AGREEMENT FOR PROFESSIONAL, TECHNICAL, OR EXPERT SERVICES
Contract No._____

This contract is between the City of Portland, acting by and through its Elected Officials, hereafter called "City," and KnowledgeTech Solutions Inc. hereafter called Contractor. The City's Project Director for this contract is Eileen Argentina, IT Division Manager, Portland Office of Transportation.

Effective Date and Duration
This contract shall become effective on the date at which every party has signed this contract and the City Attorney has approved it as to form. This contract shall expire, unless otherwise terminated or extended, on December 30, 2003.

Statement of Work
(a)   The statement of work is contained in EXHIBIT A attached hereto and by this reference made a part hereof.
(b)   The delivery schedule for the work is identified in EXHIBIT A.

Consideration
(a)   City agrees to pay Contractor a sum not to exceed $1,400,000 for accomplishment of the work, including any allowable expenses.
(b)   Interim payments shall be made to Contractor according to the schedule identified in EXHIBIT A.
                        Terms and conditions listed on pages 2 – 4.

CONTRACTOR DATA, CERTIFICATION, AND SIGNATURE
Name:__KnowledgeTech Solutions, Inc._____
Address: 601 West Broadway, Suite 400, Vancouver, British Columbia, Canada V5Z 4_____
Social Security #: _____
Federal Tax ID #: _____State Tax ID #: _____ Business License # _____
Citizenship: Nonresident alien ____ Yes   ____ No
Business Designation (check one):   ____ Individual ____ Sole Proprietorship ____ Partnership ____ Estate/Trust
____ Corporation ____ Public Service Corp.   ____ Government/Nonprofit

Payment information will be reported to the IRS under the name and taxpayer I.D. number provided above. Information must be provided prior to contract approval. Information not matching IRS records could subject you to 20 percent backup withholding.

I, the undersigned, agree to perform work outlined in this contract in accordance to the terms and conditions (listed on pages 2-4 and made part of this contract by reference) and the statement of work made part of this contract by reference; hereby certify under penalty of perjury that I/my business am not/is not in violation of any Oregon tax laws; hereby certify that my business is certified as an Employment Opportunity Affirmative Action Employer as prescribed by Chapter 3.100 of Code of the City of Portland; and hereby certify I am an independent contractor as defined in ORS 670.600.

Approved by the Contractor: _____
                                     Signature/Title   Date

                                     CITY OF PORTLAND SIGNATURES
Approved by Mayor or Commissioner: _____

                                     Elected Official or Delegate   Date

Approved by Bureau Director: _____

                                     Bureau Director   Date

Approved by City Auditor: _____

                                     City Auditor   Date
Approved as to form
by City Attorney: _____

                                     Office of City Attorney   Date

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CITY OF PORTLAND
STANDARD CONTRACT PROVISIONS FOR
PROFESSIONAL, TECHNICAL & EXPERT SERVICES (MANDATORY PROVISIONS)

1.   Access to Records
The Contractor shall maintain, and the City of Portland ("City") and its duly authorized representatives shall have access to the books, documents, papers, and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts, and transcripts for a period of three years after final payment. Copies of applicable records shall be made available upon request. Payment for cost of copies is reimbursable by the City.

2.   Audits
(a) The City, either directly or through a designated representative, may conduct financial and performance audits of the billings and services specified in this agreement at any time in the course of the agreement and during the three (3) year period established by section 1, **Access to Records**. Audits will be conducted in accordance with generally accepted auditing standards as promulgated in Government Auditing Standards by the Comptroller General of the United States General Accounting Office.
(b) If an audit discloses that payments to the Contractor were in excess of the amount to which the Contractor was entitled, then the Contractor shall repay the amount of the excess to the City.
(c) If any audit shows performance of services is not efficient in accordance with Government Auditing Standards, or that the program is not effective in accordance with Government Auditing Standards, the City may pursue remedies provided under section 5, **Early Termination of Agreement** and section 7, **Remedies**.

3.   Effective Date and Duration
The passage of the contract expiration date shall not extinguish, prejudice, or limit either party's right to enforce this contract with respect to any default or defect in performance that has not been cured.

4.   Funds
The City certifies that sufficient funds are available and authorized for expenditure to finance the cost of this contract.

5.   Early Termination of Agreement
(a) The City and the Contractor, by mutual written agreement, may terminate this Agreement at any time.
(b) The City, on thirty (30) days written notice to the Contractor, may terminate this Agreement for any reason deemed appropriate in its sole discretion.
(c) Either the City or the Contractor may terminate this Agreement in the event of a breach of the Agreement by the other. Prior to such termination, however, the party seeking the termination shall give to the other party written notice of the breach and of the party's intent to terminate. If the party has not entirely cured the breach within fifteen (15) days of the notice, or upon an additional 15-day extension granted by the party intending to terminate if the other party is acting with due diligence to remedy any prospective default, then the party giving the notice may terminate the Agreement at any time thereafter by giving a written notice of termination.

6.   Payment on Early Termination
(a) In the event of termination under subsection 5(a))**Early Termination of Agreement** hereof, the City shall pay the Contractor for work performed in accordance with the Agreement prior to the termination date.
(a.1) In the event of termination under subsection 5(b), **Early Termination of Agreement** hereof, then the City shall pay the Contractor for work performed in accordance with the Agreement prior to the termination date, plus an amount agreed to by the parties in recognition of project-related costs incurred by Contractor but not yet billed for, such agreement by the City to not be reasonably withheld.
(b) In the event of termination under subsection 5(c), **Early Termination of Agreement** hereof, by the Contractor due to a breach by the City, then the City shall pay the Contractor for work performed in accordance with the Agreement prior to the termination date, plus an amount agreed to by the parties in recognition of project-related costs incurred by Contractor but not yet billed for, such agreement by the City to not be reasonably withheld.
(c) In the event of termination under subsection 5(c), **Early Termination of Agreement** hereof, by the City due to a breach by the Contractor, then the City shall pay the Contractor for work performed in accordance with the Agreement prior to the termination date. plus additional commercially reasonable compensation to be negotiated in good faith between the parties, subject to set off of excess costs, as provided for in section 7(a), **Remedies**.

7. Remedies

(a) In the event of termination under subsection 5(c), Early Termination of Agreement, hereof, by the City due to a breach by the Contractor, then the City may complete the work either itself, by agreement with another contractor or by a combination thereof. In the event the cost of completing the work exceeds the remaining unpaid balance of the total compensation provided under this contract, then the Contractor shall pay to the City the amount of the reasonable excess, or as negotiated by the parties.

(b) The remedies provided to the City under section 5, **Early Termination of Agreement** and section 7, **Remedies** for a breach by the Contractor shall not be exclusive. The City also shall be entitled to any other equitable and legal remedies that are available.

(c) In the event of breach of this Agreement by the City, then the Contractor's remedy shall be limited to termination of the Agreement and receipt of payment as provided in section 5(c), **Early Termination of Agreement** and section 6(b), **Payment on Early Termination** hereof.

8. Subcontracts and Assignment

Where the Contractor assigns or transfers any of the work scheduled under this agreement, the Contractor shall remain obligated for full performance hereunder, and the City shall incur no obligation other than its obligations to the Contractor hereunder. The Contractor agrees that if subcontractors are employed in the performance of this Agreement, the Contractor and its subcontractors are subject to the requirements and sanctions of ORS Chapter 656, Workers' Compensation.

9. Compliance with Applicable Law

In connection with its activities under this Agreement, Contractor shall comply with all applicable federal, state and local laws and regulations. Contractor shall complete Exhibit B, Independent Contractor/Workers' Compensation Insurance Questionnaire, which is attached hereto and by this reference made a part hereof.

9a. Indemnity - Claims for Other than Professional Liability

Contractor shall defend, save, and hold harmless the City of Portland, its officers, agents, and employees, from all claims, suits, or actions of whatsoever nature, including intentional acts, resulting from or arising out of the activities of Contractor or its subcontractors, agents or employees under this agreement.

9b. Indemnity - Claims for Professional Liability

Contractor shall defend, save, and hold harmless the City of Portland, its officers, agents, and employees, from all claims, suits, or actions arising out of the professional negligent acts, errors or omissions of Contractor or its subcontractors and subconsultants, agents or employees in performance of professional services under this agreement.

9c. Indemnity - Standard of Care

If Contractor's services involve engineering or consulting, the standard of care applicable to Contractor's service will be the degree of skill and diligence normally employed by professional engineers or consultants performing the same or similar services at the time such services are performed. Contractor will reperform any services not meeting this standard without additional compensation.

10. Insurance

Exhibit C is hereby referenced and made a part of this contract.

11. Ownership of Intellectual Property

City and the Contractor agree that:

(a) Any deliverable as defined in Exhibit A, completed as part of this agreement, shall be the property of City;

(b) All work in progress and work output during the term of this agreement, all writings, drawings, designs, inventions, research, discoveries, developments, improvements and all other ideas and materials which during the term of this agreement the Contractor, either alone or with others, may prepare, draw, design, develop, invent, devise, make, produce, author, create or conceive of in connection with or during the term of this agreement and all rights and interests therein and thereto including without limitation copyrights, goodwill and rights to acquire patents, design patents, trademarks or industrial design (collectively the "Intellectual Property") shall be the property of the Contractor -if the Contractor grants to the City a non-exclusive, fully paid up license to any Intellectual Property used in completion of this contract provided that the City shall not have the right to sublicense or distribute the Intellectual Property or any part thereof to any third party.

12. Nondiscrimination

Contractor agrees to comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules, and regulations. Contractor also shall comply with the Americans With Disabilities Act of 1990 (Pub I. No. 101-336) including Title II of that Act, ORS 659.425, and all regulations and administrative rules established pursuant to those laws.

13. Successors in Interest

The provisions of this contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective successors and approved assigns.

14. Severability

The parties agree that if any term or provision of this contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular term or provision held to be invalid.

15. Waiver

The failure of the City to enforce any provision of this contract shall not constitute a waiver by the City of that or any other provision.

16. Errors

The Contractor shall perform such additional work as may be necessary to correct errors in the work required under this contract without undue delays and without additional cost.

17. Governing Law

The provisions of this contract shall be construed in accordance with the provisions of the laws of the State of Oregon. Any action or suits involving any question arising under this contract must be brought in the appropriate court in Multnomah County, Oregon.

18. Amendments

The City and the Contractor may amend this Agreement at any time only by written amendment executed by the City and the Contractor. Any amendment that increases the amount of compensation payable to the Contractor must be approved by ordinance of the City Council. The Project Director may agree to and execute any other amendment on behalf of the City.

19. Business License

The Contractor shall obtain a City of Portland business license as required by PCC 7.02.030 prior to beginning work under this Agreement. The Contractor shall provide a business license number in the space provided on page one of this Agreement.

20. Prohibited Interest

(a) No City officer or employee during his or her tenure or for one year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

(b) No City officer or employee who participated in the award of this Agreement shall be employed by the Contractor during the period of the Agreement.

21. Payment to Vendors and Subcontractors

The Contractor shall timely pay all suppliers, lessors and contractors providing it services, materials or equipment for carrying out its obligations under this Agreement. The Contractor shall not take or fail to take any action in a manner that causes the City or any materials that the Contractor provides hereunder to be subject to any claim or lien of any person without the City's prior written consent.

Merger Clause

THIS CONTRACT AND ATTACHED EXHIBITS CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES. NO WAIVER, CONSENT, MODIFICATION, OR CHANGE OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY BOTH PARTIES. SUCH WAIVER, CONSENT, MODIFICATION, OR CHANGE IF MADE, SHALL BE EFFECTIVE ONLY IN SPECIFIC INSTANCES AND FOR THE SPECIFIC PURPOSE GIVEN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT

SPECIFIED HEREIN REGARDING THIS CONTRACT. CONTRACTOR, BY THE SIGNATURE OF ITS AUTHORIZED REPRESENTATIVE, HEREBY ACKNOWLEDGES THAT HE OR SHE HAS READ THIS CONTRACT, UNDERSTANDS IT AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.

22. Arbitration: / _X_ / Applicable / _ / Not Applicable

(a) Any dispute arising out of or in connection with this Agreement, which is not settled by mutual agreement of the Contractor and the City within sixty (60) days of notification in writing by either party, shall be submitted to an arbitrator mutually agreed upon by the parties. In the event the parties cannot agree on the arbitrator, then the arbitrator shall be appointed by the Presiding Judge (Civil) of the Circuit Court of the State of Oregon for the County of Multnomah. The arbitrator shall be selected within thirty (30) days from the expiration of the sixty (60) day period following notification of the dispute. The arbitration, and any litigation arising out of or in connection with this Agreement, shall be conducted in Portland, Oregon, shall be governed by the laws of the State of Oregon, and shall be as speedy as reasonably possible. The applicable arbitration rules for the Multnomah County courts shall apply unless the parties agree in writing to other rules. The arbitrator shall render a decision within forty-five (45) days of the first meeting with the Contractor and the City. Insofar as the Contractor and the City legally may do so, they agree to be bound by the decision of the arbitrator.

(b) Notwithstanding any dispute under this Agreement, whether before or during arbitration, the Contractor shall continue to perform its work pending resolution of a dispute, and the City shall make payments as required by the Agreement for undisputed portions of work.

23. Progress Reports: / _X_/ Applicable /__/ Not Applicable

The Contractor shall provide monthly progress reports to the Project Director and the PDOT Directors Team, as identified in Exhibit A.

24. Limitation of Liability

Except for City's misappropriation or violation of Contractor's intellectual or proprietary rights and as otherwise provided in this agreement, neither party shall be liable for any indirect, incidental, special, punitive or consequential damages, however arising, even if either party has been advised of the possibility of such damages.

25. Confidentiality

City agrees that:

(a) Proprietary Information (hereinafter defined) shall for all purposes at all times both during and after the term of this agreement be confidential and the property of the Contractor exclusively;

(b) Save as hereinafter provided, the City shall not, either during or after the end of the term of this Agreement, disclose to any corporation, firm or person other than the Contractor and its directors and officers or as otherwise authorized by the Contractor, any Proprietary Information or other information with respect to this Agreement or the relationship between the Contractor and the City.

(c) In this agreement "Proprietary Information" means information, knowledge and material related to the designs, know-how, goodwill, intellectual property rights, trade secrets or property of the Contractor or the proposed or actual customers, suppliers or transactions of the Contractor or to products, services, systems, programs, designs, inventions, research, discoveries, developments, strategies, methods or ideas which have been or are being developed or utilized or marketed by the Contractor or in which the Contractor is or may become interested, to the extent same are not in the public domain and have not been disclosed by the Contractor to the public.

(d) Notwithstanding the foregoing, the parties understand that third persons may claim that the proprietary information delivered to the City under this agreement may be, by virtue of its possession by the City, a public record and subject to disclosure pursuant to ORS 192.410 – 192.505. The parties agree that in the event such a claim is made, City will immediately notify Contractor, and Contractor will, at its cost, defend and hold harmless the City and its officers and employees from any such claim. City, in consideration thereof, will not disclose any such proprietary information in response to any such claim until a final unappealable order from a court or agency having authority to issue such order shall have been issued, and any such disclosure shall be the minimum necessary to comply with such order. City will cooperate in the defense of any such claim. Except as described above, City shall be liable to Contractor for any intentional disclosure, in whole or part, of proprietary information provided to it by Contractor hereunder.

26. Force Majeure

5 – Attachment A   (Rev. 7/98)

Notwithstanding anything else in this Agreement, if either of City or the Contractor are prevented from fulfilling their respective obligations hereunder by any cause beyond their reasonable control and without their fault or negligence, including, without limitation, labor disputes, accidents, fires, disruption of transportation or communication services, acts of God, government actions, natural causes, war or other such causes, then neither shall be liable to the other in damages or costs for any failure to perform their obligations hereunder, and the time of performance required for any such obligation shall be extended by a time equal to the duration of the delay or restriction.

27.   Scope of Contractor Services

(a) The Contractor shall provide services specifically to the City of Portland, Office of Transportation (PDOT), Information Technology Division. The specific scope of work, responsibilities, deliverables, and payment schedules are attached as Exhibit A.

(b) The Contractor shall assign Mark Damm, Partner, KTS, in the capacity as IMS Implementation Project Manager to perform the stated work. In addition, the Contractor will assign the following key people:

The Contractor shall not change these personnel assignments without prior written notice to the City's Project Director. The City retains the right to approve any proposed personnel substitution, whose consent shall not be unreasonably withheld.

28.   Scope of City Services

(a) To assist the Contractor in carrying out its obligations hereunder, the City shall make available City-owned equipment and software licenses to be used by the Contractor on City premises.

(b) To support Contractor's personnel, in addition to any particular items which may be specified in Exhibit A, City shall supply on-site the Contractor personnel with suitable office space, desks, storage, furniture and other normal office equipment support, including local and a reasonable amount of long distance telephone service, postage, copying, typing and general office supplies which may be necessary in connection with the Contractor's performance of the services defined in this contract. The Project Director will review bills, as necessary, to determine reasonableness.

(c) City shall make all decisions regarding issues presented for its consideration within a reasonable period (but generally no later than thirty (30) business days) following the Contractor's request for the same.

(d) City shall accept deliverables which conform to the deliverables defined in Exhibit A therefor in a timely fashion.

(e) City shall provide personnel resources to the project team, per the tasks included in Exhibit A. The Project Director may substitute personnel as necessary.

(f) City shall procure, install, and test to ensure the production readiness for the equipment as set out in this Agreement by providing a production operating environment.

29.   Fees, Billing and Payment Procedures

(a) The total amount available for payment of fees of services shall not exceed $1,400,000.

(b) On or before the 15th day of each month, the Contractor shall submit to the City a bill for work performed by the Contractor during the preceding month. The bill shall set out, by person, the hours worked and the rate per hour. Within thirty (30) days after receipt of the bill, provided the Project Director has certified the payment as due, the City shall pay the amount certified to the Contractor. The Project Director s certification of a payment as due shall not prevent the Project Director from later determining that the certification was in error.

(c) PDOT may request that the Contractor provide services outside the scope of work in connection with this agreement as PDOT may reasonably deem necessary for PDOT's operations. Unless otherwise provided, any amendment that increases the amount of compensation payable to the Contractor, over an amount equal or greater than 15% above the total contract amount must be approved by ordinance of the City Council. Any amount over the original contract amount, up to 15%, must be approved, in writing, by the Bureau Director.

30.   YEAR 2000 Compliance

(a) All hardware and software delivered under this Contract shall, individually and in combination, correctly process, sequence, and calculate all date and date-related data for all dates prior to, through and after January 1, 2000. Any software products delivered under this Contract that process date, and date-related data shall recognize, store and transmit date and date-related data in a format which explicitly and unambiguously specifies the correct century. Any consulting and/or computer-related services covered by this contract shall be performed by Contractor's employees, agents or subcontractors having full knowledge of Year 2000 transition requirements for all products for which they are providing service.

(b) In the event Contractor, its employees, agents or subcontractors learns or has reason to believe that City's computer hardware or software environment fails to use a date format that explicitly specifies century in any date data, Contractor shall promptly advise City of such failure. Failure to comply with the provisions of these paragraphs shall constitute a default of this contract.

31. Notice

Any notice provided for under this Agreement shall be sufficient if in writing and delivered personally to the following addressee or deposited in the United States Mail, postage prepaid, certified mail, return receipt requested, addressed as follows, or to such other address as the receiving party hereafter shall specify in writing:

If to the City:	Eileen Argentina, Project Director and Contract Manager City of Portland Office of Transportation 1120 SW 5th Ave., Room 802 Portland, Oregon 97204
If to the Contractor:	KnowledgeTech Solutions Inc. 400 - 601 W Broadway Vancouver, B.C. V5Z 4C2 and Pat Haberl Owen-Bird 29th Floor Three Bentall Centre 595 Burrard Street PO Box 49130 Vancouver, BC V7X 1J5

KnowledgeTech
Solutions Inc.

City of Portland – Office of Transportation

Infrastructure Management System

Exhibit A: Scope of Work, Responsibilities, Deliverables and Payment Schedules

Prepared By:	KnowledgeTech Solutions Inc.
Date:	December 7, 1999
Version:	Final 1.1
Last Revision:	December 21, 1999

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Table of Contents

City of Portland – Office of Transportation

Exhibit A: Infrastructure Management System – Scope of Work, Responsibilities, Deliverables and Payment Schedules

Introduction

The City of Portland's Office of Transportation (PDOT) has initiated the implementation of the Infrastructure Management System (IMS) as defined in the Implementation Strategy and Plan developed co-operatively with KnowledgeTech Consulting Inc. throughout 1999. This document defines the terms of reference pertaining to KnowledgeTech Solutions Inc. scope of work for managing and supporting the IMS implementation. As defined in the IMS Implementation Strategy and Plan, the overall implementation has been divided into three inter-related projects. The primary focus of these terms of reference is Project 1, the Maximo Implementation Project.

Goals and Objectives

As identified in the IMS Implementation Strategy and Plan, the overall program goals and objectives are to:

- Avoid cost through means such as automating currently manual activities thus enhancing productivity, improving coordination of maintenance activities, focusing on more effective planned maintenance rather than emergency work and providing more supporting information therefore minimizing the City's exposure to future liabilities;

- Improve service delivery by improving response time and efficiency for handling citizens' concerns; and

- Improve PDOT's ability to make decisions regarding optimal strategies for facility repair and replacement.

In addition, the Maximo Implementation Project should:

- Provide quick payback to PDOT; and

- Facilitate the change of processes where appropriate.

Specifically, the goals and objectives for each phase of the Maximo Implementation project are to:

Work Management and MMS Replacement

- Design and implement new PDOT-wide processes for managing service and asset performance;

- Replace the legacy MMS;

- Automate the tracking and management of inventory;

- Implement an improved work order cost tracking mechanism that incorporate effective labor, equipment, materials and purchase processing;

- Provide timely information related to the operational activities and their relative unit costs;

- Load the initial set of infrastructure inventory for street signs;

- Integrate Maximo with the City's current financial system specifically for the General Ledger, Procurement (purchasing and accounts payable) and the Human Resources and Payroll system;

- Integrate Maximo with a valid street names system and the signs library systems; and

- Configure Maximo for inspection tracking, easy address look-up and single batch entry of transactions.

Infrastructure Asset Roll-out and GIS Integration

- Configure Maximo for inspection tracking, easy address look-up and simple batch entry of transactions.

Infrastructure Asset Roll-out and GIS Integration

- Implement new processes and associated software for providing external customer service;

- Implement new processes and associated software for budgeting operations and maintenance work;

- Implement processes for maintaining the integrity of infrastructure asset data throughout PDOT's various divisions and systems;

- Load the available infrastructure inventory for structures, street systems, traffic maintenance, street lights and traffic signals;

- Integrate Maximo with the Corporate GIS hub;

- Ensure that, at a minimum, existing interfaces between the current MMS and other PDOT applications will be implemented. In addition, expand the integration of Maximo with other applications only where benefits have been proven to PDOT.

Capital Program Management and Mobile Access

- Implement new processes and associated software for managing the capital program planning and budgeting process;

- Implement new processes and associated software for managing major projects;

- Expand the integration of Maximo to other PDOT systems as defined in the Technical Implementation section; and

- Implement the use of mobile technology in the field.

Project, Deliverable and Service Definition

The following section defines the services and deliverables to be provided by KnowledgeTech during the course of the IMS Maximo Implementation Project. The deliverables identified will be prepared by the project team which is composed of both PDOT staff and KnowledgeTech staff. KTS will work closely with PDOT personnel and specifically the PDOT Project Director to ensure to the best of their ability that the delivery of all stated products and outcomes from this project are as defined in the project plan. This section is divided into the following sections:

1. Overall Assumptions – these assumptions apply to all areas of the project.

2. Project/Change Management and Architecture Services – this section describes the common services, responsibilities and costs associated with the Maximo Implementation project.

3. Business Implementation Definition – this section describes the services provided by KnowledgeTech and the scope of work associated with the implementation of Maximo in the business areas.

4. Technical Implementation Definition – this section describes the services provided by KnowledgeTech and the scope of work associated with the implementation of Maximo interfaces and development of new functionality.

Overall Assumptions

The following overall assumptions have been made to meet the cost and schedules:

1. PDOT will provide at least 3 full time business analysts and the equivalent of at least 2 full time technical resources knowledgeable of PDOT's business and technical environments described in the Infrastructure Management System Implementation Strategy and Plan.

2. A project office for all on-site project team members will be available as of February 1, 2000.

3. Appropriate meeting facilities will be provided to conduct all process definition workshops.

4. Appropriate PDOT staff will be available to attend and participate in meetings as required by the project members. The project team will attempt to give one week notice for all meetings of a duration anticipated to be 3 hours or less and two weeks notice for all meetings and workshops greater than 3 hours.

5. Appropriate servers, network components and workstations will be configured for a development, test and training environment of Maximo by February 15, 2000. The project technical team that is comprised of both PDOT and KTS staff will be responsible for this activity.

6. Appropriate servers, network components and workstations will be configured for a production environment by March 30, 2000. As above, the project technical team will be the key resource group involved in the completion of this task.

Project/Change Management & Architecture Definition

Scope of Work

Table 1 – Project/Change Management & Architecture Deliverables

Number		Deliverable	Description	Work Mgmt. & MMS Replacement	Infrastructure Load & GIS Integration	Capital Program & Mobile Computing
				Percentage of Time & Cost		
PM-1	Project Communications	• See Communications Plans	• The communications plan describes the type and frequency of communication between the various project stakeholders. These communications will be delivered as part of the project. • PDOT will provide an appropriate media for electronic communications use as an internal Intranet site. PDOT staff and project team staff will meet as required by the KTS Project Manager or designate.	19% ($32,500)	14% ($9,000)	18% ($10,000)
PM-2	Project Direction	• Project Progress Reports • Invoices	• KTS will provide overall project direction services. This includes coordinating team task lists and schedules and assigning work to project team members as required. The KTS Project Manager will work with the PDOT Project Director to ensure appropriate assignment of PDOT staff throughout the project.	37% ($59,500)	32% ($21,000)	32% ($18,000)
PM-3	Budget/Schedule	• Project Progress Reports • Invoices	• The KTS Project Manager will manage the overall project budget and schedule. The PDOT Project Director will approve all purchases. • The PDOT Project Director and the KTS Project Manager will jointly develop a budget and schedule progress reporting mechanism to be used throughout the project.	11% ($17,000)	11% ($7,000)	11% ($6,000)
PM-4	Change Management	• Organizational Assessment Documents • Job Description Reviews	• During the project, a number of activities will be managed that are associated with managing change. These activities include conducting organizational assessments where required, evaluating current job descriptions for new roles defined by the system and working with PDOT management to communicate and coordinate the change effort.	11% ($17,000)	11% ($7,000)	11% ($6,000)
PM-5	Application Architecture	• Application Map • Interface Diagrams	• Maximo is part of an overall IMS architecture. This deliverable will be composed of a set of diagrams which define the overall interfaces and application modules as designed and implemented as part of the Maximo Implementation Project.	16% ($25,500)	27% ($17,500)	22% ($12,000)
PM-6	Technical Architecture	• Technical Diagrams	• This deliverable will be composed of a set of diagrams and documents which define the overall technical architecture for operating Maximo. It will address server, network and workstation logical and physical architecture.	5% ($8,500)	5% ($3,500)	5% ($3,000)
			TOTAL COST	$160,000	$65,000	$55,000

Assumptions

1. Project/Change Management services and architecture services are only for activities directly related to the Maximo Implementation project. Additional work can be done as part of the out of project scope identified in the payment schedule section.

2. PDOT's Project Director and KTS' Project Manager will jointly define a change order process at the beginning of the project to deal with all out of scope work or to change the scope and priorities of work.

3. KTS' Project Manager has overall accountability to PDOT's Project Director to meet all agreed to project schedules and budgets based on the defined resource availabilities.

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Communications Plan

Table 2 – Project Communications Plan

Audience & Communication Method	Frequency	Lead	Method of Delivery	Topics
Bureau Staff and Division Mgmt.				
• Newsletters	Every 2 months	Project Manager to coordinate input from Core Team Leads and team members	Fax, email, inter-office mail	Project activities, milestones attained, upcoming activities, background info (e.g. approach, benefits), focus topics, message from executive sponsors (Directors Team)
• Updates on internal web site	Every 2 months	Project Manager	PDOT Intranet site	Focus on topics of interest (e.g. benefits of system, proposed technical architecture, information on Maximo)
• Open forums or "town halls" and other upward feedback mechanisms	Approximately quarterly forums	PDOT Project Director	Message to be delivered in a meeting by a PDOT employee (e.g. Director) General email address, Q&A sessions	Current and future impacts of system to operation, motivational topics, Q&A
• Internal memos from executive sponsors	As required	PDOT Project Director	Memo to all employees	Achievements, what's to come, statement of executive sponsorship and support
PDOT Directors Team (Executive Sponsors)				
• Directors Team Meeting	Monthly or as required	PDOT Project Director Project Manager	Presentation at meeting	Key decision points raised from project team and Stakeholders Group, budget items, issues for Directors Team resolution, risks, project schedule
• Status Reports	Monthly	Project Manager	Email to Directors prior to meeting	Project team, union and Stakeholders Group meeting minutes, project status reports, issues list
Stakeholders Group ("SG")				
• SG Meeting	Quarterly or as required	Project Manager	Meeting, minutes & project background/information materials	Key policy items, project performance, issues, results from key activities, status, decision points raised from project team, risks, project schedule
IT Coordinating Committee ("ITCC")				
• ITCC Meeting	Quarterly or as required	PDOT Project Director	Meeting, minutes & project background/information materials	Recent technical decisions, discussion of emerging technical issues, project status updates, etc.
Union				
• Union Meetings	As required	PDOT Project Director, Union Reps, HR	Meeting, Minutes and articles in Union newsletters	Specific organizational issues and policies which may impact union staff, project activities, schedule, Q&A
Project Team				
• Core Team Meetings & Status Reports	Bi-weekly	Project Manager, Team Leads	Meeting and written status reports for Directors and SG	Issues or decisions to be handled by the Core Team, SG or need to be expedited to the Directors, risks, status, delays, resource concerns, Overall project work in progress, performance against schedule, next steps, issues and concerns
• Working Team Status Report	At Completion of Deliverables	Team Leads	Written status reports delivered to Core Team prior to Core Team Meeting	Work in progress, performance against schedule, next steps, issues and concerns
Other Bureaus/Departments (e.g. BES, Water, BIT & CGIS)				
• Meetings	As necessary	PDOT Project Director Project Manager	Meeting	Impact of Maximo Implementation on other bureaus/depts., required involvement, schedule of activities, approach, plan, obtain relevant information from the other bureaus/depts.

Business Implementation Definition

The Business Implementation component of the project will focus on the direct end-user implementation of Maximo. It is divided into two primary pieces: process definition and infrastructure definition. The following tables describe the components, schedule, deliverables and costs.

Scope of Work

Table 3 – Business Implementation Scope of Work

Work Breakdown Structure)	Descriptions	Work Description	Resources Required	Assumptions	Target Start	Target Finish	Process Documentation	Draft Procedures	Training	Configuration Design	Screen Modifications	Table Definitions	Table Loads	Operational Reports	Management Reports	Final Procedures	KTS Professional Fees	PDOT Direct Labor Costs & Effort	Hardware & Software Costs
1.0.0	Work Management & MMS Replacement		**Hardware:** Production Database Server, Production File Server, New/Upgraded workstations **Software:** Cognos Reporting Tools, Data Warehouse Structure	• SQL Server will be used as the RDBMS • A development and test environment will be ready for February 15, 2000 • The Production servers will be ready by March 30, 2000 • PDOT will purchase KTS' Maximo Reporting Data Sets • PDOT will be using Cognos Tools for reporting	Jan-00	Dec-00	x	x	x	x	x	x	x	x	x	x	$380,000	$290,000 Effort: 177 Weeks	Hardware: $368,500 Software: $85,000
1.1.0	Perform Work Process	• Conduct a series of workshops to define the workflow and business rules associated with planned, demand and emergency work • Forms the basis for Maximo configuration	• PDOT Perform Work Process Team • Off-site meeting rooms to accommodate 20-25 people	• Will be conducted in January/February, 2000	Jan-00	Mar-00	Q1'00	x	x	x	x	x	x	x	x	x			
1.1.1	GL Definition	• Define the General Ledger structure and revise where appropriate • Configure Maximo for GL based cost tracking	• PDOT Financial and Cost Accountant	• The corporate GL will only contain summary information and can be redesigned	Feb-00	Sep-00	Q2'00	x	x	Q2'00	Q3'00	Q3'00	x	x	x	x			
1.1.2	Labor/Equipment/Material/ Service Definition	• Define standard costing rules for each cost type • Load Maximo master tables for labor, equipment, materials • Validate master tables	• PDOT Cost Accountant	• A standard costing model will be used • Unit costs will be set for the next fiscal year	Feb-00	Dec-00	Q2'00	Q3'00	Q3'00	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q4'00	Q4'00			
1.1.3	Common Work Order	• Define how Maximo will be used to track work orders including priorities, departmental responsibilities and activities • Load Maximo value list tables	• PDOT operational management and staff		Feb-00	Dec-00	Q2'00	Q3'00	Q3'00	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q4'00	Q4'00			
1.1.4	Procurement	• Determine how Maximo will be used for Procurement of goods and services as opposed to the City's purchasing system • Configure Maximo to perform according to the defined business rules	• PDOT Accountants • PDOT staff knowledgeable of Legacy Financial systems		Feb-00	Dec-00	Q2'00	Q3'00	Q3'00	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q4'00	Q4'00			
1.1.5	Inventory Management	• Define automated inventory management processes • Configure and load Maximo to track inventory	• PDOT Store Room Staff to perform inventory count and validate data conversion from CMS	• Will implement central store rooms but not rolling stock • Will design how rolling stock can be implemented	Feb-00	Dec-00	Q2'00	Q3'00	Q3'00	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q4'00	Q4'00			
1.2.0	Administer IMS Process	• Define how IMS will be operationally administered by PDOT • Conduct a series of meetings with management to define roles and responsibilities			Mar-00	Dec-00	Q4'00	x	x	x	x	x	x	x	x	x			

Work Breakdown Structure)	Descriptions	Work Description	Resources Required	Assumptions	Target Start	Target Finish	Process Documentation	Draft Procedures	Training	Configuration Design	Screen Modifications	Table Definitions	Table Loads	Operational Reports	Management Reports	Final Procedures	KTS Professional Fees	PDOT Direct Labor Costs & Effort	Hardware & Software Costs
1.2.1	Data Entry Process	• Define how transaction and work order data will be entered into Maximo in a controlled and auditable fashion • Configure Maximo to allow controlled entry	• PDOT administration staff	• A new batch entry mechanism will be built but will not be ready for the initial data entry function	Mar-00	Dec-00	X	Q3'00	Q3'00	X	Q3'00	X	Q3'00	Q3'00	X	Q4'00			
1.2.2	System Reconciliation	• Define how Maximo will be reconciled with the other financial systems • Develop and implement reports to support system balancing	• PDOT Financial Accountants	• Cognos reports and cubes will be used to reconcile the systems. • Reconciliation will be a manual review of reports as well as the use of some error checking	Apr-00	Dec-00	X	Q4'00	Q4'00	X	X	X	Q4'00	Q4'00	X	Q4'00			
1.3.0	Manage Service/Asset Performance	• Conduct a series of meetings to confirm management reporting requirements pertaining to performance management • Develop a set of management reports	• PDOT Business Process Team	• Cognos tools will be used for all reporting • Only data stored in Maximo tables will be provided in reports	Apr-00	Dec-00	X	X	X	X	Q3'00	X	X	X	Q4'00	Q4'00			
1.4.0	Common Infrastructure Definition	• Design and implement the common location hierarchy for PDOT • Define a common failure hierarchy • Maximo tables will be populated	• Core Business Team	• Maximum of three levels of hierarchy will be implemented for locations	Mar-00	Sep-00	X	X	Q3'00	Q2'00	Q3'00	Q2'00	Q3'00	Q3'00	X	X			
1.5.0	Service & Activity Definition	• Identify the service roll-ups for reporting the various activities	• PDOT Infrastructure Teams	• Capital activities are not in scope • Detailed job plans are not required to go live • Current job plans will be reviewed by PDOT staff and loaded into Maximo as time permits by the end users	Mar-00	Sep-00	X	X	X	Q3'00	Q3'00	Q3'00	X	X	X	X			
1.5.1	Structures	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Structures Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.5.2	Street Systems	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Street Systems Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.5.3	Traffic Maintenance	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Traffic Maintenance Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.5.4	Pedestrian	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Pedestrian Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.5.5	Street Lights	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Street Lights Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.5.6	Traffic Signals	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Traffic Signals Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.5.7	Street Cleaning & Emergency	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Street Cleaning & Emergency Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.5.8	Sewer	• Conduct a series of meetings to identify and load activities/job plans	• PDOT Sewer Team		X	X	X	X	Q3'00	X	X	X	Q3'00	Q4'00	X	X			
1.6.0	Infrastructure Data				Apr-00	Dec-00	X	X	X	X	X	X	X	X	X	X			
1.6.1	Traffic Maintenance - Street Signs	• Design the Maximo asset catalogue for the street sign inventory • Load the street signs inventory	• PDOT Traffic Maintenance Team	• See data load table for assumptions	Apr-00	Dec-00	X	X	Q3'00	Q2'00	Q3'00	Q3'00	Q4'00	Q4'00	X	X			
1.7.0	PMs, Condition and Failure	• Design the Maximo Preventive Maintenance schedules and condition tracking			Mar-00	Sep-00	X	X	X	X	X	X	X	X	X	X			
1.7.1	Street Cleaning & Emergency	• Design and implement the Maximo PM schedules and condition tracking for street cleaning	• PDOT Street Cleaning & Emergency Team	• Street Cleaning staff will create the PMs	Mar-00	Dec-00	X	X	Q3'00	Q2'00	X	Q3'00	Q3'00	Q4'00	X	X			
	TOTAL COST																$380,000	$290,000	$453,500

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Work Breakdown Structure	Descriptions	Work Description	Resources Required	Assumptions	Target Start	Target Finish	Process Documentation	Draft Procedures	Training	Configuration Design	Screen Modifications	Table Definitions	Table Loads	Operational Reports	Management Reports	Final Procedures	KTS Professional Fees	PDOT Direct Labor Costs & Effort	Hardware & Software Costs
2.0.0	Infrastructure Asset Roll-out & GIS Integration		**Hardware:** New/Upgraded workstations, New Network Upgrades **Software:** Additional Maximo User Licenses		Jan-01	Sep-01	x	x	x	x	x	x	x	x	x	x	$170,000	$138,000 Effort: 86 Weeks	Hardware: $248,500 Software: $130,000
2.1.0	Provide Customer Service	• Conduct a series of workshops to define the workflow and business rules associated with receiving customer requests and processing them • Configure service request software and Maximo	• PDOT Customer Service Process Team **Software:** • Service Request Software – budgeted as part of the software costs	• Specific service request software will be configured	Jan-01	Sep-01	Q1'01	Q2'01	Q2'01	Q2'01	Q3'01	Q3'01	Q3'01	Q3'01	Q3'01	Q3'01			Software: $25,000
2.2.0	Maintain Infrastructure Asset Data	• Conduct a series of workshops to define the workflow and business rules for maintaining the integrity of infrastructure asset data within PDOT • Configure Maximo and the GIS interface to maintain the integrity	• PDOT Maintain Infrastructure Process Team	• Implementation requires GIS integration to be completed for automated maintenance	Jan-01	Sep-01	Q1'01	Q2'01	Q2'01	Q2'01	Q3'01	Q3'01	Q3'01	Q3'01	Q3'01	Q3'01			
2.3.0	Plan/Budget Operations & Maintenance	• Conduct a series of workshops to define the workflow and business rules for planning and budgeting operations and maintenance work • Configure the Budget software and Maximo to support the business processes	• PDOT Budget O&M Process Team **Software:** • Performance Budgeting Software – budgeted as part of the software costs	• Performance Budgeting Software will be configured	Jan-01	Sep-01	Q1'01	Q2'01	Q2'01	Q2'01	Q3'01	Q3'01	Q3'01	Q3'01	Q3'01	Q3'01			Software: $5,000
2.4.0	Infrastructure Data, Condition & Failure				Jan-01	Sep-01	x	x	x	x	x	x	x	x	x	x			
2.4.1	Structures (Except Guardrails)	• Design and configure Maximo's asset catalogue • Revise location hierarchy as required • Load infrastructure data	• PDOT Structures Team	• See data load table for assumptions	x	x	x	x	Q2'01	Q2'01	x	Q2'01	Q3'01	Q3'01	x	x			
2.4.2	Street Systems	• Design and configure Maximo's asset catalogue • Revise location hierarchy as required • Load infrastructure data	• PDOT Street Systems Team	• See data load table for assumptions	x	x	x	x	Q2'01	Q2'01	x	Q2'01	Q3'01	Q3'01	x	x			
2.4.3	Traffic Maintenance – Remainder	• Design and configure Maximo's asset catalogue • Revise location hierarchy as required • Load infrastructure data	• PDOT Traffic Maintenance Team	• See data load table for assumptions	x	x	x	x	Q2'01	Q2'01	x	Q2'01	Q3'01	Q3'01	x	x			
2.4.4	Street Lights	• Design and configure Maximo's asset catalogue • Revise location hierarchy as required • Load infrastructure data	• PDOT Street Lights Team	• See data load table for assumptions	x	x	x	x	Q2'01	Q2'01	x	Q2'01	Q3'01	Q3'01	x	x			
2.4.5	Traffic Signals	• Design and configure Maximo's asset catalogue • Revise location hierarchy as required • Load infrastructure data	• PDOT Traffic Signals Team	• See data load table for assumptions	x	x	x	x	Q2'01	Q2'01	x	Q2'01	Q3'01	Q3'01	x	x			
	TOTAL COST																$170,000	$138,000	$408,500

Work Breakdown Structure)	Descriptions	Work Description	Resources Required	Assumptions	Target Start	Target Finish	Process Documentation	Draft Procedures	Training	Configuration Design	Screen Modifications	Table Definitions	Table Loads	Operational Reports	Management Reports	Final Procedures	KTS Professional Fees	PDOT Direct Labor Costs & Effort	Hardware & Software Costs
3.0.0	Capital Program Management & Mobile Computing				Jun-01	Feb-02	X	X	X	X	X	X	X	X	X	X	$115,000	$60,000 Effort: 37 Weeks	
3.1.0	Plan/Budget Capital Programs/Projects	• Conduct a series of workshops to define the workflow and business rules for planning and budgeting capital programs and projects • Configure the Capital Planning software and Maximo to support the business processes	• PDOT Capital Planning Process Team Software: • Capital Planning Software – budgeted as part of project software	• Capital Planning Software will be purchased	Jun-01	Feb-02	Q3'01	Q4'01	Q4'01	Q3'01	Q3'01	Q3'01	Q4'01	Q4'01	Q1'02	Q1'02			Software: $10,000
3.2.0	Manage Projects	• Conduct a series of workshops to define the workflow and business rules for managing projects • Configure Maximo to support the business processes	• PDOT Manage Projects Process Team • Project Management Software	• Configuring other project management software is out of scope • A project management software decision is made	Jun-01	Feb-02	Q3'01	Q4'01	Q4'01	Q3'01	Q3'01	Q3'01	Q4'01	Q4'01	Q1'02	Q1'02			
3.3.0	Mobile Technology	• Investigate any changes required to the business processes associated with the implementation of mobile technology	• See technical implementation task	• Technical implementation is proceeding according to plan	Jun-01	Feb-02	Q4'01	X	Q1'02	X	X	X	X	X	X	Q1'02			
3.4.0	Infrastructure Data, Condition & Failure				Jun-01	Feb-02	X	X	X	X	X	X	X	X	X	X			
3.4.1	Structures - Guardrails	• Design and configure Maximo's asset catalogue • Revise location hierarchy as required • Load infrastructure data	• PDOT Structures Team	• See data load table for assumptions	X	X	X	X	Q3'01	Q3'01	X	Q3'01	Q4'01	Q4'01	X	X			
3.4.2	Pedestrian	• Design and configure Maximo's asset catalogue • Revise location hierarchy as required • Load infrastructure data	• PDOT Pedestrian Team	• See data load table for assumptions	X	X	X	X	Q3'01	Q3'01	X	Q3'01	Q4'01	Q4'01	X	X			
	TOTAL COST																$115,000	$60,000	$10,000

Table 4 – Implementation Business Deliverable Descriptions

Number	Deliverable	Type	Description	Assumptions
BD-I1	Process Documentation	Interim	• Work flows and business rules to be incorporated in the design and configuration of the Maximo system	• The final deliverable will remain in draft form since it will be incorporated in the Procedures Manual. • A maximum of two reviews will be allowed.
BD-I2	Draft Procedures	Interim	• An initial draft procedures manual in Word format that includes work flows, screens, and data definitions • A one to two page cheat sheet for each procedure for training and user reference	• PDOT Staff will write the procedure manuals
BD-F1	Training	Final	• Training deliverable is for end-users of the system. The core project team will be trained separately to ensure that they can provide this training to the end users. • PDOT staff based on the procedures manual will prepare a training manual. • One training course for front-line staff and training of PDOT staff will be provided as well as a mechanism for providing on-going training.	• Training will be conducted on site using a train the trainer approach • PDOT staff will support and train staff after the initial trainer course • KTS will co-ordinate training to be provided by PSDI or other third party supplier where appropriate.
BD-I3	Configuration Design	Interim	• A prototype of Maximo table values and screen layouts and the business logic for processing screens and data	• Will not include any detailed written documentation. Will include a base level description of the table, purpose, scope seems appropriate. • Q&A process by PDOT IT Staff
BD-I4	Screen Modifications	Interim	• Unit and function tested screen modifications including name changes, new fields, value list processing • Screen data validation built and tested	• KTS Municipal screens will be the starting point • All screen modifications will be signed off
BD-I5	Table Definitions	Interim	• Maximo database configuration	
BD-F2	Table Loads	Final	• Loaded Maximo value lists, master tables and transaction tables	• Value lists will be loaded manually, master and transaction tables can be loaded electronically
BD-F3	Operational Reports	Final	• Cognos Impromptu and Powerplay reports for day to day use for Maximo users	• KTS report sets are used with minor modifications. Modifications are considered minor if they do not extensively impact the overall structure of the report.
BD-F4	Management Reports	Final	• Cognos Impromptu and Powerplay reports management use for non-Maximo users	• KTS report sets are used with minor modifications
BD-F5	Final Procedures	Final	• A final procedures manual incorporating process work flows and screen data definitions	• Draft procedure manual will go through 2 reiterations prior to final publication (clarify- by whom?}

Assumptions
1. Work teams as defined in the IMS Implementation Strategy and Plan will be provided.

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Infrastructure Data Loads

The following table details all of the infrastructure data loads anticipated in the project. The table is based on the initial research conducted as part of the IMS Implementation Strategy assignment. The assumptions in the table will need to be refined as part of the project. For all infrastructure data, the following are assumed:

1. KTS is responsible for defining a process for collecting and improving the quality of the infrastructure data.

2. PDOT is responsible for all field collection activities associated with infrastructure data collection. The PDOT Project Director and KTS Project Manager will collectively co-ordinate the collection of this data.

3. The KTS Project Manager is responsible for ensuring that the data is loaded into Maximo.

4. With each infrastructure type, the project team will assess Maximo's suitability for storing the full inventory versus interfacing to an existing inventory system.

Table 5 – Infrastructure Data Loads

Group	Infrastructure Type	Load Type	Description & Assumptions
Work Management and MMS Replacement			
Traffic Maintenance	Street Signs	Electronic	• Approximately 150,000 assets will be loaded into Maximo. Each asset will have one major component. • The inventory is only partially complete and will require some additional data collection.
Infrastructure Asset Roll-out & GIS Integration			
Structures	Bridges & Tunnels	Electronic	• Approximately 150 assets will be loaded into Maximo. Each asset will have approximately 10 major components. • The inventory is kept in an electronic spreadsheet, which will be loaded into Maximo. This data may need to be validated by field staff.
	Harbor Wall	Manual	• One asset will be loaded into Maximo. This asset will have at least one component. Separate components may be created for sections of the harbor wall based on the need for maintenance data. • The inventory is currently kept on paper files. The project team will thus create the infrastructure data manually.
	Retaining Walls/Fences	Electronic	• Approximately 250 assets will be loaded into Maximo. Each asset will have approximately 3 major components. • The inventory is currently kept in an MS Access database. This database will be used to load the initial data.
	Stairways	Electronic	• Approximately 170 assets will be loaded into Maximo. Each asset will have approximately 5 major components. • The inventory is currently kept in an MS Access database. This database will be used to load the initial data.
Street Systems	Center Lines/Segments	Electronic	• Approximately 20,000 street segments will be loaded into Maximo. Each street segment will have one major component. • Street segments may be loaded from a combination of the current GIS data and the segments as defined in the PMS.
	Pavement	Electronic	• Pavement may be treated as an attribute on the street centerline with associated condition information. • The number of assets and components will be dependent upon the centerline segments.
Traffic Maintenance	Major Intersections	Manual	• Approximately 1,260 major intersections will be loaded into Maximo. Each intersection will have one major component. • Intersections will be linked with the street segments. • There is no current inventory, however, it may be generated initially from GIS routines based on the street segment inventory. A data clean up method will be identified along with the collection methods.
	Traffic Calming Devices	Electronic	• Approximately 800 assets will be loaded into Maximo. Each device will have approximately four major components. • The inventory is only currently maintained electronically. This will form the basis of the data load.

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Group	Infrastructure Type	Load Type	Description & Assumptions
	On-Street Parking (Meters)	Electronic	• Approximately 6,800 meters will be loaded into Maximo. Each device will have one major components. • The inventory is only currently maintained in MeterTrax. This system will form the basis of the electronic data load.
	Bicycle Lanes	Manual	• Approximately 200 miles of lanes will be loaded into Maximo. Each mile will be one asset and each asset will have approximately 20 components. Initial bicycle lanes may be generated from the orthophoto data to give the unique records. • There is no current inventory, however, it may be generated initially from GIS routines based on the orthophotos. A data collection and clean up exercise will be developed and executed. • Bicycle lanes entry will should coincide with the pavement markings.
	Pavement Markings	Manual	• No data exists on the volume of pavement markings to be entered into Maximo. Initial pavement markings may be generated from the orthophoto data to give the unique records. • There is no current inventory, however, it may be generated initially from GIS routines based on the orthophotos. A data collection and clean up exercise will be developed and executed.
Street Lights	Street Lights	Electronic	• Approximately 51,000 assets will be loaded into Maximo. Each asset will have one major component. • The inventory is currently available electronically. This data will be used as the data source to be loaded into Maximo.
Traffic Signals	Traffic Signals	Electronic	• Approximately 1,200 assets will be loaded into Maximo. The hardware assets will have approximately 15 components, the controllers approximately 25 components and other equipment 5 components. • The inventory is currently kept electronically. The electronic files will be used as the data source to be loaded into Maximo..
Capital Program Management & Mobile Access			
Structures	Guardrails	Manual	• The approximately 16 miles of guardrails will generate 800 assets with 3 components each. • A data collection exercise will be conducted to get the source data.
Street Systems	Right-of-Way	Manual	• Each mile of right-of-way will be entered as an asset. Each asset will contain approximately 20 components. • No information is currently available concerning the right of ways. It is assumed that a data collection exercise is required.
Traffic Maintenance	Off-street Parking (Lots & Spaces)	Electronic	• A review of the requirements for off-street parking maintenance data will be conducted. • At the minimum, major parking lots should be set up as asset or locations. • Some set of the current electronic data will used as a data load for Maximo.
Pedestrian	Sidewalks	Electronic	• The current sidewalk inventory will yield the initial assets to be loaded into Maximo. Each mile of sidewalk should be loaded as an asset with approximately 20 components each. • The current sidewalk inventory will need to be verified and improved. A process will be developed to perform this work.
	Pedestrian Ways	Manual	• Pedestrian ways may link with the bicycle lanes and pavement markings data. • No current inventory exists. A data identification process will be identified to yield to the current pedestrian ways.
	Corners	Manual	• Approximately 54,900 corners exist with one major component each. • The corner inventory may be generated from the electronic sidewalk inventory or from the street segment network. • A process will be developed to collection and validate the corner inventory.
	Curbs	Manual	• Approximately 2,960 miles of curbes exist with approximately 20 major components each. • The curb inventory may be generated from the electronic sidewalk inventory or from the street segment network. The curb inventory should be modeled with the rest of the pedestrian inventory. • A process will be developed to collection and validate the curb inventory.

Technical Implementation Definition

The Technical Implementation component of the project will focus building integration between Maximo and other systems and building new functionality using Maximo's and other programming tools. The following tables describe the components, schedule, deliverables and costs.

Scope of Work

Table 6 – Technical Implementation Scope of Work

Work Breakdown Structure (WBS)	Phases and Component	Work Description	Resources Required	Assumptions	Target Start	Target Finish	Development Environment	Design Specifications	System Tested	Acceptance Tested	Table Definitions	Table Loads	Reports	Training	User Manuals	Technical Documentation	KnowledgeTech Professional Fees	Estimated PDOT Direct Labor Costs	Estimated PDOT Direct Labor Effort	Hardware & Software Costs
1.0.0	Work Management & MMS Replacement				Jan-00	Dec-00	X	X	X	X	X	X	X	X	X	X				
1.8.0	System Integration	• Define the tools, technologies and architectural standards for all system integration	• PDOT IT Staff knowledgeable of the current development standards **Software:** • Development Tools & Version Control Software		Jan-00	Dec-00	Q1'00	X	X	X	X	X	X	X	X	X	$16,000	$12,000	7.5 Weeks	$70,000
1.8.1	IBIS – Procurement Integration	• Integrate the legacy IBIS system to Maximo for purchase orders, receipts and accounts payable transactions	• PDOT IT Staff who know IBIS		X	X	X	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q1'00	Q3'00	Q4'00	$30,000	$16,000	10.0 Weeks	
1.8.2	IBIS – General Ledger	• Integrate the legacy IBIS system to Maximo for GL transactions and posting strings	• PDOT IT Staff who know IBIS		X	X	X	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q4'00	$27,000	$14,000	8.5 Weeks	
1.8.3	Tar – Payroll	• Integrate the TAR Payroll system to Maximo for payroll transactions as entered in Maximo as labor transactions	• PDOT IT Staff who know the legacy system		X	X	X	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q4'00	$20,000	$9,000	5.5 Weeks	
1.8.4	HR Vantage	• Integrate HR Vantage to Maximo for Employee master records	• PDOT IT Staff who know the legacy system		X	X	X	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q3'00	Q4'00	$15,000	$9,000	5.5 Weeks	
1.8.5	Street Names	• Integrate or convert the street name master table used by other PDOT systems and allow use by Maximo	• PDOT IT Staff who know the legacy system	• PDOT will provide the street names in a relational database	X	X	X	Q3'00	Q4'00	Q4'00	X	X	X	Q4'00	Q4'00	Q4'00	$7,000	$4,000	2.5 Weeks	
1.8.6	Signs Library	• Interface Maximo assets to the Signs Library system	• PDOT IT Staff who know the legacy system	• PDOT will convert application to SQL Server	X	X	X	Q3'00	Q4'00	Q4'00	X	X	X	Q4'00	Q4'00	Q4'00	$7,000	$4,000	2.5 Weeks	
1.9.0	New Functionality	• Define the tools, technologies and architectural standards for building new system functionality	• PDOT IT Staff knowledgeable of the current development standards		Jan-00	Dec-00	Q1'00	X	X	X	X	X	X	X	X	X	$9,000			
1.9.1	Batch Entry Mechanism	• Build a set of Maximo screens to allow auditable batches to be entered for labor and equipment transaction entry		• Maximo tool kit will be used	X	X	X	Q1'00	Q2'00	Q3'00	Q3'00	Q3'00	Q3'00	Q1'00	Q3'00	Q4'00	$20,000	$9,000	5.5 Weeks	
1.9.2	Address Look-up Facility	• Build a facility to search and locate assets and locations by address within Maximo		• Maximo tool kit will be used • Assets and locations will contain address information	X	X	X	Q3'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	$15,000	$9,000	5.5 Weeks	
1.9.3	Asset Inspection Tracking	• Configure and modify Maximo to track asset inspection data for risk management purposes		• Maximo tool kit will be used	X	X	X	Q3'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	Q4'00	$20,000	$9,000	5.5 Weeks	
1.10.0	GIS Scope Definition	• Facilitate the development of a work plan related to the GIS and infrastructure spatial data		• PDOT GIS staff will be involved	Feb-00	Jun-00	X	Q3'00	X	X	X	X	X	X	X	X	$20,000			
	TOTAL COST																$206,000	$95,000	58.5 Weeks	$70,000

Work Breakdown Structure (WBS)	Phases and Component	Work Description	Resources Required	Assumptions	Target Start	Target Finish	Development Environment	Design Specifications	System Tested	Acceptance Tested	Table Definitions	Table Loads	Reports	Training	User Manuals	Technical Documentation	KnowledgeTech Professional Fees	Estimated PDOT Direct Labor Costs	Estimated PDOT Direct Labor Effort	Hardware & Software Costs
2.0.0	Infrastructure Asset Roll-out and GIS Integration				Jan-01	Sep-01	X	X	X	X	X	X	X	X	X	X				
2.5.0	System Integration				Jan-01	Sep-01	X	X	X	X	X	X	X	X	X	X				
2.5.1	Corporate GIS Hub	• Build an integration between Maximo and the Corporate GIS hub to allow hot links between Maximo asset definitions and the spatial descriptions	• PDOT IT GIS Staff • Production GIS Hub • CGIS Staff	• Integrate to ESRI SDE database • GIS data is stored in the same database environment as the Maximo data • Spatial layers exist to test	X	X	Q1'01	Q1'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$80,000	$38,000	23.0 Weeks	Software: $7,000
2.5.2	Pavement Management System	• Build an interface between PMS and the major road segments to be stored in Maximo	• PDOT IT Staff who know PMS	• Maximo road segments will be a superset of the PMS road segments • Maximo will not contain dynamic road segments	X	X	X	Q1'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$20,000	$15,000	9.0 Weeks	
2.5.3	Street Lights Importer	• Build an interface to this operational data system	• PDOT IT Staff who know the legacy system		X	X	X	Q2'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$8,000	$7,000	4.5 Weeks	
2.5.4	Traffic Ops Accident History	• Build an interface to this system.	• PDOT IT Staff who know the legacy system	• May be replaced with Maximo and GIS	X	X	X	Q2'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$8,000	$5,000	3.0 Weeks	
2.5.5	MeterTrax	• Build an interface to the parking meter master file to Maximo Asset file	• PDOT IT Staff who know the legacy system		X	X	X	Q2'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$8,000	$5,000	3.0 Weeks	
2.5.6	S2000	• Build an interface to capture operational statistics	• PDOT IT Staff who know the legacy system		X	X	X	Q2'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$16,000	$12,000	7.5 Weeks	
2.6.0	New Functionality	•	•		Jan-01	Sep-01	X	X	X	X	X	X	X	X	X	X				
2.6.1	Signal Power Reporting	• Add a series of reports and configure fields to capture and generate signal power consumption	• PDOT IT Staff who know the legacy system		X	X	X	Q2'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$10,000	$5,000	3.0 Weeks	
2.6.2	Service Request – GIS Enabled	• Modify the Service Request Tracking Application to allow spatial view of service requests	• PDOT IT Staff who know the legacy system	• Requires Maximo GIS integration to be complete	X	X	X	Q2'01	Q3'01	Q3'01	X	X	X	Q3'01	Q3'01	Q3'01	$15,000	$10,000	6.0 Weeks	
	TOTAL COST																$165,000	$97,000	59.0 Weeks	$7,000
3.0.0	Capital Program Management and Mobile Access				Jun-01	Feb-02	X	X	X	X	X	X	X	X	X	X		$5,000	3.0 Weeks	
3.4.1	System Development Charge	• Interface or replace this system with Maximo and the Program Planning software	• PDOT IT Staff who know the legacy system		X	X	X	Q3'01	Q4'01	Q4'01	X	X	X	Q1'02	Q1'02	Q1'02	$13,000	$9,000	5.5 Weeks	
3.4.2	Management Information System	• Replace with Maximo budget tracking functionality or interface for capturing final budget numbers for reporting purposes	• PDOT IT Staff who know the legacy system	• Interface to MIS or city budget	X	X	X	Q3'01	Q4'01	Q4'01	X	X	X	Q1'02	Q1'02	Q1'02	$7,000	$4,000	2.5 Weeks	
3.4.3	Project Tracking	• Interface Maximo to allow project tracking software to receive work order costs and for Maximo to receive work orders	• PDOT IT Staff who know the legacy system	• Assumes this tool will be used for project tracking	X	X	X	Q3'01	Q4'01	Q4'01	X	X	X	Q1'02	Q1'02	Q1'02	$30,000	$25,000	15.0 Weeks	
3.4.4	Amanda Permitting	• Interface Maximo to capture work orders or permit status against Maximo assets	• PDOT IT Staff who know the legacy system		X	X	X	Q3'01	Q4'01	Q4'01	X	X	X	Q1'02	Q1'02	Q1'02	$16,000	$10,000	6.0 Weeks	
3.5.0	New Functionality				Jun-01	Feb-02	X	X	X	X	X	X	X	X	X	X				

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Work Breakdown Structure (WBS)	Phases and Component	Work Description	Resources Required	Assumptions	Target Start	Target Finish	Development Environment	Design Specifications	System Tested	Acceptance Tested	Table Definitions	Table Loads	Reports	Training	User Manuals	Technical Documentation	KnowledgeTech Professional Fees	Estimated PDOT Direct Labor Costs	Estimated PDOT Direct Labor Effort	Hardware & Software Costs
3.5.1	Mobile Technology	• Evaluate, select, configure and install mobile technology for use in the field that integrates with Maximo	**Hardware:** • Portable units (PDOT Stds.) **Software:** • Remote synchronization software	• Third party mobile software will be used that already integrates with Maximo	X	X	X	Q3'01	Q4'01	Q4'01	X	X	X	Q1'02	Q1'02	Q1'02	$36,000	$16,000	9.5 Weeks	Hardware: $105,000 Software: $17,500
3.5.2	CIP Budget Detail	• Replace the functionality in this application with Maximo based functionality	• PDOT IT Staff who know the integrated system	•	X	X	X	Q3'01	Q4'01	Q4'01	X	X	X	Q1'02	Q1'02	Q1'02	$7,000	$4,000	2.5 Weeks	
TOTAL COST																	$109,000	$73,000	44.0 Weeks	$122,500

Table 7 - Technical Implementation Deliverable Descriptions

Number	Deliverable	Type	Description	Assumptions
TD-I1	Development Environment	Interim	• Definition and installation of a set of development tools and a source code management environment.	
TD-I2	Design Specifications	Interim	• A document defining how an interface or new module will be built. The design specification will include a logical/physical data model, transaction flows, business rules and processing logical.	• Each interface or new functional component will have a design specification. PDOT technical staff will sign-off the design specifications.
TD-I3	System Tested	Interim	• A system unit tested by the developers and function tested in a structured development or test environment by testers.	• PDOT will be responsible for unit testing any code written by their developers. • KTS will be responsible for unit testing any code written by their developers.
TD-F1	Acceptance Tested	Final	• A system which passes acceptance criteria as mutually agreed by KTS and PDOT prior to the build stage • Satisfies the business rules as defined in the design specification document.	• PDOT will be responsible for all acceptance testing. Knowledgeable staff will be provided to conduct acceptance testing.
TD-I4	Table Definitions	Interim	• Configured Maximo tables as redefined for integration or new functionality.	•
TD-F2	Table Loads	Final	• Populated master tables, transaction tables and value lists.	• Core Business Team responsible for entering table values and verifying electronic loads
TD-F3	Reports	Final	• Tabular Impromptu report formats, prototype reports, template Powerplay cubes and a process to update the reports and cubes.	• Approximately 5-10 reports per module are assumed and will be written using Cognos' tools
TD-F4	Training	Final	• Training will include providing a structured walk through of system usage where appropriate. • Training material will be provided that describes how to use the system. PDOT core team members will incorporate the use of the system into the appropriate business procedure manuals.	• One end user training course will be conducted.
TD-F5	User Manuals	Final	• Manual describing how to use the system including screen and data definitions.	• Does not include user procedures. These are part of deliverables from the business implementation.

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Number	Deliverable	Type	Description	Assumptions
TD-F6	Technical Documentation	Final	• Manual describing how the interface or new functionality was designed and built.	• PDOT & KTS will jointly prepare a table of contents for technical documentation manuals.

Assumptions

1. For all Maximo interfaces, KnowledgeTech is only responsible to the point where database records are stored in an independent interface table in a relational database. KTS will ensure that a process is in place to recreate these tables. PDOT is responsible for taking all transactions from the interface table and ensuring that they populate the appropriate tables in the interfaced application.

2. A design specification will be written for all interfaces prior to coding and will be signed off by PDOT staff.

3. All interfaces will be reviewed to determine if they are still required at the beginning of each project phase.

4. Core Maximo may be configured to replace the functionality provided by a potentially integrated system or new functionality may be built into Maximo to provide the same functionality as the source system. When cost effective, as determined by the PDOT Project Director, this option will be followed as opposed to building the system integration.

5. Interfaces may be deleted or moved between phases upon mutual consent of KTS and PDOT.

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Rates and Payment Schedule

The following tables summarize the Maximo Implementation Project costs. Rates for additional work not identified within the scope of this project are also provided. All costs are in US dollars and include travel related expenses. Any additional expenses not within the scope of the deliverables will be billed at cost plus 15%. The PDOT Project Director will approve all billable expenses prior to being incurred by KnowledgeTech. Professional fees do not include any software licenses for additional software available from KnowledgeTech Solutions Inc. (e.g. Service Request module, Budgeting module, etc.). Our fees, however, do include the provision of our implementation tool kits and software templates for quick implementation. Costs do not include any applicable sales taxes. All invoices are due net 30 days.

Payment Principles

1. The Project/Change Management & Architecture Services are acknowledged to be fixed price and payable according to the schedule specified in Table 8.

2. The payment for Business Implementation Services are acknowledged to be fixed price based and payable according to the completion of the associated deliverables as specified in Table 9.

3. The charges for the Technical Implementation Services are acknowledged to be billed based upon on the time worked using the rates in Table 11 up to the maximum amount for each project phase as specified in Table 10.

4. Monthly invoices must be submitted with the mutually agreed to documentation and be approved by the PDOT Project Director prior to payment.

5. If significant work deliverables are completed within the first ten days of a specific month, a special invoice can be issued based upon the mutual agreement of the PDOT Project Director and the KTS Project Manager.

6. For all work not within the scope of the deliverables or where a change order has been approved, the rates in Table 11 will be used. Rate Schedule 1 will be used for all charges based upon project deliverables (Technical Implementation Services). Rate Schedule 2 will be used for all remote resources required to travel to Portland.

7. The City of Portland will approve any additional work outside of scope of the deliverables prior to the commencement of the work. The KTS Project Manager and the PDOT Project Director will estimate the cost of any additional work items.

8. For the Technical Implementation Services, the PDOT Project Director and the KTS Project Manager will confirm the deliverables and the estimated cost.

Table 8 – Project/Change Management & Architecture Services

Payment	Work Management & MMS Replacement		Infrastructure Asset Roll-out & GIS Integration		Capital Program Management & Mobile Access		Total
	Timing	Amount	Timing	Amount	Timing	Amount	
Initial Payment	Upon start of the project phase	$16,000	Upon start of the project phase	$6,500	Upon start of the project phase	$5,500	
Interim Payments	Ten equal monthly payments starting one month after project phase start	$12,800 X 10	Six equal monthly payments starting one month after project phase start	$8,666 X 6	Four equal monthly payments starting one month after project phase start	$11,000 X 4	
Final Payment	Upon completion of project phase	$16,000	Upon completion of project phase	$6,500	Upon completion of project phase	$5,500	
Total		$160,000		$65,000		$55,000	$280,000

Table 9 – Business Implementation Services

Payments		Work Management & MMS Replacement		Infrastructure Roll-out & GIS Integration		Capital Program Management & Mobile Access	
Description (Deliverable)	Timing	Component	Amount	Component	Amount	Component	Amount
Mobilization Fee	Upon start of project phase	Overall phase	$38,000	Overall phase	$13,000	Overall Phase	$9,000
Process Design Complete (BD-11)	Upon PDOT sign off of the process design deliverables	1. Perform Work Process	$15,000	1. Provide Customer Service	$5,000	1. Plan/Budget Capital Programs/Project	$5,000
		2. Administer IMS Process	$5,000	2. Maintain Infrastructure Asset Data	$5,000	2. Manage Projects	$5,000
				3. Plan/Budget Operations & Mntce.	$5,000		

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Payments		Work Management & MMS Replacement		Infrastructure Roll-out & GIS Integration		Capital Program Management & Mobile Access	
Description (Deliverable)	Timing	Component	Amount	Component	Amount	Component	Amount
Configuration Design Complete (BD-I3)	Upon acceptance from PDOT's Project Director or designate that KTS' involvement for deliverables has been completed	1. GL Definition & Labor/Equip./Material Defn 2. Cmn. Work Order/Service & Activity Defn. 3. Procurement 4. Inventory Management 5. Common Infrastructure Definition	$10,000 $10,000 $10,000 $10,000 $10,000	1. Provide Customer Service 2. Maintain Infrastructure Asset Data 3. Plan/Budget Operations & Mntce. 4. Structures Infrastructure 5. Street Systems Infrastructure 6. Traffic Maintenance Infrastructure 7. Street Lights Infrastructure 8. Traffic Signals Infrastructure	$5,000 $5,000 $5,000 $2,000 $2,000 $2,000 $2,000 $2,000	1. Plan/Budget Capital Programs/Project 2. Manage Projects 3. Structures Infrastructure 4. Pedestrian Infrastructure	$5,000 $5,000 $3,000 $5,000
Configuration Complete (BD-I2, BD-I4, BD-I5)	Upon acceptance from PDOT's Project Director or designate that KTS' involvement for deliverables has been completed	1. GL Definition & Labor/Equip./Material Defn 2. Cmn. Work Order/Service & Activity Defn. 3. Procurement 4. Inventory Management 5. Common Infrastructure Definition 6. Infrastructure Data – Street Signs 7. PMs. Condition & Emergency	$20,000 $25,000 $20,000 $20,000 $15,000 $15,000 $10,000	1. Provide Customer Service 2. Maintain Infrastructure Asset Data 3. Plan/Budget Operations & Mntce. 4. Structures Infrastructure 5. Street Systems Infrastructure 6. Traffic Maintenance Infrastructure 7. Street Lights Infrastructure 8. Traffic Signals Infrastructure	$5,000 $5,000 $5,000 $5,000 $5,000 $5,000 $5,000 $5,000	1. Plan/Budget Capital Programs/Project 2. Manage Projects 3. Structures Infrastructure 4. Pedestrian Infrastructure	$5,000 $10,000 $4,000 $10,000
System Live	When PDOT's business users are using the system	1. Work Management 2. Inventory Management 3. Procurement 4. Infrastructure Data – Street Signs	$25,000 $25,000 $25,000 $15,000	1. Provide Customer Service 2. Maintain Infrastructure Asset Data 3. Plan/Budget Operations & Mntce. 4. Structures Infrastructure 5. Street Systems Infrastructure 6. Traffic Maintenance Infrastructure 7. Street Lights Infrastructure 8. Traffic Signals Infrastructure	$5,000 $5,000 $5,000 $5,000 $5,000 $5,000 $5,000 $5,000	1. Plan/Budget Capital Programs/Project 2. Manage Projects 3. Structures Infrastructure 4. Pedestrian Infrastructure	$5,000 $10,000 $5,000 $5,000
Management Reports and Final Procedures Manual Complete (BD-F3, BD-F4, BD-F5)	Upon acceptance from PDOT's Project Director or designate that KTS' involvement for deliverables has been completed	1. Perform Work Process 2. Administer IMS Process 3. Manage Service/Asset Performance	$10,000 $5,000 $5,000	1. Provide Customer Service 2. Maintain Infrastructure Asset Data 3. Plan/Budget Operations & Mntce.	$5,000 $5,000 $5,000	1. Plan/Budget Capital Programs/Project 2. Manage Projects	$5,000 $5,000
Final Payment	Upon acceptance from PDOT Project Director or designate that KTS' involvement for all final deliverables has been completed	Overall Project Phase	$27,000	Overall Project Phase	$12,000	Overall Project Phase	$9,000
Total			$370,000		$160,000		$110,000

KnowledgeTech Solutions Inc.

Date: December 7, 1999

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Table 10 – Technical Implementation Services

Payment	Work Management & MMS Replacement		Infrastructure Asset Roll-out & GIS Integration		Capital Program Management & Mobile Access	
	Timing	Amount	Timing	Amount	Timing	Amount
Payments	Monthly based on work completed on each deliverable to the following maximum billable	$215,000	Monthly based on work completed on each deliverable to the maximum billable	$195,000	Monthly based on work completed on each deliverable to the maximum billable	$125,000
Total		$206,000		$165,000		$109,000

Table 11 – Billing Rates

Consultant Type	Rate Schedule 1 (Cost per hour)	Rate Schedule 2 (Cost per hour)
KnowledgeTech Partner, Management Consultant, Project Manager, Application or Technical Architect	$135	$175
Team Leader or Senior Business Analyst	$100	$150
Business Analyst or Systems Analyst	$90	$90
Developers, Programmers, Tester or any other	$80	$80

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EXHIBIT B
INDEPENDENT CONTRACTOR CERTIFICATION STATEMENT

SECTION A

CONTRACTOR CERTIFICATION I, undersigned, am authorized to act on behalf of entity designated below, hereby certify that entity has current Workers' Compensation Insurance.

Signature_____ Date_____ Entity_____

If entity does not have Workers' Compensation Insurance, City Project Manager and Contractor complete the remainder of this form.

SECTION B

ORS 670.600 Independent contractor; standards. As used in various provisions of ORS Chapters 316, 656, 657, and 701, an individual or business entity that performs labor or services for remuneration shall be considered to perform the labor or services as an "independent contractor" if the standards of this section are met. The contracted work meets the following standards:

1. The individual or business entity providing the labor or services is free from direction and control over the means and manner of providing the labor or services, subject only to the right of the person for whom the labor or services are provided to specify the desired results;

2. The individual or business entity providing labor or services is responsible for obtaining all assumed business registrations or professional occupation licenses required by state law or local government ordinances for the individual or business entity to conduct the business;

3. The individual or business entity providing labor or services furnishes the tools or equipment necessary for performance of the contracted labor or services;

4. The individual or business entity providing labor or services has the authority to hire and fire employees to perform the labor or services;

5. Payment for the labor or services is made upon completion of the performance of specific portions of the project or is made on the basis of an annual or periodic retainer.

_____   _____
Project Manager Signature   Date

SECTION C

Independent contractor certifies he/she meets the following standards:

1. The individual or business entity providing labor or services is registered under ORS Chapter 701, <u>if</u> the individual or business entity provides labor or services for which such registration is required;

2. Federal and state income tax returns in the name of the business or a business Schedule C or farm Schedule F as part of the personal income tax return were filed for the previous year if the individual or business entity performed labor or services as an independent contractor in the previous year; and

3. The individual or business entity represents to the public that the labor or services are to be provided by an independently established business. Except when an individual or business entity files a Schedule F as part of the personal income tax returns and the individual or business entity performs farm labor or services that are reportable on Schedule C, an individual or business entity is considered to be engaged in an independently established business when <u>four or more</u> of the following circumstances exist. Contractor check four or more of the following:

_____   A.   The labor or services are primarily carried out at a location that is separate from the residence of an individual who performs the labor or services, or are primarily carried out in a specific portion of the residence, which portion is set aside as the location of the business;

_____   B.   Commercial advertising or business cards as is customary in operating similar businesses are purchased for the business, or the individual or business entity has a trade association membership;

_____   C.   Telephone listing and service are used for the business that is separate from the personal residence listing and service used by an individual who performs the labor or services;

_____   D.   Labor or services are performed only pursuant to written contracts;

_____   E.   Labor or services are performed for two or more different persons within a period of one year; or

_____   F.   The individual or business entity assumes financial responsibility for defective workmanship or for service not provided as evidenced by the ownership of performance bonds, warranties, errors and omission insurance or liability insurance relating to the labor or services to be provided.

_____   _____
Contractor Signature   Date

9 - EXHIBIT B   (Rev. 7/98)

EXHIBIT C
INSURANCE

(The Project Manager must answer and initial 2, 3, and 4 below).

During the term of this contract Contractor shall maintain in force at its own expense, each insurance noted below:

1. Workers Compensation insurance in compliance with ORS 656.017, which requires subject employers to provide Oregon workers' compensation coverage for all their subject workers (contractors with one or more employees, unless exempt under ORS 656.027).

2. __X_ Required and attached   or   Waived by City Attorney :_____

    General Liability insurance with a combined single limit of not less than $500,000 each occurrence for Bodily Injury and Property Damage. It shall include contractual liability coverage for the indemnity provided under this contract, and shall provide that City of Portland, and its agents, officers, and employees are Additional Insured but only with respect to the Contractor's services to be provided under this Contract:

3. __X__ Required and attached   or   Waived by City Attorney : _____

    Automobile Liability insurance with a combined single limit of not less than $500,000 each occurrence for Bodily Injury and Property Damage, including coverage for owned, hired, or nonowned vehicles, as applicable:

4. __X__ Required and attached   or   Waived by City Attorney : _____

    Professional Liability insurance with a combined single limit of not less than $1,000,000 each claim, incident, or occurrence. This is to cover damages caused by error, omission or negligent acts related to the professional services to be provided under this contract.

    On all types of insurance. There shall be no cancellation, material change, reduction of   limits, or intent not to renew the insurance coverage(s) without 30-days written notice from the Contractor or its insurer(s) to the City.

5. Certificates of insurance. As evidence of the insurance coverages required by this contract, the Contractor shall furnish acceptable insurance certificates to the City at the time contractor returns signed contracts. The certificate will specify all of the parties who are Additional Insured and will include the 30-day cancellation clause that provides that the insurance shall not terminate or be canceled without 30 days written notice first being given to the City Auditor. Insuring companies or entities are subject to City acceptance. If requested, complete policy copies shall be provided to the City. The Contractor shall be financially responsible for all pertinent deductibles, self-insured retentions, and/or self-insurance.

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ORDINANCE No.

*Authorize contract with KnowledgeTech Solutions, Inc., for implementation of an automated work management system in the Office of Transportation in accordance with Section 5.68 of the City Code   (Ordinance)

The City of Portland ordains:

Section 1. The Council finds:

1. In 1993, the Office of Transportation (PDOT) developed *the Infrastructure Management System (IMS) Master Plan.* Transportation asset inventories have been developed and improvements made to Transportation's information infrastructure.

2. In January 1997, Council authorized the purchase of Maximo, a work management software tool for planning, scheduling and tracking work. Maximo supports implementation of the *IMS Master Plan* by allowing PDOT to assign work orders to crews, better track materials and equipment, and collect and track costs associated with each job. PDOT is now ready to implement Maximo.

3. In March 1999, the City of Portland (City), through the Office of Transportation, entered into a professional services contract with KnowledgeTech Solutions, Inc., to review PDOT's current business environment as it relates to implementing Maximo and to develop an implementation plan. KnowledgeTech Solutions, Inc., was hired because they have prior hands-on experience with implementing Maximo and integrating GIS technologies within municipal transportation agencies. KnowledgeTech Solutions, Inc., completed the *Infrastructure Management System Implementation Strategy and Plan* in June 1999. The plan recommends specific tasks, schedules, and personnel necessary to fully implement Maximo and the *IMS Master Plan.*

4. A request for Statement of Qualifications was advertised by the Bureau of Purchases in November 1999, seeking firms qualified to implement Maximo within a municipal transportation agency. Two firms submitted responses. Of these submittals, only one firm, KnowledgeTech Solutions, Inc., met PDOT's minimum qualifications.

5. It is now in the City's interest to enter into an agreement with KnowledgeTech Solutions, Inc., to implement Maximo within the Office of Transportation. In addition to having proven experience implementing this software in a municipal public works environment, this consultant also has experience in the analysis of work management business practices.

6. The total cost of professional services to be provided under this agreement shall not exceed $1,400,000. Sufficient funds have been appropriated in Transportation's budget. Debt financing for this project has been incorporated into the Office of Transportation's Five-Year Financial Forecast.

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NOW THEREFORE, the Council directs:

a. The Commissioner of Public Safety and the Auditor are authorized to execute an agreement with KnowledgeTech Solutions, Inc., substantially similar in form to the draft agreement attached to this document, and by reference made a part hereof.

b. The Bureau Director is authorized to approve any amount over the original contract amount, up to 15 percent, in writing. The City Council is authorized to approve by ordinance any amendment that increases the amount of compensation payable to KnowledgeTech Solutions, Inc., over an amount equal to or greater than 15 percent above the total contract amount.

c. The Mayor and the Auditor are authorized to draw and deliver warrants when demand is presented and approved by the proper authorities.

Section 2   The Council declares an emergency exists because a delay in proceeding with this contract and lease agreement could result in additional expense and loss of suitable and economical space currently available and consequent hardship to the City; therefore, this Ordinance shall be in full force and effect from and after its passage by the Council.

Passed by the Council, **JAN 1 2 2000**   2

Commissioner Charlie Hales
Argentina/Glick/Bugas-Schramm:slg
January 4, 2000
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GARY BLACKMER
AUDITOR OF THE CITY OF PORTLAND
BY   *Britta Olson*

DEPUTY

=48

Agenda No.

ORDINANCE NO.   **174075**

Title

*Authorize contract with KnowledgeTech Solutions, Inc., for implementation of an automated work management system in the Office of Transportation in accordance with Section 5.68 of the City Code . (Ordinance)

INTRODUCED BY	Filed: **JAN 07 2000**
Commissioner Hales	Gary Blackmer Auditor of the City of Portland
NOTED BY COMMISSIONER	
Affairs	By: _Cay Kershner_
Finance and Administration	Deputy
Safety _Charlie Hales_	For Meeting of: _____
Utilities	
Works	ACTION TAKEN:
BUREAU APPROVAL	
Bureau: Portland Office of Transportation	
Prepared by Date _PBS_ January 3, 2000 Eileen Argentina/Glick/Bugas-Schramn:slg	
Budget Impact Review: _✓_	
_X_ Completed ___ Not Required	
Bureau Head: Victor F. Rhodes	

AGENDA		FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS:		
				YEAS	NAYS
Consent	Regular X	Francesconi	Francesconi	✓	
NOTED BY		Hales	Hales	✓	
City Attorney		Saltzman	Saltzman	✓	
City Auditor		Sten	Sten	✓	
City Engineer		Katz	Katz	✓	