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PIERCE COUNTY, WASHINGTON

INTERLOCAL AGREEMENT

Between Pierce Transit and the City of Tacoma For Coordination, Construction, Implementation and ongoing Operations

TRANSIT SIGNAL PRIORITY Within the City of Tacoma

THIS Agreement, made and entered into this 28th day of Dec 2010, by and between Pierce County Public Transportation Benefit Area, a municipal corporation, hereinafter referred to as "Pierce Transit", formed under authority of Chapter 36.57A of the Revised Code of Washington, and the City of Tacoma, a municipal corporation and a City of the first class, hereinafter referred to as the "City" sets forth a common agreement concerning the Transit Signal Priority (TSP) Project, hereinafter referred to as "TSP Project", a cooperative effort as authorized by Chapter 39.34, the Interlocal Cooperation Act, of the Revised Code of Washington.

PURPOSE

WHEREAS, in 2004 Sound Transit, Pierce Transit and the City of Tacoma coordinated efforts to develop a technology plan for the Downtown Tacoma area. This plan was the basis of the scope provided for a Congestion Management and Air Quality (CMAQ) grant application in order to provide an evaluation study to identify the exact equipment that will ultimately be deployed by the City through a combination of City crews and the construction bidding process.

WHEREAS, the evaluation of the technology plan has been completed and the result is the TSP Project that is the subject of this Agreement.

WHEREAS, the Parties mutually agree to carry out the TSP Project, subject to specific tasks, responsibilities, and long term objectives for the TSP Project contained in this Agreement.

WHEREAS, the Parties mutually agree that the long term objectives of the TSP Project will:

- 1) Produce a networked system of interactive traffic controls addressing approximately 86 signalized intersections.
- 2) Deliver an intelligent signal system with state-of-the art communication and data management capabilities and transit signal priority (TSP) for bus and rail.
- 3) Reduce transit delay in the area that is the subject of this Agreement through the deployment of new technology and equipment.
- 4) Specifically include purchase and installation of signal controller upgrades, communications equipment and TSP equipment.
- 5) Permanently implement TSP for transit and signal preemption for emergency

vehicles (using Opticom equipment). The project area consists of 6 square miles bounded by Sprague Ave on the west, Division Ave on the north, I-5 on the south, and Portland Ave on the east. It addresses approximately 86 signalized intersections in the project area grid and picks up where previous implementation left off in 2004.

- 6) Establish a long-term commitment for use and maintenance of TSP and signal preemption technology within the City of Tacoma, and;
- 7) Provide for replacements, improvements, modifications, maintenance, and enhancements to City owned traffic signal equipment at specific locations to support public transportation services and emergency vehicle operations in the City of Tacoma. This includes; 32 new traffic signal controller cabinets, 86 new traffic signal controllers, transit detection equipment, signal communications, and a central traffic signal system.

NOW, THEREFORE, it is agreed that the foregoing purpose statement is hereby ratified and accepted as part of this Agreement. It is further agreed that:

ARTICLE I

DEFINITIONS

1. Agreement means this document and all Exhibits attached hereto.
2. Transit Signal Priority ("TSP") means giving special treatment to transit vehicles at signalized intersections through the use of sensors to detect approaching transit vehicles and alter signal timings to improve transit performance.
3. Transit Signal Priority Project ("TSP Project") means the effort by which the Parties will produce the networked system of interactive traffic controls, addressing approximately 86 signaled intersections.
4. Signal Priority Equipment means the technology required to generate requests for transit priority on routes and at certain intersections and monitor and manage local transit signal priority requests at individual intersections.

ARTICLE II

TERMS

A. RESPONSIBILITY OF PIERCE TRANSIT TO THE CITY

1. Equipment Provided

Pierce Transit and the City of Tacoma shall coordinate on the final list of TSP equipment necessary to facilitate the completion of each intersection identified as a part of this project. The Project Managers for each agency shall coordinate the development of, and provide written confirmation of the final equipment list required to modify signal equipment at project intersections to implement a transit signal priority system. The City shall have final approval over the equipment list in Exhibit 1.

2. Ownership Transferred

Pierce Transit will purchase and transfer ownership to the City of the required and agreed materials and equipment to be installed. Installation of all intersection equipment is anticipated to be completed by March 31, 2011. The City of Tacoma and Pierce Transit shall communicate regularly throughout this project regarding equipment installation status, delays or constraints, and opportunities for coordinated work.

3. Initial Installation

Pierce Transit agrees to pay the City to install the TSP equipment summarized in Table 1 and detailed in the final equipment list to be developed by the project managers and approved by the City. The estimated per unit costs are detailed in "Exhibit 1-Signal Priority Equipment," attached hereto and made a part of this Agreement. The City will be compensated for the cost of all actual labor, additional equipment and materials directly related, and other expenses including payroll and material overhead incurred during the installation of the signal priority equipment. The estimated costs and description to complete the installation tasks for the TSP Project are detailed in "Exhibit 2-Signal Priority Equipment Installation", attached hereto and made a part of this Agreement. The maximum compensation for Exhibit 2 tasks of this project is \$297,908 (two hundred ninety seven thousand nine hundred eight dollars). Should the \$297,908 limit be reached, the City will cease installation of Phase II equipment, unless the maximum compensation limit is increased by mutual written agreement between the City and Pierce Transit, mutually executed as an Amendment to this Agreement.

TABLE 1*

Transit Signal Priority Equipment	Quantity
Opticom 721 detectors	108
Opticom M 138 cable (ft)	19,300
Opticom 754N discriminator (one per intersection)	44
Opticom Model 760 Card Rack	18
Traffic Signal Controller "P" Cabinets	32

Traffic Signal System	Quantity
Siemens M52 Traffic Signal Controller	86
TACTICS Central Traffic Signal System	1
Signal System Laptops and Workstations	5
Actelis Ethernet over Copper Communication System	1
Associated equipment training and integration	1

*The final list of equipment is subject to change based on the actual intersection work. The City and Pierce Transit shall coordinate and mutually agree on the exact equipment placed and/or any changes. All equipment to be purchased by Pierce Transit and transferred to the City of Tacoma shall be in accordance with this agreement

4. Routine Maintenance and Operation

Pierce Transit agrees to pay the City an annual fixed fee per intersection as indicated in "Exhibit 3-Signal Priority Routine Maintenance" attached hereto and by this reference made a part of this Agreement for routine maintenance for Phase 1 intersections being maintained for TSP operation. Said fee shall be payable prior to June 30th of each year for the preceding calendar year, and shall be prorated on the actual number of months of operation for that year. The fixed fee may be updated at the discretion of the parties of this Agreement to reflect actual cost review and rate increases. The rate structure, including the effective date may be changed upon signature, by both parties. Any such changes, as confirmed by the parties signature, shall be considered an Amendment to this Agreement and shall be incorporated by reference into this Agreement.

5. Non-Routine Maintenance and Operation

Pierce Transit agrees to pay the City for non-routine maintenance and operational modifications necessary at each location being maintained for TSP operation (excludes equipment being used by Fire Dept. only).

The City will be compensated for the cost of all actual labor, additional equipment and materials directly related to TSP, and other expenses including payroll and material overhead incurred as part of non-routine maintenance of the signal priority equipment. The rates for non-routine maintenance shall be consistent with the description and per unit cost of maintenance identified in "Exhibit 3-Signal Priority Routine Maintenance".

Pierce Transit agrees to make payment to the City of Tacoma, within 30 days of correct invoice, for non-routine maintenance provided by the City and invoiced under the terms of this agreement.

B. RESPONSIBILITY OF THE CITY TO PIERCE TRANSIT

The City will be responsible for the installation of all new traffic signal controllers and Opticom signal priority intersection equipment for the TSP Project, and as needed under this Agreement subject to the conditions contained herein. The City is responsible for all operation and maintenance

of intersection signal control and detection equipment provided under this project.

The City agrees to work with Pierce Transit to support the objectives of TSP identified in this agreement on an ongoing basis. Notwithstanding this agreement, the City reserves the right to change traffic signal and priority settings, at any time, at any or all intersections. The City will prioritize the requirements and needs of high priority signal operations above the needs and requirements of TSP. Final signal priority settings are the responsibility of the City.

If the City makes a determination that it must change the traffic signal settings at one or more of the project intersections, they agree to notify and coordinate with Pierce Transit to the extent possible, consistent with the objectives of this agreement.

The city shall allow access to TSP signalized control data when requested by Pierce Transit.

1. Routine Maintenance and Operation

The City is responsible for all routine maintenance to all intersection control and detection equipment necessary.

Routine maintenance of signal priority equipment typically will consist of cleaning of each Opticom detector lens and verifying/adjusting of detector ranges, on approximately an annual basis. If adjustments to detector equipment are made during routine maintenance, a summary of the adjustments made will be provided to Pierce Transit with the next payment request submitted to Pierce Transit in accordance with this agreement.

2. Non-Routine Maintenance and Operation

The City is responsible for all maintenance to intersection control and detection equipment that may be necessary that falls outside of any routine maintenance. Additionally, the City is responsible for any required coordination or adjustments between the signal priority equipment and the traffic control equipment.

Non-routine maintenance directly related to TSP (such as operational modifications, detector replacement, phase selector replacement, re-establishment of communications link, etc.) shall be billed to Pierce Transit on a time and materials basis as non-routine maintenance in accordance with the description and per unit cost of maintenance consistent with Attachment 3-Signal Priority Routine Maintenance. If adjustments to detector equipment are made during non-routine maintenance, a summary of the adjustments made will be provided to Pierce Transit with the next payment request submitted to Pierce Transit in accordance with this agreement.

The City shall notify Pierce Transit in advance, for prior billing approval, of any non-routine maintenance not requested by Pierce Transit that is deemed necessary by the City. The City will notify Pierce Transit within 10 days following the performance of any non-routine maintenance.

The City will invoice Pierce Transit, on a frequency of not less than monthly periods for any non-routine maintenance that may have occurred. Payment to the City shall be made within 30 days of invoice, in accordance with this agreement.

C. PROJECT ADMINISTRATION

Pierce Transit has designated Peter Stackpole as Project Manager for the project. The City has appointed Chris Larson, of the Public Works Department, Engineering Division as the Project Manager for the City of Tacoma.

Pierce Transit will hire a consultant project manager to carry out project management responsibilities. The project manager will work in close coordination with the City of Tacoma and Sound Transit.

D. MANAGEMENT, INVENTORY and ANNUAL CERTIFICATION

Pierce Transit shall be responsible for the fiscal record keeping for the TSP Project. The fiscal record keeping shall consist of procuring the necessary equipment and, as necessary, transferring ownership of the equipment identified in the final equipment list, summarized in Table 1, to the City. The City acknowledges that equipment is being purchased with federal grant funds. Transfer of ownership of any equipment shall be in accordance with any FTA requirements. The City shall track and inventory all TSP Project equipment provided to the City for installation under this agreement until such time as the equipment is fully transferred to the City and equipment lifecycle requirements for the project have been met. Annually, the City shall certify to Pierce Transit that all equipment purchased and transferred to the City by Pierce Transit:

1. Is installed at the locations agreed
2. Is being used for signal priority purposes in accordance with this agreement
3. Shall remain in use for the full lifecycle of the equipment.

The annual certification shall include a detailed inventory of all equipment installed by location during the year and provide the following information to satisfy FTA requirements:

- Description
- I.D. Number
- Acquisition Date
- Acquisition Cost
- Federal Percentage
- Grant Number
- Location
- Use and Condition
- Disposition Action

- Vested Title

The annual certification shall be submitted by February 1 of the following year and include assurances that a physical inventory was conducted and reconciled with the equipment record and shall contain a description of the City's control system to prevent loss, damage, or theft of property.

As may be requested, the City agrees to allow field inspections to verify work and equipment placement and operations. Pierce Transit agrees to pay any hourly costs incurred to the City for time spent coordinating field inspections.

In all instances, Pierce Transit will be responsible for payment of labor charges determined to be part of the TSP Project within thirty (30) days of the completion of the TSP Project. The specific rates and per unit charge for labor is summarized in Exhibit 2.

Funding for this project is provided, in part, from federal and state sources. The terms and conditions of this Agreement are subject to the adherence to Federal and State funding requirements and continued availability of funding identified for this project. In the event there is a change in funding status, Pierce Transit will promptly provide notice to the City.

E. SUBCONTRACTING

Pierce Transit is responsible for the procurement of and payment for materials and equipment required by the City to complete this Project.

Pierce Transit understands that all labor and installations of signal equipment will be performed by the City. The City is responsible for all installations and any setting, adjusting or programming of intersection signal control equipment.

Pierce Transit is responsible for payment of installation costs for work performed under this agreement consistent with Exhibit 2 – Signal Priority Equipment Installation.

Pierce Transit is responsible for bidding the construction work to pour the concrete pads necessary for controller cabinet placement. Subcontracting costs for this work is provided in Exhibit 4.

No other work or materials for this TSP Project shall be subcontracted without written Amendment to this Agreement.

F. INDEMNIFICATION

Pierce Transit agrees to defend, indemnify and hold harmless the City, its officials, agents and employees from all claims, lawsuits and liabilities of any kind arising by reason of acts or omissions of Pierce Transit, its contractors, agents and employees related to this Agreement and the subject work.

The City agrees to defend, indemnify and hold harmless Pierce Transit, its officials, agents and employees from all claims, lawsuits and liabilities of any kind arising by reason of acts or omissions of the City, its contractors, agents and employees related to this Agreement and the subject work.

G. NON-DISCRIMINATION

The Parties hereto agree that they shall not participate in any discriminatory action against any employee who is paid by funds indicated in this Agreement or against any applicant for such employment because of race, religion, color, sex, marital status, creed, national origin, age, Vietnam era or disabled veterans status, or the presence of any sensory, mental, or physical handicap. This provision shall include, but not be limited to the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training.

H. AGREEMENT MODIFICATIONS

It is mutually agreed and understood that no alteration or variation to the terms of this Agreement shall be valid unless made in writing and signed by the parties hereto, and that any oral understanding or agreements not incorporated herein, shall not be binding.

I. FUTURE INTERSECTION WORK

It is expected that future new intersections may be developed by the City, or major modifications may occur to existing intersections in the identified project corridors. In either case, the City agrees to coordinate with Pierce Transit, consistent with the objectives of this agreement, to plan for TSP improvements for new intersection work. Pierce Transit acknowledges that the City may require a financial commitment by Pierce Transit for TSP related upgrades for new intersections. Any future work shall be mutually agreed upon by both parties.

J. NOTICES

Notices to Pierce Transit: Until such time as Pierce Transit notifies the City in writing otherwise, all notices to Pierce Transit required to be given under the terms of this Agreement, unless otherwise specified herein, or as may be amended, shall be given in writing, addressed as follows:

Peter Stackpole, Senior Planner
3701 96th Street SW
P.O. Box 99070
Tacoma, WA 98499-0070

Notices to the City: Until such time as the City notifies Pierce Transit in writing otherwise, all notices to the City required to be given under the terms of this Agreement, unless otherwise specified herein, or as may be amended, shall be given in writing, addressed as follows:

Chris Larson, Assistant Division Manager, Public Works
Tacoma Municipal Building, Room 520
747 Market Street
Tacoma, WA 98402

K. DURATION

The TSP Project as identified herein (Intersection Signal Priority Installations) will be completed by March 31, 2011. Continuation of the maintenance component of this agreement will be automatically renewed on an annual basis beginning January 1, 2012.

1. Project Completion and Equipment Lifecycle

The actual project completion date for equipment installations required to implement the signal priority system shall be established in writing, subject to the following process, and consistent with this Agreement.

- Written notice provided by the City of Tacoma to Pierce Transit that the signal priority modification equipment installations at all project intersections have been completed and final billing for new intersection equipment installations has been submitted.
- Within 30 days Pierce Transit shall accept written notice provided by the City of Tacoma confirming completion of intersection installation work under this agreement.
- The date of the written acceptance of project completion provided by Pierce Transit to the City of Tacoma shall serve as the beginning date of the three year equipment lifecycle.
- If a disagreement regarding project completion arises, both parties agree to resolve the issue via the Dispute Resolution Process herein.

The process of determining the date of project completion does not change the definition of or the way in which routine and non-routine maintenance tasks will be billed as long as this agreement is in place.

L. TERMINATION OF AGREEMENT

It is intended that the City of Tacoma and Pierce Transit will continue the TSP Project for an extended period of time with the maintenance component of this agreement automatically renewed

on an annual basis beginning January 1, 2012. In the event that the City of Tacoma wishes to terminate this agreement, prior to the end of the equipment life cycle (defined as three years from completion of construction), the City will reimburse Pierce Transit, prorated for the period of time elapsed, for the cost of intersection equipment provided to the City and the cost of installation paid to the City for the project under this agreement. Should a dispute arise concerning the amount of reimbursement, it shall be resolved through the process identified below for dispute resolution.

At such time as the life cycle of the equipment has been reached, notwithstanding any other provision of this Agreement, any party may terminate their interest in this Agreement by providing written notice of such termination, specifying the effective date thereof, at least thirty (30) days prior to such date. At the time of notification by either party, the time period for termination shall commence as long as the termination request is mutually agreed. If the request for termination is not mutually agreed, both parties hereby agree to follow the dispute resolution process stated below. This process is provided to assure the opportunity to continue with the original project objectives provided for in this agreement to the extent practical.

Both parties agree that all costs incurred up to the time of notification of termination of this Agreement, if any, less prior interim payments, shall be paid in full.

M. DISPUTE RESOLUTION PROCESS

The Project Managers shall confer to resolve any disputes. These two individuals shall communicate regularly to discuss the status of tasks and services related to the successful performance of this agreement. In the event of any dispute concerning this agreement, the project managers shall confer to resolve the dispute. These individuals shall use their best efforts and exercise good faith to resolve disputes and issues arising out of, or related to this agreement. In the event the project managers are unable to resolve the dispute, the City of Tacoma Public Works Director and Pierce Transit Vice President of Transportation Services shall confer and exercise good faith to resolve the dispute.

In the event the City's Public Works Director, and the Vice President of Transportation Services of Pierce Transit are unable to resolve the dispute, the Chief Executive Officer of Pierce Transit and the City of Tacoma City Manager shall engage in good faith negotiations to resolve the dispute.

In the event the City Manager and Executive Director are unable to resolve the dispute, the parties may submit the matter to a mutually agreed upon non-binding mediator. The parties shall share equally in the cost of the mediator.

The parties agree that they shall have no right to seek relief in a court of law until each of these procedural steps is exhausted. In the event relief is sought in a court of law, the parties agree to Pierce County Superior Court as the venue for any legal action.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the day and year set forth below their signatures.

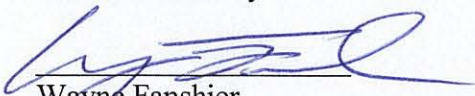
DATED this 28th day of DEC, 2010.

PIERCE TRANSIT

By: 

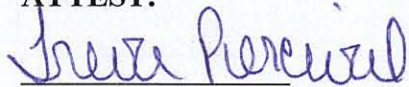
Lynne Griffith, Chief Executive Officer

Recommended by:



Wayne Fanshier,
VP of Finance, Audit & Administration

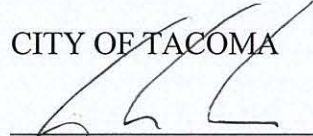
ATTEST:



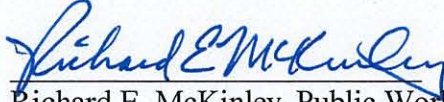
Treva Percival
Clerk of the Board



CITY OF TACOMA



Eric A. Anderson, City Manager



Richard E. McKinley, Public Works Director

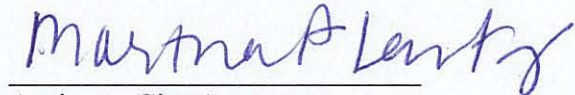


Robert K. Biles, Director of Finance



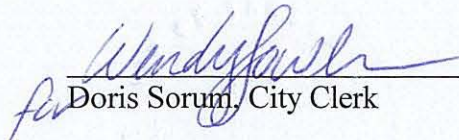
Debbie Dahlstrom, Risk Manager

Approved as To Form and Legality:



Assistant City Attorney

ATTEST:



Doris Sorum, City Clerk

EXHIBIT 1

Signal Priority Equipment

Pierce Transit Signal System Procurement Estimate

<i>Items</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total Cost</i>
Signal System			
Controllers for existing and New P cabinets	86	\$2,792.00	\$240,112.00
D-Cable Adapter for Existing Traconex Ccontrollers	30	\$62.35	\$1,870.50
D-Cable Adapter for Existing Peek Ccontrollers	25	\$151.11	\$3,777.75
Controller training	4	\$2,500.00	\$10,000.00
Central system training	4	\$2,500.00	\$10,000.00
Central System Software License for Entire City	1	\$55,800.00	\$55,800.00
Central system maintenance agreement	1	\$11,000.00	\$11,000.00
Central system hardware and Integration	2	\$15,000.00	\$30,000.00
Provide ten (10) client software licenses. Five shall be installed as noted under 2.5 and 2.6. Two others shall be configured on existing desktops at City Hall workstations.	10	\$3,000.00	\$30,000.00
Workstation and Monitor	1	\$1,703.12	\$1,703.12
IBM Blade Servers	1	\$4,704.00	\$4,704.00
HP Notebook, docking station, Adapter, case	4	\$2,032.98	\$8,131.92
System integration (Install and Configure workstation)	1	\$2,500.00	\$2,500.00
Communication Network			
Communication configuration for the new central system server and field devices	1	\$10,500.00	\$10,500.00
Actelis ML684 Ethernet over Copper Communication devices	61	\$1,706.58	\$104,101.38
Actelis ML698 Ethernet over Copper Communication devices	21	\$2,097.00	\$44,037.00
Actelis ML688 Ethernet over Copper Communication devices	8	\$2,364.47	\$18,915.76
QUAD Cable DSL 4XRJ45	111	\$50.00	\$5,550.00
Power and Ground Harness	90	\$30.39	\$2,735.10
EMS Node License for ML130/ML698 PTMP Configuration	8	\$562.50	\$4,500.00

<i>Items</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total Cost</i>
EMS Node License for PTP Configuration	82	\$125.00	\$10,250.00
Portserver 2 DIGI TS 16 port rack mt serial (RJ45) to ethernet server	1	\$1,596.00	\$1,596.00
Power supply DIGI portserver TSH1/2/8 120/240 VAC	1	\$18.75	\$18.75
Category 6 Ethernet Cables as needed for installing all the Actelis equipment and connecting to local controllers and the City WAN switch.	1	\$606.00	\$606.00
Signal System Procurement Subtotal			\$612,409.28

Pierce Transit Construction Material Cost Estimate

<i>Items</i>	<i>Quantity</i>	<i>Materials Cost/Unit</i>	<i>Total Material</i>
Transit Signal Priority Installation			
Opticom 721 detectors	108	\$456.50	\$49,302.00
Opticom M 138 cable	19300	\$0.41	\$7,913.00
Opticom 754N discriminator (one per intersection)	44	\$2,934.75	\$129,129.00
Opticom standard clamp for Span Wire	106	\$22.00	\$2,332.00
Opticom Model 760 Card Rack	18	\$168.00	\$3,024.00
Transit Signal Priority Installation Subtotal			\$191,700.00
Cabinet Upgrades			
"P" Controller Cabinet (one spare) (McCain or Western Systems)	32	\$10,893.93	\$348,605.76
Spare Malfunction Monitoring Unit (MMU)	2	\$1,000.00	\$2,000.00
Cabinet Upgrade Subtotal			\$350,605.76
Video Detection			
Traficon VIEWCOM /E-MAX s video compression module	2	\$2,143.00	\$4,286.00
Router			
Cisco Router (Cisco ASA 5505 Firewall Edition Bundle - Security appliance - 0 / 1 - 8 ports - Unlimited-User Security Plus License - Ethernet, Fast Ethernet - external)	1	\$1,275.39	\$1,275.39

<i>Items</i>	<i>Quantity</i>	<i>Materials Cost/Unit</i>	<i>Total Material</i>
Cisco SMARTnet - Extended service agreement - replacement (for appliance with 10 users license) - 1 year	1	\$55.38	\$55.38
Router Subtotal			\$1,330.77
TSP, Cabinet and Communications Construction Total			\$547,922.53
Contingency (15%)			\$82,188.38
Total Pierce Transit Cost			\$630,110.91

Exhibit 2

Signal Priority Equipment Installation

City Cost Estimate (Labor)

<i>Items</i>	<i>Quantity</i>	<i>Unit Labor Cost</i>	<i>Total Labor Cost</i>
Transit Signal Priority Installation			
Opticom detectors	108	\$200.00	\$21,600.00
Opticom cable	44	\$1,700.00	\$74,800.00
Opticom discriminator (one per intersection)	44	\$200.00	\$8,800.00
Transit Signal Priority Installation Subtotal			\$105,200.00
Controller Cabinet Upgrades			
Cabinet pad over pour Inspection	30	\$320.00	\$9,600.00
Type P Controller cabinet installation (Replacement and rewiring)	31	\$2,700.00	\$83,700.00
Controller Cabinet Upgrades Subtotal			\$93,300.00
Communications Upgrades			
20' of 2" GRS Conduit Underground (Material and Install)	20	\$40.00	\$800.00
2" GRS Conduit Rise (Material and Install).	2	\$1,500.00	\$3,000.00
Copper Cable (6 PR SIC)	4900	\$4.50	\$22,050.00
Communications Upgrades Subtotal			\$25,850.00
Signal System Installation			
Controllers installation into Existing P cabinets	55	\$300.00	\$16,500.00
Ethernet over copper Device Installation	86	\$200.00	\$17,200.00
System Integration	1	\$1,000.00	\$1,000.00
Signal System Subtotal			\$34,700.00
City Cost Subtotal			\$259,050.00
Contingency (15%)			\$38,857.50
City Cost Total			\$297,907.50

Exhibit 3

Signal Priority Routine Maintenance

<i>Description</i>	<i>Units</i>	<i>Estimated Annual Quantity</i>	<i>Unit Price</i>	<i>Amount</i>	<i>Totals</i>
Truck #1	Hours	0.5	\$39.00	\$19.50	
Truck #2	Hours	0.5	\$8.00	\$4.00	
Equipment Subtotal					\$23.50
Senior Electrician Hours	Hours	0.25	\$73.14	\$18.29	
Signal Technician	Hours	0.5	\$64.06	\$32.03	
Electrician	Hours	0.5	\$64.06	\$32.03	
Labor Subtotal					\$82.35
Labor Overhead		\$82.35	29.00%		\$23.88
Cost per Intersection					\$129.73
Total Annual Cost	Intersections	86	\$129.73		\$11,156.35

Exhibit 4

Contractor Cost

Contractor Cost Estimate

<i>Items</i>	<i>Quantity</i>	<i>Unit Cost</i>	<i>Total Cost</i>
Junction Box and Controller Cabinet Foundations	1	\$58,900.00	\$58,900.00
Traffic Control	1	\$14,000.00	\$14,000.00
Force Account	1	\$14,000.00	\$14,000.00
			\$86,900.00
Design Contingency		10%	\$8,690.00
Total Contractor Cost			\$95,590.00
Construction Contingency		10%	\$9,559.00
Total Cost			\$105,149.00

Assumptions

1. Contractors will do the cabinet foundation overpour only. City will do the cabinet placement and rewiring.
2. Contractor will purchase materials for cabinet foundation installation and sidewalk restoration.