, benefits, timeline, and financial information:

<http://www.wsdot.wa.gov/Projects/Viaduct/default.htm>

The FHWA Record of Decision to approve the SR 99 Bored Tunnel was released in August 2011. The Final Environmental Impact Statement for the viaduct’s central waterfront replacement was released in July 2011, and is available online:

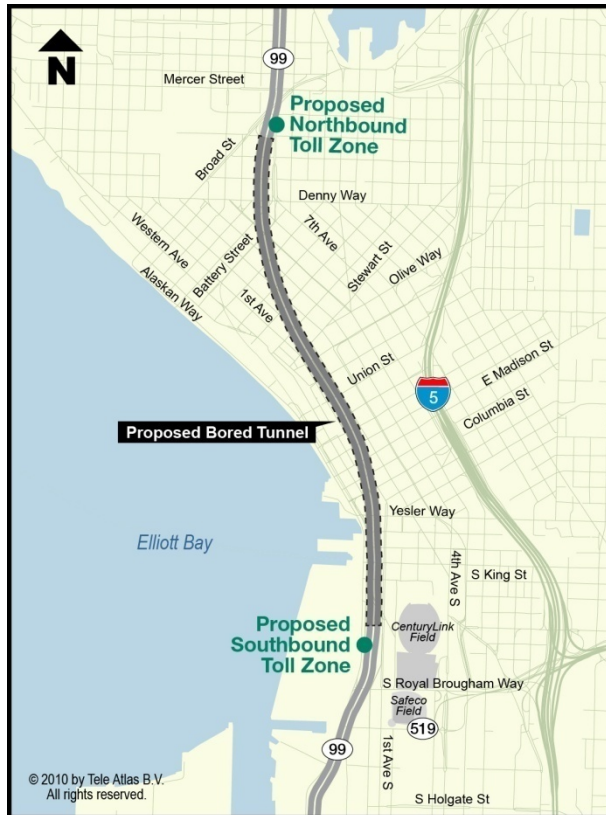
<http://www.wsdot.wa.gov/Projects/Viaduct/library-environmental.htm#2011feis>

WSDOT evaluated the preferred alternative which constructs a bored tunnel beneath downtown Seattle, reconnects the street grid at the ends of the tunnel and removes the Alaska Way Viaduct along the waterfront. The tunnel would connect to the S. Holgate Street to S. King Street Viaduct Replacement, currently under construction. The current route for the proposed SR 99 Bored Tunnel begins on Alaskan Way S. south of S. King Street, then moves toward First Avenue near Yesler Way, turns north near Stewart Street

26

1 and ends at Sixth Avenue N. and Thomas Street. WSDOT will charge motorists a toll to
2 use the SR 99 Tunnel in both directions.

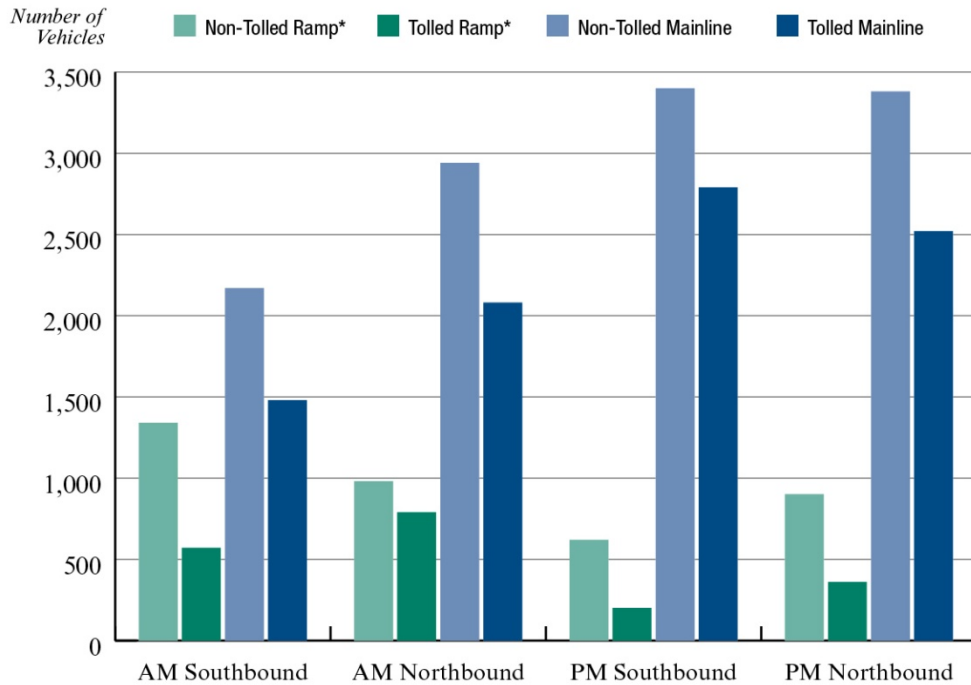
3 This is a new facility; installation of the toll system is anticipated to be performed with
4 minimal or no live traffic. Coordination with three or more civil contractors performing
5 work in the same area will be required. Toll authorization for SR 99 has not yet been
6 received, but is anticipated to occur prior to Toll Commencement. Toll Commencement is
7 contingent on legislative authority to toll; however, construction of the SR 99 Tunnel Toll
8 System is not contingent on toll authorization. The Vendor shall provide electronic Toll
9 Equipment in one area south of the tunnel for traffic traveling southbound, and electronic
10 Toll Equipment in another area north of the tunnel for traffic traveling northbound.
11 Figure 2-5 illustrates the proposed Toll Zone areas for northbound and southbound.



12
13 **Figure 2-5 – SR 99 Proposed Toll Zones**

14 The SR 99 corridor is an important regional facility that carries high volumes of commuter
15 and general purpose traffic. Figure 2-6 illustrates the forecasted peak-hour volumes along
16 the corridor.

SR 99: 2030 Non-Tolled vs Tolled AM and PM Volumes



* Ramp volumes shown are for off-ramps. The northbound off-ramp is at Republican Street and the southbound off-ramp is at Royal Brougham Way.

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2

Figure 2-6 – SR 99 Forecasted Traffic Volumes, Year 2030

2.2.4 ADDITIONAL SYSTEMS

WSDOT recognizes the efficiencies in consistent System development and operations. Therefore, based on future legislative direction and WSDOT toll program development, additional Systems may later be added to the Project. The Contract will be amended if additional Systems are added to the Project.

Vendors are invited to provide prices for the following additional Systems. Prices for additional systems are required if the Vendor wishes to complete this additional Work, if added. If additional Systems are added to the Project, the price provided by the Vendor in response to this RFP will be considered a price proposal for this Work.

WSDOT reserves the right at any time to separately procure these additional Systems.

To propose a price, Vendors shall assume the work begins January 2012; however, further WSDOT toll program development and legislative direction is necessary before the Work can be added. In the event that WSDOT amends the Contract to include the Work of additional Systems at a date later than the Notice to Proceed provided in Section 2.5 herein, WSDOT will determine the escalated price by multiplying the proposed prices by a Composite Escalation Index described in Appendix 11.

2.2.4.1 SR 520 REPLACEMENT BRIDGE TOLL SYSTEM (SYSTEM C)

On February 12, 2011, WSDOT broke ground on the first phase of replacement of the SR 520 Evergreen Point Floating Bridge. It is anticipated this tolled facility will open to drivers in 2014. Currently, WSDOT is implementing tolling on the existing SR 520 Evergreen Point Floating Bridge.

WSDOT will charge motorists a toll to use the SR 520 Replacement Bridge in both directions.

The Vendor shall provide a Toll System in one location for traffic traveling in two directions. The System will identify and classify passing vehicles in a total of six lanes, plus shoulders. Two of these lanes (one in each direction) will be high occupancy vehicle (HOV) lanes. Four of these lanes (two in each direction) will be general purpose lanes.

Installation and testing will be performed under live-traffic conditions. Coordination with two or more civil contractors performing work in the same area will be required. Civil contractors will provide MOT for installation and testing; the Toll Vendor will provide their own MOT for operations and maintenance Work.

WSDOT will provide infrastructure to support the Toll System, commensurate with the requirements and provisions in this RFP as described for the I-405 and SR 99 Systems. Any additional System-specific requirements and provisions shall be identified at the time of amending the Contract to include this Work.

2.2.4.2 TACOMA NARROWS BRIDGE TOLL SYSTEM (SYSTEM D)

The new SR 16 Tacoma Narrows Bridge (TNB) opened for toll collection on July 16, 2007. Currently, drivers have two payment options on TNB. One option is the Open Road Tolling (ORT) lanes. A second option allows customers to stop at an offline toll booth and pay using cash or credit card.

The Vendor shall provide a replacement electronic tolling system to identify and classify passing vehicles for traffic traveling eastbound at two locations: the three mainline ORT lanes and one on-ramp ORT lane, plus shoulders. Existing toll equipment shall be maintained functional (by the current Vendor) until the new System is installed, tested, and accepted by WSDOT. Once the replacement System is accepted, the Vendor shall provide cutover and remove the old equipment.

Installation shall be performed under live-traffic conditions. Coordination with one or more other contractors performing work in the same area will be required. The Toll Vendor will provide their own MOT for installation and testing, and maintenance and operations Work.

WSDOT will provide infrastructure to support the Toll System, commensurate with the requirements and provisions in this RFP as described for the I-405 and SR 99 Systems. Any additional System-specific requirements and provisions shall be identified at the time of amending the Contract to include this Work.

2.2.4.3 ADDITIONAL ROADWAY TOLL SYSTEMS (SYSTEMS E AND F)

The third and fourth additional Systems are on State highways in western Washington. These additional Systems will each consist of one of the following three scenarios, and a scenario may be implemented twice:

- 1 • Two-way, variable priced, single-point open road RTS covering ten lanes of
2 traffic (E/F(I));
- 3 • Two-way, variable priced, Express Toll Lane system with ten single-lane toll
4 zones (E/F(II)); or,
- 5 • Two-way, variable priced, Express Toll Lane system with ten dual-lane toll
6 zones (E/F(III)).

7 Installation shall be performed under live-traffic conditions. Coordination with one or
8 more civil contractors performing work in the same area as these Systems will be required.
9 Civil contractors will provide MOT for installation and testing; the Toll Vendor will
10 provide their own MOT for maintenance and operations Work.

11 WSDOT will provide infrastructure to support the Toll System, commensurate with the
12 requirements and provisions in this RFP as described for the I-405 and SR 99 Systems.
13 Any additional System-specific requirements and provisions shall be identified at the time
14 of amending the Contract to include this Work.

15 **2.2.5 CONCURRENT PROJECTS**

16 The Vendor should be aware that other contractors may be performing work in the
17 immediate vicinity of the Project at any time for the duration of this Contract. The Vendor
18 shall cooperate with WSDOT and other contractors in the performance of any concurrent
19 activities occurring at or near the Project.

20 The major concurrent projects in the vicinity of the Project include:

- 21 • I-405 – NE 6th to I-5 Widening and Express Toll Lanes
- 22 • SR 99 Bored Tunnel
- 23 • SR 99 North Access
- 24 • SR 99 South Access
- 25 • SR 520 Bridge Replacement Project
- 26 • Elliott Bay Seawall Project
- 27 • I-405 – NE 8th St to SR 520 Braided Ramps
- 28 • East Link: Sound Transit Link Light Rail Expansion

29 Refer to Appendix 3, Section 3.3 for additional concurrent and adjacent projects and
30 related requirements.

2.3 ROADWAY TOLL SYSTEM OVERVIEW

2.3.1 CONCEPT OF OPERATIONS

Operation of the RTS will be fully automated and not require regular intervention or monitoring by WSDOT. Maintenance and operations of the RTS (described in Appendix 5) to achieve the Performance Measures (described in Appendix 19, Exhibit A) will be provided by the Vendor for at least the first year following System Acceptance for each system; however, maintenance duties will begin earlier at Toll Commencement for each system. After the first year, WSDOT may decide, at any time during the term of the Contract, to take over agreed upon maintenance and operations responsibilities from the Vendor. In this case (i.e., Shared Maintenance), the Vendor would still provide training and support to transition to Shared Maintenance and continue to support WSDOT during the Shared Maintenance phase as defined by a Contract Amendment. Any hardware or software transferred to WSDOT would be warranted for at least one year following the Shared Maintenance transition. Refer to Appendix 5 for requirements related to a Shared Maintenance transition.

The general toll system concept for this RFP is made up of a roadside component, a centrally located Host component, and a networking component. The roadside and Host components will be networked together through an existing fiber network. The centrally located Host will be placed at the regional WSDOT Traffic Management Center (TMC) and will interface with the Washington State Customer Service Center (CSC) and the Washington State's Signal Inventory Maintenance Management System (SIMMS). WSDOT will provide a second location to house a redundant Host server.

When open to tolling, motorists will be charged a toll to travel through the SR 99 Tunnel and I-405 Express Toll Lanes and as specified for any additional Systems. The toll rates, including any discounts or exemptions, will be determined by the Washington State Transportation Commission. WSDOT will communicate the toll rates to the public via Internet and various public education and outreach efforts. The Vendor shall post toll rates and other messages (as necessary) to toll rate signs.

Toll rates will be either fixed by time of day and day of week or actively managed for dynamic congestion based response. 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. Toll rates may also be calculated dynamically based on current traffic conditions. Traffic conditions will be monitored by the Washington State TMC, and a dynamic pricing algorithm will calculate a variable toll rate. The TMC will monitor and maintain the data collection points.

The Vendor Host shall integrate with the TMC and shall post the toll rate or other messages to the toll rate signs. The Vendor shall also monitor the toll rate signs and alert WSDOT of all errors; WSDOT will maintain the signs. The Vendor shall collect and archive posted toll rates and messages, and shall build and automatically update a historical time-of-day toll rate table for each toll rate sign for use when communications with the TMC fails. The historical log of displayed toll rates and messages shall be available as a report for WSDOT and the CSC. The Vendor shall match posted toll rates to Trips.

The RTS will automatically identify and classify each vehicle traveling in each Toll Zone, capture the Transponder identification number (if any), Electronic Product Code (EPC) (if

1 any), and license plate image and number of each vehicle, build a Toll Transaction,
2 assemble a Trip, and send this information to WSDOT’s CSC back office for processing
3 and collection. No toll booths will be installed; therefore, motorists will not be required or
4 allowed to stop to pay. Motorists can pay by either: 1) establishing a pre-paid,
5 Transponder-based *Good To Go!*TM customer account with WSDOT from which tolls can
6 be debited; or 2) paying (pre-pay or post-pay) for each Photo Toll Transaction through a
7 number of methods, including by mail, on the web, over the phone, or in person at one of
8 three customer service storefronts.

9 WSDOT anticipates that, in time, most users of the Project will pay using a *Good To*
10 *Go!*TM customer account; however, a significant number of users may not have *Good To*
11 *Go!*TM accounts or Transponders and therefore shall be identified by the RTS via their
12 license plates. This information will be used by the WSDOT CSC to match Toll
13 Transactions with customer pre-payments or bill customers for post-payment. WSDOT,
14 through its CSC provider, will handle Toll Transactions received from all State toll
15 facilities, including the Tacoma Narrow Bridge, the SR 167 HOT Lanes, and the new SR
16 520 toll lanes, in addition to new Systems.

17 **2.3.2 ROADWAY TOLL SYSTEM TECHNOLOGY**

18 Under the *Good To Go!*TM program, WSDOT has issued over 250,000 TransCore eGo®
19 Plus windshield sticker Transponders, including a small amount of license plate
20 Transponders. WSDOT does not plan to sell any more TransCore eGo® tags. WSDOT
21 has also issued over 100,000 Sirit 6C Transponders, including automobile and motorcycle
22 sticker tags, movable tags adhered with Velcro, license plate mounted versions and
23 switchable tags to self declare as either on or off. WSDOT plans to issue another 100,000-
24 150,000 of the 6C transponders within the next year.

25 WSDOT is also interested in migrating to new technologies at some point in the future
26 when products become commercially available and affordable and certification programs
27 are established to ensure interoperability among products and manufacturers.

28 **2.3.3 FACILITY MANAGEMENT AND ADMINISTRATION SYSTEM**

29 The Facility Management and Administration System (FMAS) consists of the central
30 control systems and applications that facilitate operations, administration, reporting, and
31 maintenance of the RTS. One FMAS server will be located at WSDOT’s TMC in the
32 Seattle area. A second FMAS will be located at a separate facility. The FMAS will
33 connect to the RTS via a WSDOT-provided network. The FMAS will connect to the CSC
34 via a WSDOT-provided leased line connection to the Internet. Figure 2-7 shows the
35 conceptual network architecture in detail.

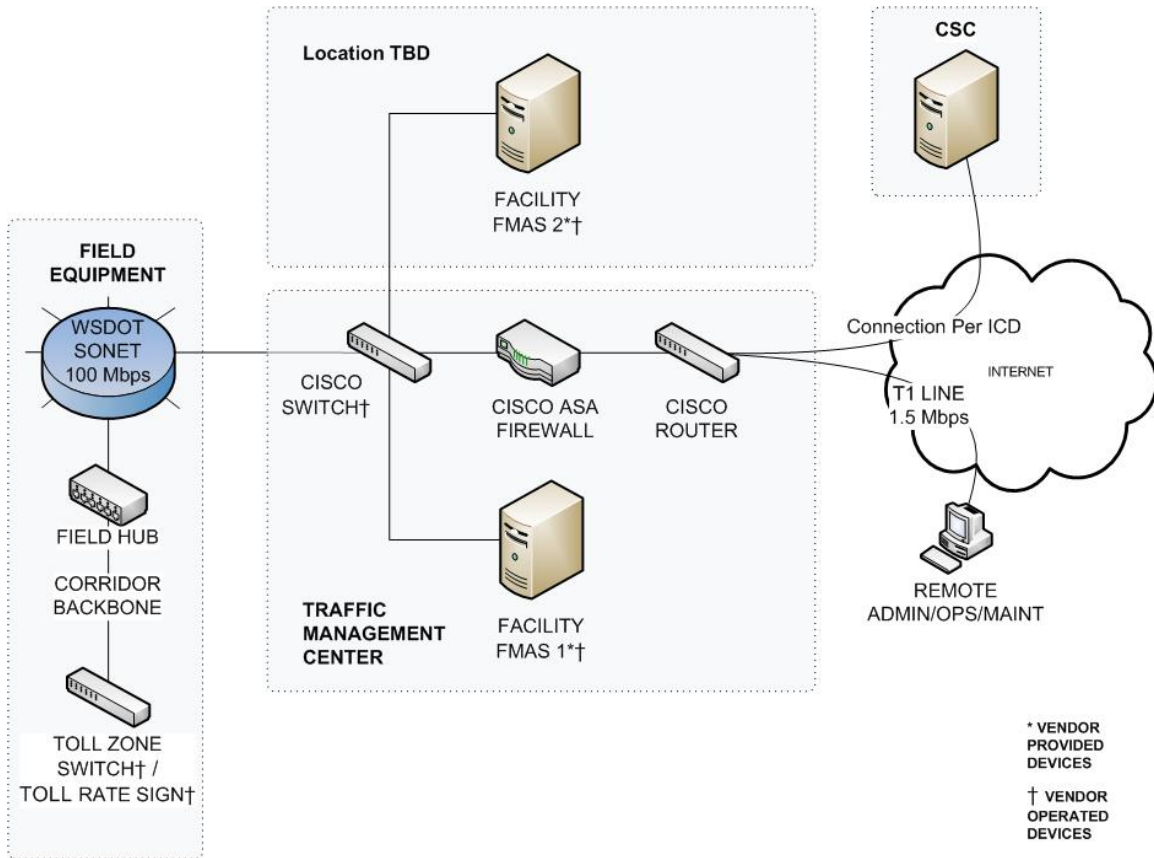


Figure 2-7 – Conceptual Network Architecture

2.3.4 ROADWAY TOLL SYSTEM MAJOR FUNCTIONS

As a Project, the RTS will perform the following major functions.

- Capture Transponder-based Toll Transactions and transmit to the CSC.
- Capture image-based Toll Transactions, process using Optical Character Recognition (OCR), and transmit the associated data to the CSC.
- Produce Transaction and related toll system reports.
- Monitor and report on the condition and maintenance of the RTS through an integrated Maintenance Online Management System (MOMS).
- Illuminate an enforcement beacon based on designated transponder numbers to identify high-occupancy vehicles when they pass a toll zone.
- Capture and store DVAS data.
- Post toll rates and other messages to toll rate signs and match displayed toll rates or messages to Trips.

The toll technical requirements of the RTS are described in Appendix 4.

2.4 WSDOT FURNISHED INFRASTRUCTURE, EQUIPMENT, AND SERVICES

For each System, 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 and Appendix 15 for conceptual plans of the I-405 and SR 99 Toll Zones.

2.4.1 FURNISHED INFRASTRUCTURE

WSDOT will furnish and install the civil infrastructure required for the RTS up to the Demarcation Point at each Toll Zone location. The demarcation point for communications is the switch and patch panel inside of the Roadside Toll Cabinets at each Toll Zone installation. The demarcation point for power is the transformers provided at the Toll Zone roadside at each Toll Zone location. An illustrative representation of the Toll Zone and demarcation points is included in Appendix 8. The Civil Toll Infrastructure includes:

- Monotube Toll Gantries
- Electrical service and connections
- 332D4 double-wide cabinet pads and cabinets with heater, GCFI, fan, etc.
- Communications Network (from cabinet to the TMC)
- Communications Network for WSDOT and Vendor access (from the TMC to Internet via a dedicated T1 line)
- Communications Network for Data Exchange with CSC Provider (from the FMAS to the CSC Provider via an Ethernet connection)
- Conduit System
- Server Rooms

Refer to Appendix 3, Section 3.5 for further details regarding the WSDOT furnished infrastructure.

2.4.2 FURNISHED SERVICES

WSDOT will furnish the following services:

- Customer Service Center
- Operations Monitoring

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

2.4.2.1 CUSTOMER SERVICE CENTER

WSDOT will furnish CSC software and services, which will support WSDOT's existing toll facilities as well as the RTS on the Project.

2.4.2.2 OPERATIONS MONITORING

WSDOT may furnish limited RTS monitoring services at WSDOT's TMC. Services would be limited to periodic monitoring of the information presented by the RTS. 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.

1 2.5 SEQUENCE OF EVENTS AND PAYMENT MILESTONES

2 Tables 2-1 through 2-7 show the overall sequence of events expected for each System and
 3 the corresponding payment Milestones. The locations in this RFP of individual
 4 Deliverables (the Qualifying Events) are identified in Section 2.6 herein.

5 **Table 2-1 – I-405 System Payment Milestones**

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
A1. Project Management – I-405 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Project Management Plan ▪ Quality Management Plan ▪ Initial Project Schedule 	To be completed by Vendor (shall be no later than 60 Calendar Days after Notice to Proceed)	No greater than 10 percent of the total installation price identified in selected Vendor's Price Proposal
A2. Preliminary Toll Infrastructure Design – I-405 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Toll Infrastructure Design Memo 	To be completed by Vendor (shall be no later than 120 Calendar Days after Notice to Proceed 1)	A single amount to be completed by Vendor
A3. Preliminary Design – I-405 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Design Document ▪ Software Development Plan ▪ Preliminary Installation Drawings 	To be completed by Vendor	A single amount to be completed by Vendor
A4. Final Design – I-405 System	<ul style="list-style-type: none"> ▪ System Design Document (SDD) ▪ Master Test Plan ▪ Draft IT Security Plan 	To be completed by Vendor	A single amount to be completed by Vendor
A5. Factory Acceptance Test – I-405 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Factory Acceptance Test Report 	To be completed by Vendor	A single amount to be completed by Vendor
WSDOT issues NTP 2**			
A6. Installation Readiness – I-405 System**	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Installation Plan ▪ Released for Installation Drawings ▪ Shop Drawings 	To be completed by Vendor	A single amount to be completed by Vendor
A7. Testing Readiness – I-405 System	WSDOT Approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Procedures ▪ Operational Test Procedures 	To be completed by Vendor – expressed in Calendar days prior to Toll Readiness (shall be no later than 120 days prior to Milestone A8)	A single amount to be completed by Vendor

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Table 2-1 – I-405 System Payment Milestones (continued)

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
A8. Installation and Testing Completion and Toll Readiness – I-405 System	WSDOT Approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Report ▪ Operational Test Report ▪ Site Acceptance Test Report ▪ Operational Verification Test Procedures ▪ Final IT Security Plan ▪ Traffic Management Plan (TMP) for Maintenance and Operations ▪ Traffic Incident Management Plan (TIMP) for Maintenance and Operations ▪ Maintenance Of Traffic Plans for Maintenance and Operations ▪ Operations Manual ▪ Maintenance Plan 	To be completed by Vendor – expressed in Calendar days prior to Toll Commencement (shall be no later than 45 Calendar Days prior to Milestone A9)	A single amount to be completed by Vendor
A9. Toll Commencement – I-405 System	<ul style="list-style-type: none"> ▪ Toll Commencement 	First Quarter of 2014, Final date set by I-405 Design-Builder by February 2012	N/A
A10. System Acceptance – I-405 System	WSDOT Approval of the following: <ul style="list-style-type: none"> ▪ As-Built Installation Drawings ▪ As-Built SDD ▪ Operational Verification Test Report ▪ Documentation described in RFP Appendix 3, Section 3.9 	To be completed by Vendor – expressed in Calendar days after Toll Commencement (shall be no later than 30 Calendar Days following Milestone A9)	No less than 20 percent of the total installation price identified in selected Vendor's Price Proposal
A11. (Optional) Shared Operations & Maintenance Transition – I-405 System	<ul style="list-style-type: none"> ▪ Transition Plan ▪ Maintenance Records ▪ Shared Maintenance Plan ▪ Shared Operations Manual ▪ Training 	WSDOT will set date at least 180 Calendar Days in advance	A single Amount to be completed by Vendor

* For Milestones up to and including System Acceptance, the following applies. The payment amount for any Milestone shall be at least five percent of the total installation price identified in selected vendor's Price Proposal. The sum of the payment amounts for Project Management, Preliminary Toll Infrastructure Design, Preliminary Design, Final Design, and Factory Acceptance Test Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal. The sum of the payment amounts for Installation Readiness, Testing Readiness, Installation and Testing Completion, and Toll Readiness Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal.

** No additional Work beyond A5 shall be performed prior to receipt of NTP 2.

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Table 2-2 – SR 99 System Payment Milestones

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
B1. Project Management – SR 99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Project Management Plan ▪ Quality Management Plan ▪ Initial Project Schedule 	To be completed by Vendor (shall be no later than 60 Calendar Days after Notice to Proceed)	No greater than 10 percent of the total installation price identified in selected Vendor's Price Proposal
B2. Preliminary Toll Infrastructure Design – SR 99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Toll Infrastructure Design Memo 	To be completed by Vendor (shall be no later than 90 Calendar Days after Notice to Proceed)	A single amount to be completed by Vendor
B3. Preliminary Design – SR 99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Design Document ▪ Software Development Plan ▪ Preliminary Installation Drawings 	To be completed by Vendor	A single amount to be completed by Vendor
B4. Final Design – SR 99 System	<ul style="list-style-type: none"> ▪ System Design Document (SDD) ▪ Master Test Plan ▪ Draft IT Security Plan 	To be completed by Vendor (no sooner than January 1, 2014)	A single amount to be completed by Vendor
B5. Factory Acceptance Test – SR 99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Factory Acceptance Test Report 	To be completed by Vendor	A single amount to be completed by Vendor
B6. Installation Readiness – SR-99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Installation Plan ▪ Released for Installation Drawings ▪ Shop Drawings 	April 1, 2015	A single amount to be completed by Vendor
B7. Testing Readiness – SR 99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Procedures ▪ Operational Test Procedures 	To be completed by Vendor (shall be no later than 120 days prior to Installation and Testing Completion Milestone)	A single amount to be completed by Vendor

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Table 2-2 – SR 99 System Payment Milestones (continued)

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
B8. Installation and Testing Completion and Toll Readiness – SR 99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Report ▪ Operational Test Report ▪ Site Acceptance Test Report ▪ Operational Verification Test Procedures ▪ Final IT Security Plan ▪ Traffic Management Plan (TMP) for Maintenance and Operations ▪ Traffic Incident Management Plan (TIMP) for Maintenance and Operations ▪ Maintenance Of Traffic Plans for Maintenance and Operations ▪ Operations Manual ▪ Maintenance Plan 	September 15, 2015	A single amount to be completed by Vendor
B9. Toll Commencement – SR 99 System	<ul style="list-style-type: none"> ▪ Toll Commencement 	September 15, 2015	N/A
B10. System Acceptance – SR 99 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ As-Built Installation Drawings ▪ As-Built SDD ▪ Operational Verification Test Report ▪ Documentation described in RFP Appendix 3, Section 3.9 	To be completed by Vendor (shall be no later than 30 Calendar Days following Toll Commencement)	No less than 20 percent of the total installation price identified in selected Vendor's Price Proposal
B11. (Optional) Shared Operations & Maintenance Transition – SR 99 System	<ul style="list-style-type: none"> ▪ Transition Plan ▪ Maintenance Records ▪ Shared Maintenance Plan ▪ Shared Operations Manual ▪ Training 	WSDOT will set date at least 180 Calendar Days in advance	Optional milestone would be negotiated by Amendment.

* For Milestones up to and including System Acceptance, the following applies. The payment amount for any Milestone shall be at least five percent of the total installation price identified in selected vendor's Price Proposal. The sum of the payment amounts for Project Management, Preliminary Toll Infrastructure Design, Preliminary Design, Final Design, and Factory Acceptance Test Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal. The sum of the payment amounts for Installation Readiness, Testing Readiness, Installation and Testing Completion, and Toll Readiness Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal.

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1 For the purposes of proposing prices for this Work, the Vendor shall assume a Notice to
 2 Proceed date of January 2, 2012.

3 **Table 2-3 – SR 520 System Payment Milestones**

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
C1. Project Management – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Project Management Plan ▪ Quality Management Plan ▪ Initial Project Schedule 	Shall be no later than 60 Calendar Days after Notice to Proceed	No greater than 10 percent of the total installation price identified in selected Vendor's Price Proposal
C2. Preliminary Design Document – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Design Document 	Shall be no later than 60 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
C3. Preliminary Design – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Software Development Plan ▪ Preliminary Installation Drawings 	Shall be no later than 210 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
C4. Final Design – SR 520 System	<ul style="list-style-type: none"> ▪ System Design Document (SDD) ▪ Master Test Plan ▪ Draft IT Security Plan 	Shall be no later than 340 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
C5. Factory Acceptance Test – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Factory Acceptance Test Report 	Shall be no later than 430 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
C6. Installation Readiness – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Installation Plan ▪ Released for Installation Drawings ▪ Shop Drawings 	Shall be no later than 550 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
C7. Testing Readiness – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Procedures ▪ Operational Test Procedures 	Shall be no later than 610 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor

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Table 2-3 – SR 520 System Payment Milestones (continued)

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
C8. Installation and Testing Completion and Toll Readiness – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Report ▪ Operational Test Report ▪ Site Acceptance Test Report ▪ Operational Verification Test Procedures ▪ Final IT Security Plan ▪ Traffic Management Plan (TMP) for Maintenance and Operations ▪ Traffic Incident Management Plan (TIMP) for Maintenance and Operations ▪ Maintenance Of Traffic Plans for Maintenance and Operations ▪ Operations Manual ▪ Maintenance Plan 	Shall be no later than 730 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
C9. Toll Commencement – SR 520 System	<ul style="list-style-type: none"> ▪ Toll Commencement 	Shall be no later than 730 Calendar Days after Notice to Proceed	N/A
C10. System Acceptance – SR 520 System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ As-Built Installation Drawings ▪ As-Built SDD ▪ Operational Verification Test Report ▪ Documentation described in RFP Appendix 3, Section 3.9 	Shall be no later than 30 Calendar Days following Toll Commencement	No less than 20 percent of the total installation price identified in selected Vendor's Price Proposal
C11. (Optional) Shared Operations & Maintenance Transition – SR 520 System	<ul style="list-style-type: none"> ▪ Transition Plan ▪ Maintenance Records ▪ Shared Maintenance Plan ▪ Shared Operations Manual ▪ Training 	WSDOT will set date at least 180 Calendar Days in advance	Optional milestone would be negotiated by Amendment.

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* For Milestones up to and including System Acceptance, the following applies. The payment amount for any Milestone shall be at least five percent of the total installation price identified in selected vendor's Price Proposal. The sum of the payment amounts for Project Management, Preliminary Design, Final Design, and Factory Acceptance Test Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal. The sum of the payment amounts for Installation Readiness, Testing Readiness, Installation and Testing Completion, and Toll Readiness Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal.

1 For the purposes of proposing prices for this Work, the Vendor shall assume a Notice to
 2 Proceed date of January 2, 2012.

3 **Table 2-4 – TNB System Payment Milestones**

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
D1. Project Management – TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Project Management Plan ▪ Quality Management Plan ▪ Initial Project Schedule 	Shall be no later than 60 Calendar Days after Notice to Proceed	No greater than 10 percent of the total installation price identified in selected Vendor's Price Proposal
D2. Preliminary Design Document– TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Design Document 	Shall be no later than 60 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
D3. Preliminary Design – TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Software Development Plan ▪ Preliminary Installation Drawings 	Shall be no later than 150 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
D4. Final Design – TNB System	<ul style="list-style-type: none"> ▪ System Design Document (SDD) ▪ Master Test Plan ▪ Draft IT Security Plan 	Shall be no later than 210 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
D5. Factory Acceptance Test – TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Factory Acceptance Test Report 	Shall be no later than 270 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
D6. Installation Readiness – TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Installation Plan ▪ Released for Installation Drawings ▪ Shop Drawings ▪ Traffic Management Plan (TMP) ▪ Traffic Incident Management Plan (TIMP) ▪ Maintenance Of Traffic Plans 	Shall be no later than 330 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor

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Table 2-4 – TNB System Payment Milestones (continued)

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
D7. Testing Readiness – TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Procedures ▪ Operational Test Procedures 	Shall be no later than 390 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
D8. Installation and Testing Completion and Toll Readiness – TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Report ▪ Operational Test Report ▪ Site Acceptance Test Report ▪ Operational Verification Test Procedures ▪ Final IT Security Plan ▪ Operations Manual ▪ Maintenance Plan 	Shall be no later than 550 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
D9. Toll Commencement-TNB System	<ul style="list-style-type: none"> ▪ Toll Commencement 	Shall be no later than 485 Calendar Days after Notice to Proceed	N/A
D10. System Acceptance-TNB System	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ As-Built Installation Drawings ▪ As-Built SDD ▪ Operational Verification Test Report ▪ Documentation described in RFP Appendix 3, Section 3.9 	Shall be no later than 30 Calendar Days following Toll Commencement	No less than 20 percent of the total installation price identified in selected Vendor's Price Proposal
D11. (Optional) Shared Operations & Maintenance Transition – TNB System	<ul style="list-style-type: none"> ▪ Transition Plan ▪ Maintenance Records ▪ Shared Maintenance Plan ▪ Shared Operations Manual ▪ Training 	WSDOT will set date at least 180 Calendar Days in advance	Optional milestone would be negotiated by Amendment.

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* For Milestones up to and including System Acceptance, the following applies. The payment amount for any Milestone shall be at least five percent of the total installation price identified in selected vendor's Price Proposal. The sum of the payment amounts for Project Management, Preliminary Design, Final Design, and Factory Acceptance Test Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal. The sum of the payment amounts for Installation Readiness, Testing Readiness, Installation and Testing Completion, and Toll Readiness Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal.

1 For the purposes of proposing prices for this Work, the Vendor shall assume a Notice to
 2 Proceed date of January 2, 2012.

3 **Table 2-5 – System E/F(I) Payment Milestones**

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
E/F(I)1. Project Management – System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Project Management Plan ▪ Quality Management Plan ▪ Initial Project Schedule 	Shall be no later than 60 Calendar Days after Notice to Proceed	No greater than 10 percent of the total installation price identified in selected Vendor's Price Proposal
E/F(I)2. Preliminary Design Document– System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Design Document 	Shall be no later than 60 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(I)3. Preliminary Design – System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Software Development Plan ▪ Preliminary Installation Drawings 	Shall be no later than 210 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(I)4. Final Design – System E/F(I)	<ul style="list-style-type: none"> ▪ System Design Document (SDD) ▪ Master Test Plan ▪ Draft IT Security Plan 	Shall be no later than 340 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(I)5. Factory Acceptance Test – System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Factory Acceptance Test Report 	Shall be no later than 430 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(I)6. Installation Readiness – System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Installation Plan ▪ Released for Installation Drawings ▪ Shop Drawings 	Shall be no later than 550 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(I)7. Testing Readiness – System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Procedures ▪ Operational Test Procedures 	Shall be no later than 610 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor

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Table 2-5 – System E/F(I) Payment Milestones (continued)

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
E/F(I)8. Installation and Testing Completion and Toll Readiness – System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Report ▪ Operational Test Report ▪ Site Acceptance Test Report ▪ Operational Verification Test Procedures ▪ Final IT Security Plan ▪ Traffic Management Plan (TMP) for Maintenance and Operations ▪ Traffic Incident Management Plan (TIMP) for Maintenance and Operations ▪ Maintenance Of Traffic Plans for Maintenance and Operations ▪ Operations Manual ▪ Maintenance Plan 	Shall be no later than 730 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(I)9. Toll Commencement- System E/F(I)	<ul style="list-style-type: none"> ▪ Toll Commencement 	Shall be no later than 730 Calendar Days after Notice to Proceed	N/A
E/F(I)10. System Acceptance- System E/F(I)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ As-Built Installation Drawings ▪ As-Built SDD ▪ Operational Verification Test Report ▪ Documentation described in RFP Appendix 3, Section 3.9 	Shall be no later than 760 Calendar Days after Notice to Proceed	No less than 20 percent of the total installation price identified in selected Vendor's Price Proposal
E/F(I)11. (Optional) Shared Operations & Maintenance Transition – System E/F(I)	<ul style="list-style-type: none"> ▪ Transition Plan ▪ Maintenance Records ▪ Shared Maintenance Plan ▪ Shared Operations Manual ▪ Training 	WSDOT will set date at least 180 Calendar Days in advance	Optional milestone would be negotiated by Amendment.

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* For Milestones up to and including System Acceptance, the following applies. The payment amount for any Milestone shall be at least five percent of the total installation price identified in selected vendor's Price Proposal. The sum of the payment amounts for Project Management, Preliminary Design, Final Design, and Factory Acceptance Test Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal. The sum of the payment amounts for Installation Readiness, Testing Readiness, Installation and Testing Completion, and Toll Readiness Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal.

1 For the purposes of proposing prices for this Work, the Vendor shall assume a Notice to
 2 Proceed date of January 2, 2012.

3 **Table 2-6 – System E/F(II) Payment Milestones**

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
E/F(II)1. Project Management – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Project Management Plan ▪ Quality Management Plan ▪ Initial Project Schedule 	Shall be no later than 60 Calendar Days after Notice to Proceed	No greater than 10 percent of the total installation price identified in selected Vendor's Price Proposal
E/F(II)2. Preliminary Design Document – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Design Document 	Shall be no later than 60 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(II)3. Preliminary Design – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Software Development Plan ▪ Preliminary Installation Drawings 	Shall be no later than 210 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(II)4. Final Design – System E/F(II)	<ul style="list-style-type: none"> ▪ System Design Document (SDD) ▪ Master Test Plan ▪ Draft IT Security Plan 	Shall be no later than 340 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(II)5. Factory Acceptance Test – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Factory Acceptance Test Report 	Shall be no later than 430 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(II)6. Installation Readiness – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Installation Plan ▪ Released for Installation Drawings ▪ Shop Drawings 	Shall be no later than 550 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(II)7. Testing Readiness – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Procedures ▪ Operational Test Procedures 	Shall be no later than 610 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor

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Table 2-6 – System E/F(II) Payment Milestones (continued)

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
E/F(II)8. Installation and Testing Completion and Toll Readiness – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Report ▪ Operational Test Report ▪ Site Acceptance Test Report ▪ Operational Verification Test Procedures ▪ Final IT Security Plan ▪ Traffic Management Plan (TMP) for Maintenance and Operations ▪ Traffic Incident Management Plan (TIMP) for Maintenance and Operations ▪ Maintenance Of Traffic Plans for Maintenance and Operations ▪ Operations Manual ▪ Maintenance Plan 	Shall be no later than 730 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(II)9. Toll Commencement – System E/F(II)	<ul style="list-style-type: none"> ▪ Toll Commencement 	Shall be no later than 730 Calendar Days after Notice to Proceed	N/A
E/F(II)10. System Acceptance – System E/F(II)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ As-Built Installation Drawings ▪ As-Built SDD ▪ Operational Verification Test Report ▪ Documentation described in RFP Appendix 3, Section 3.9 	Shall be no later than 760 Calendar Days after Notice to Proceed	No less than 20 percent of the total installation price identified in selected Vendor's Price Proposal
E/F(II)11. (Optional) Shared Operations & Maintenance Transition – System E/F(II)	<ul style="list-style-type: none"> ▪ Transition Plan ▪ Maintenance Records ▪ Shared Maintenance Plan ▪ Shared Operations Manual ▪ Training 	WSDOT will set date at least 180 Calendar Days in advance	Optional milestone would be negotiated by Amendment.

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* For Milestones up to and including System Acceptance, the following applies. The payment amount for any Milestone shall be at least five percent of the total installation price identified in selected vendor's Price Proposal. The sum of the payment amounts for Project Management, Preliminary Design, Final Design, and Factory Acceptance Test Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal. The sum of the payment amounts for Installation Readiness, Testing Readiness, Installation and Testing Completion, and Toll Readiness Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal.

1 For the purposes of proposing prices for this Work, the Vendor shall assume a Notice to
 2 Proceed date of January 2, 2012.

3 **Table 2-7 – System E/F(III) Payment Milestones**

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
E/F(III)1. Project Management – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Project Management Plan ▪ Quality Management Plan ▪ Initial Project Schedule 	Shall be no later than 60 Calendar Days after Notice to Proceed	No greater than 10 percent of the total installation price identified in selected Vendor's Price Proposal
E/F(III)2. Preliminary Design Document – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Preliminary Design Document 	Shall be no later than 60 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(III)3. Preliminary Design – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Software Development Plan ▪ Preliminary Installation Drawings 	Shall be no later than 210 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(III)4. Final Design – System E/F(III)	<ul style="list-style-type: none"> ▪ System Design Document (SDD) ▪ Master Test Plan ▪ Draft IT Security Plan 	Shall be no later than 340 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(III)5. Factory Acceptance Test – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Factory Acceptance Test Report 	Shall be no later than 430 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(III)6. Installation Readiness – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Installation Plan ▪ Released for Installation Drawings ▪ Shop Drawings 	Shall be no later than 550 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(III)7. Testing Readiness – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Procedures ▪ Operational Test Procedures 	Shall be no later than 610 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor

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Table 2-7 – System E/F(III) Payment Milestones (continued)

Milestone	Qualifying Event	Guaranteed Date	Payment Amount*
E/F(III)8. Installation and Testing Completion and Toll Readiness – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ Commissioning Test Report ▪ Operational Test Report ▪ Site Acceptance Test Report ▪ Operational Verification Test Procedures ▪ Final IT Security Plan ▪ Traffic Management Plan (TMP) for Maintenance and Operations ▪ Traffic Incident Management Plan (TIMP) for Maintenance and Operations ▪ Maintenance Of Traffic Plans for Maintenance and Operations ▪ Operations Manual ▪ Maintenance Plan 	Shall be no later than 730 Calendar Days after Notice to Proceed	A single amount to be completed by Vendor
E/F(III)9. Toll Commencement – System E/F(III)	<ul style="list-style-type: none"> ▪ Toll Commencement 	Shall be no later than 730 Calendar Days after Notice to Proceed	N/A
E/F(III)10. System Acceptance – System E/F(III)	WSDOT approval of the following: <ul style="list-style-type: none"> ▪ As-Built Installation Drawings ▪ As-Built SDD ▪ Operational Verification Test Report ▪ Documentation described in RFP Appendix 3, Section 3.9 	Shall be no later than 760 Calendar Days after Notice to Proceed	No less than 20 percent of the total installation price identified in selected Vendor's Price Proposal
E/F(III)11. (Optional) Shared Operations & Maintenance Transition – System E/F(III)	<ul style="list-style-type: none"> ▪ Transition Plan ▪ Maintenance Records ▪ Shared Maintenance Plan ▪ Shared Operations Manual ▪ Training 	WSDOT will set date at least 180 Calendar Days in advance	Optional milestone would be negotiated by Amendment.

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* For Milestones up to and including System Acceptance, the following applies. The payment amount for any Milestone shall be at least five percent of the total installation price identified in selected vendor's Price Proposal. The sum of the payment amounts for Project Management, Preliminary Design, Final Design, and Factory Acceptance Test Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal. The sum of the payment amounts for Installation Readiness, Testing Readiness, Installation and Testing Completion, and Toll Readiness Milestones shall be no more than 40 percent of the total installation price identified in selected Vendor's Price Proposal.

2.6 SUMMARY OF MAJOR DELIVERABLES REQUIRED

Table 2-8 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.

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 2.5 herein. The Vendor shall independently determine all Deliverables required during the Project's period of performance. Deliverables shall be submitted in accordance with Appendix 3, Section 3.17.

Table 2-8 – Summary of Major Deliverables

Deliverable	Type of Deliverable	RFP Ref	Section No.
Project Management Plan (& Updates)*	Document(s)	Appendix 3	3.2
System Schedule (& Updates)	Document(s)	Appendix 3	3.2
Weekly Status Meeting Agenda/Notes	Document(s)	Appendix 3	3.2
Monthly Progress Reports	Document(s)	Appendix 3	3.2
Milestone Invoices	Contract Obligations	Appendix 3	3.2
IT Security Plan	Document(s)	Appendix 3	3.2
Workshop Materials and Meeting Minutes†	Meeting(s)	Appendix 3	3.5
Kickoff Conference	Meeting	Appendix 3	3.3
Software Development Plan*	Document(s)	Appendix 3	3.5
Preliminary Design Document (PDD) †	Document(s)	Appendix 3	3.5
Preliminary Design Review Presentation†	Meeting(s)	Appendix 3	3.5
System Design Document†	Document(s)	Appendix 3	3.5
As-Built System Design Document†	Document(s)	Appendix 3	3.5
Installation Drawings and Details	Document(s)	Appendix 3	3.5
Shop Drawings†	Document(s)	Appendix 3	3.5
Installation Plan	Document(s)	Appendix 3	3.5
As-Built Plans and Specifications	Document(s)	Appendix 3	3.9
Quality Management Plan*	Document(s)	Appendix 3	3.17
Master Test Plan†	Document(s)	Appendix 3	3.19
Factory Acceptance Test Report†	Document(s)	Appendix 3	3.19
Commissioning Test Report	Document(s)	Appendix 3	3.19
Operational Test Report	Document(s)	Appendix 3	3.19
Site Acceptance Test Report	Document(s)	Appendix 3	3.19
Operational Verification Test Report	Document(s)	Appendix 3	3.19
Test Procedures	Document(s)	Appendix 3	3.19

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Table 2-8 – Summary of Major Deliverables (continued)

Deliverable	Type of Deliverable	RFP Ref	Section No.
Roadway Toll System	Hardware & Software	Appendix 4	4.3.2
Facility Management and Administration System	Hardware & Software	Appendix 4	4.3.3
Digital Video Audit System (DVAS)	Hardware & Software	Appendix 4	4.3.4
User Interfaces	Software	Appendix 4	4.3.6
System Interfaces	Software	Appendix 4	4.3.7
Monthly Maintenance Reports	Document(s)	Appendix 5	5.2
Monthly Maintenance Invoices	Document(s)	Appendix 5	5.2
Performance Audit Procedures	Document(s)	Appendix 5	5.2
Annual Performance Audit Report	Document(s)	Appendix 5	5.2
Maintenance Plan	Document(s)	Appendix 5	5.2
Preventive Maintenance Schedule	Document(s)	Appendix 5	5.2
Operations Manual†	Document(s)	Appendix 5	5.2
Transition Plan	Document(s)	Appendix 5	5.4
Shared Maintenance Plan	Document(s)	Appendix 5	5.4
Shared Operations Manual	Document(s)	Appendix 5	5.4
Warranty	Document(s)	Appendix 5	5.5
Traffic Management Plan (TMP) for Maintenance and Operations	Document(s)	Appendix 5	5.6
Traffic Incident Management Plan (TIMP) for Maintenance and Operations	Document(s)	Appendix 5	5.6
MOT Plans for Maintenance and Operations	Document(s)	Appendix 5	5.6
Traffic Control Diary for Maintenance and Operations	Document(s)	Appendix 5	5.6
Insurance Certificates	Contract Obligations	Appendix 19	17.2
Contract Bond	Contract Obligation	Appendix 19	Article VIII

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* Document shall be submitted as a combined Project deliverable, reflecting all contracted Systems concurrently

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† Document may be submitted as a combined Project deliverable, reflecting all contracted Systems concurrently. Vendor shall request WSDOT's approval for combining deliverable prior to submittal.

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End of Section